ENFOCUS



PHOENIX 26

User Guide

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1. Quick Start Guide

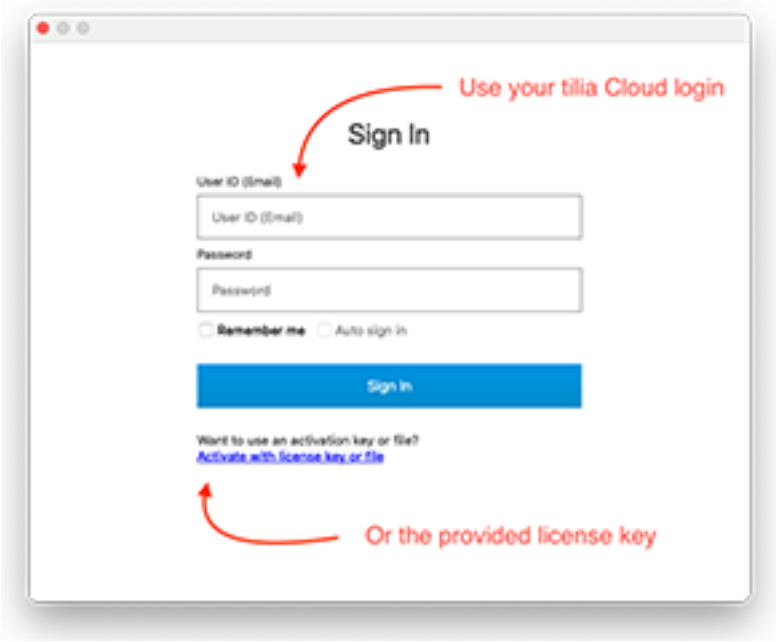
1.1. Introduction

1.1.1. Installation

To install Phoenix, double-click the .dmg (on a Mac) or .exe (on a PC) file, and follow the installation wizard prompts. Installation is a breeze!

1.1.2. Licensing

Use the provided license key or tilia Cloud credentials to license Phoenix. If you were provided a 25 digit license key in the format XXXXX-XXXXX-XXXXX-XXXXX-XXXXX be sure to click the blue link on this window. you can copy and paste the license key into the license key field.



1.1.3. How to change the language in Phoenix

Phoenix is available in English, Spanish, French, German, Italian, Portuguese, Japanese and Simplified Chinese. To change the language in Phoenix, you'll need to ensure your computer is configured to use the desired languages, as explained below.

Note: Changing the system language of your computer also influences the rest of your operating system and other applications.

- If you are working on a Windows computer:
  1. Open Control Panel (Settings) and select **Time & Language**
  2. Click **Region**, and under the Region Format settings, use the dropdown to select your desired language and location.
  3. Restart your computer. The next time that Phoenix opens, it will use the specified language.
- If you are working on a Mac:
  1. Open **System Preferences** and select **Language & Region**
  2. In the **Preferred Language** list, add your preferred language and set it as the primary language. You can also do this by dragging and dropping it to the top of the list.
  3. The next time you open Phoenix, it will use the specified language.

1.1.4. Basic Concepts

There are some basic concepts you need to understand about Phoenix. The ones below are *very* brief but help describe the concepts of the software. For more detailed info, check out *Key Concepts* on page 62

Products



A Product is a piece of artwork that needs to be printed. Products come in different types, like a flat, folded, tiled, or bound. Products also have specific properties, like quantity, height, width, and what stock it needs to be printed on. For our guide, we'll be working with flat products without artwork, represented by the 'Height' and 'Width' (also known as blank size).

Layouts

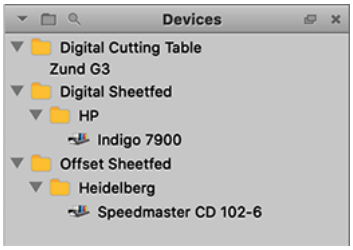


A layout is a representation of the actual printed layout or press form. Layouts are assigned a stock and can also be assigned a press. The layouts in Phoenix are interactive, meaning you can always edit what is on a layout to add, remove, edit, and rearrange products and production marks.

Projects

Projects are the native files that are used in Phoenix. A project consists of everything involved in that particular order/job/project, including the products, layouts, marks, and any assigned properties.

Things, Plates and Stocks



Phoenix creates a model of your production environment, including the presses, stocks, plates and die cutting equipment you use. This allows your production capabilities, including costs, to be factored in to determine the most cost effective layout and stock choices.

1.2. Commercial Flat Work Quick Start

If you're strapped for time and just want a quick, step-by-step introduction to some Phoenix basics, follow the Commercial Flat Work Quick Start guide below. For more info, check out the complete user guide, or try out the search bar to find a particular term.

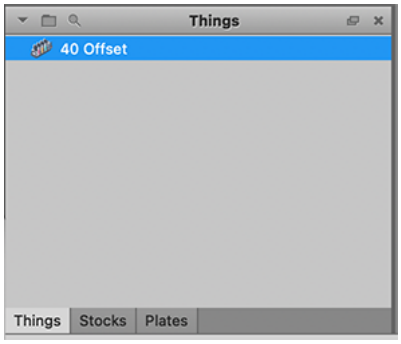
For this Quick Start Guide, you'll need a few files to get started. Grab those here, and we'll tell you where to use them later on in the guide.

Name	Download
Phoenix Library	*phoenix-library.phxlib*
CSV Order	*orders.csv*

1.2.1. Creating your first project

1.2.1.1. Importing the Library

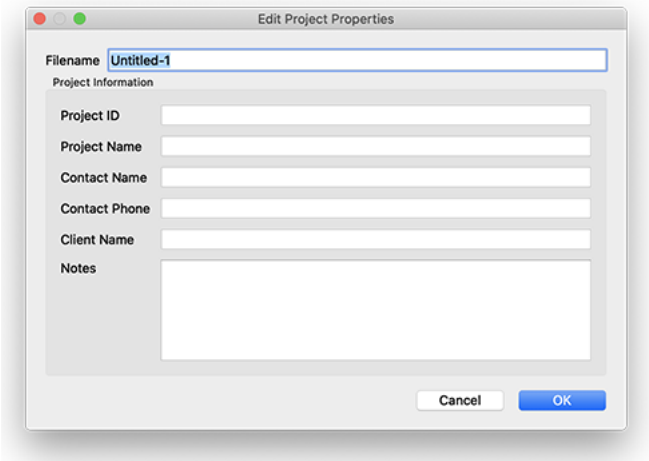
The first thing we need to do is to load the Phoenix library that you downloaded from above so that Phoenix will include a sample production environment (with a predefined press and stock). Open Phoenix, and navigate to **Preferences**. On a Mac, Preferences can be found in the **Phoenix** menu. On a PC, go to Edit and then select **Preferences**. From there, click on **Diagnostics**, and then **Import Libraries**. Select okay, choose the .phxlib file you downloaded earlier, and click OK once it's loaded. Phoenix will close down. Open Phoenix back up, and confirm you see the '40 Offset' press in the 'Things' panel as well as '18pt SBS' in the 'Stocks' panel (see screenshots below). If everything looks good, now we're ready to create a project!



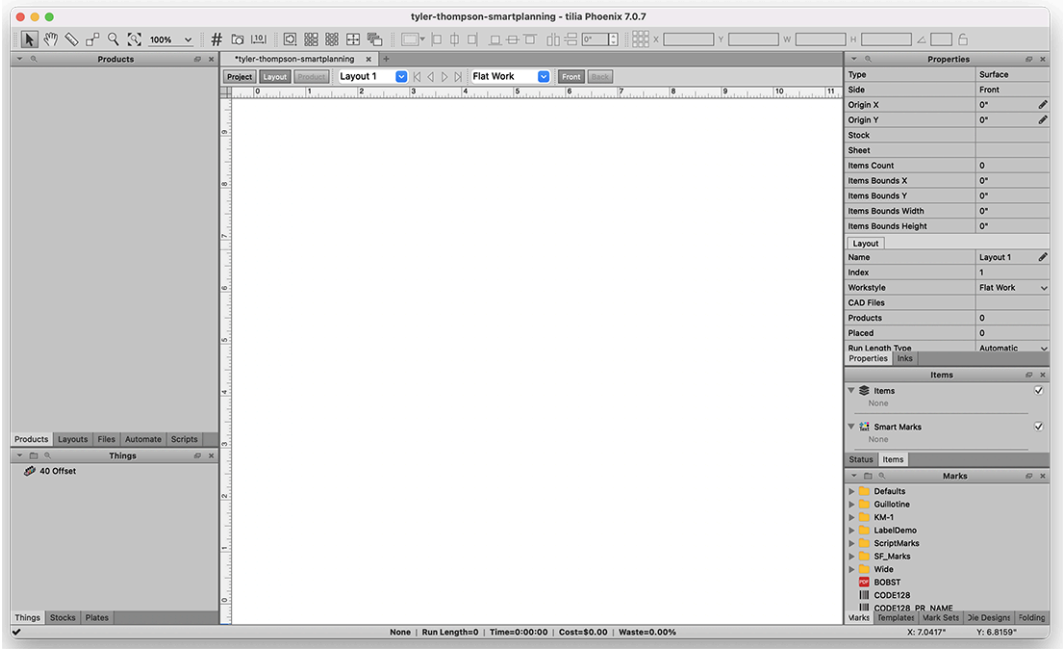


1.2.1.2. Create a project

To create a new project, go to File > New project (or press Command or Control and "N"). This will create a new project and display a prompt for what you want to name the project.



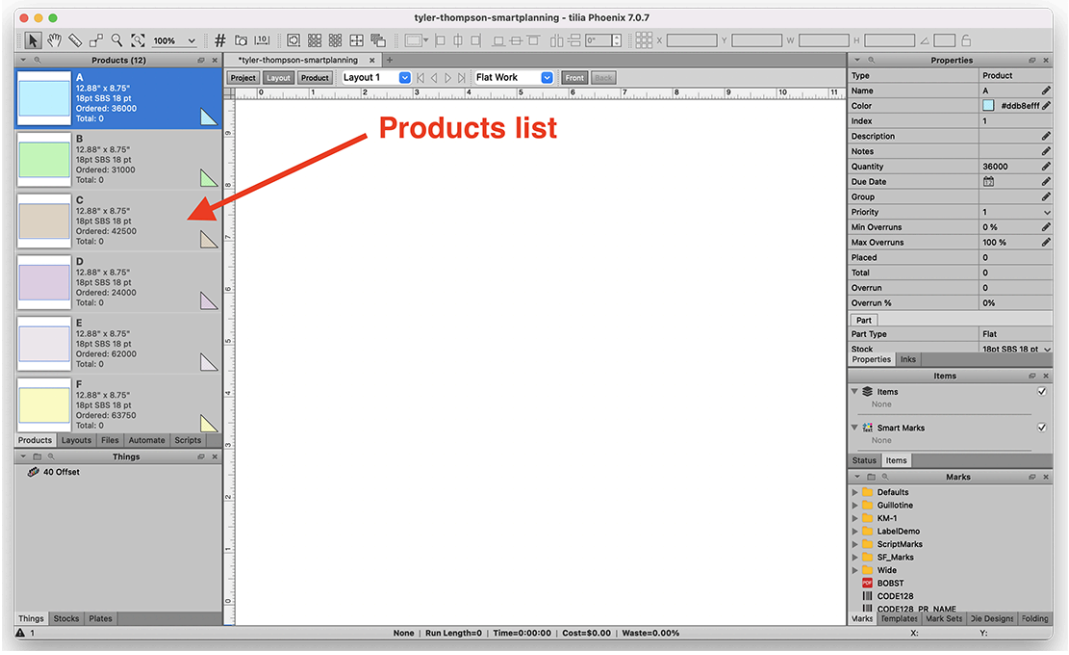
Set the filename to “test-job-smartplanning“ and leave the rest of the fields blank. These fields can be used to add additional information to the project, but are not necessary. Now click "OK". You should now see a blank layout like the screenshot below.



1.2.1.3. Add Products with CSV

Now we want to add products to the project. Phoenix has the ability to import products using CSV file. This CSV has the product parameters already predefined, making for fewer steps in Phoenix. Phoenix can map data from the CSV into any product property (don't worry, this is already done for you!)

To import the products, drag the orders.csv file into Phoenix to import the products (just drop the csv file on the blank canvas in Phoenix - if anything pops up, click 'OK'). You'll notice the parameters are all mapped correctly, and the order quantity, name, height, width, and stock are properly assigned. You will see the products displayed in the Products panel on the left side of the application window. You should see the list of products in you panel similar to the screenshot below:



Now the products have been added to the project, and we're ready to start planning!

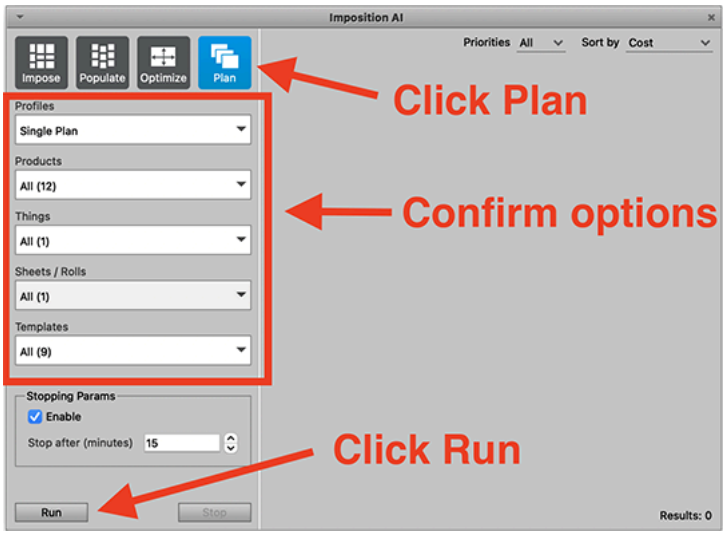
1.2.1.4. Run Imposition AI (part1 - straight forms)

Now, Phoenix knows what stock the products need to be placed on since the information was provided in the CSV file. Phoenix also knows your production capabilities since the press and stock is already predefined. So, we are now ready to intelligently find the best plan.

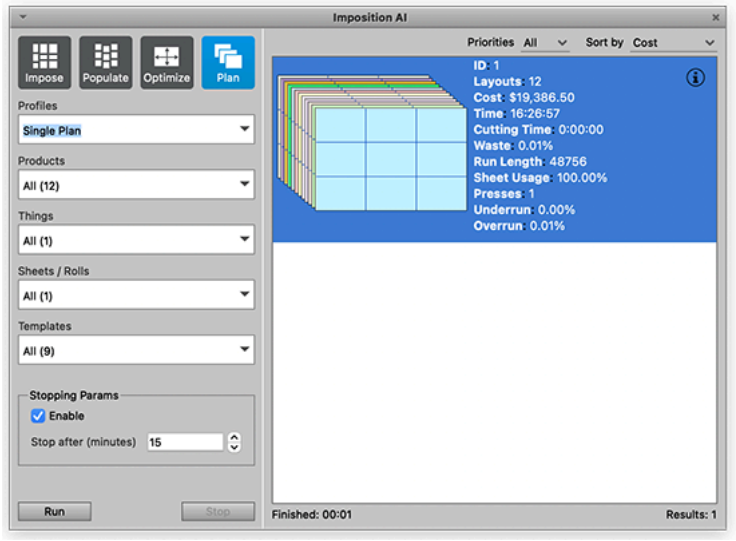
Navigate to the **Window** menu at the top of the application and choose **Imposition AI**.

Click the "**Plan**" button at the top of the Imposition AI window, and then choose the following settings:

- **Profiles**: Single Plan
- **Products**: Select All
- **Things**: 40 Offset
- **Sheets/Rolls**: Select All



Now click Run. Phoenix uses the parameters above to calculate results for the ’40 Offset' press. You should see one result:

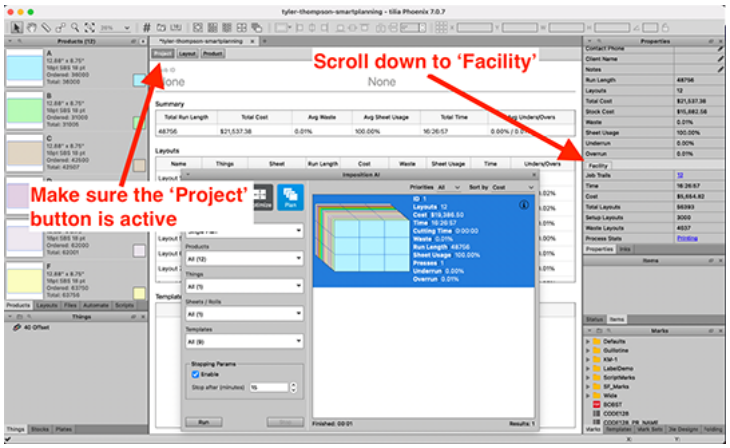


Double-click to apply this result.

Now you will see that Phoenix shows you the Project view. This view reports the details about the Project with production costing and time information.

Look at the ‘Properties’ panel on the right hand side. Scroll down to the ‘Facility’ section and **take a screenshot of your screen**.

Note the '**Total Cost**‘ (above facility tab), '**Stock Cost**' (above facility tab), '**Total Layouts**’ (below facility tab) and '**Time**' (below facility tab) properties. Your results should match the results below. Make sure your screenshot looks similar to the below screenshot:



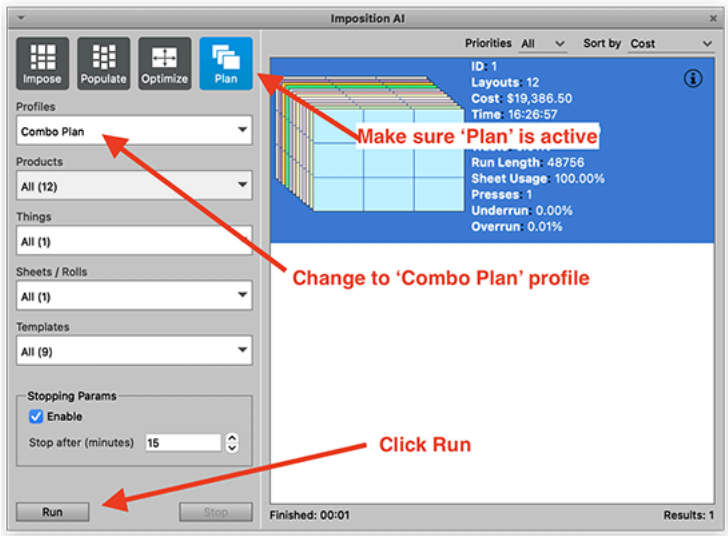
1.2.1.5. Run Imposition AI (part2 - combo forms)

Now, let's let Phoenix calculate the best way to run these orders considering combo (mixed) forms.

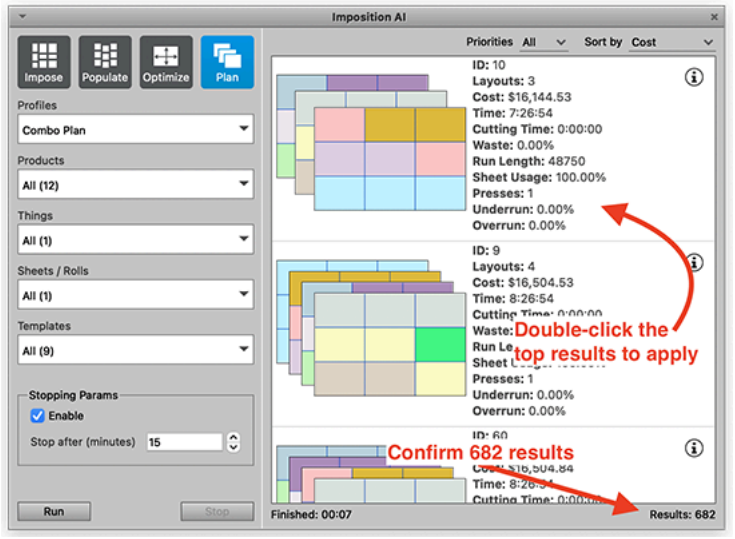
Go back to the **Imposition AI** window (if you closed it, navigate to the **Window** menu at the top of the application and choose **Imposition AI**).

Again, click the "Plan" button to make sure Plan is active at the top of the Imposition AI window, and then change the Profile to '**Combo Plan**'. Your settings should be set as follows:

- **Profiles**: Combo Plan
- **Products**: Select All
- **Things**: 40 Offset
- **Sheets/Rolls**: Select All

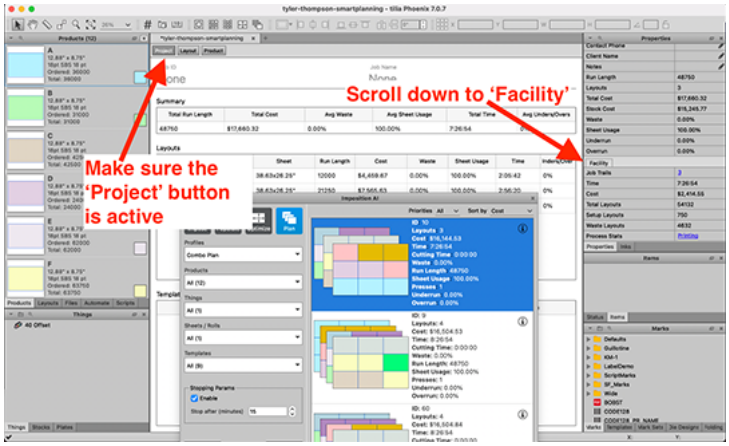


Now click Run. Phoenix uses the parameters above to begin searching for the best possible plan using the stock and press specified. Allow Phoenix to generate the results — the list is sorted by cost by default, so the top result in the list will be the most cost-effective:



Double-click to apply the top result after the algorithm finishes searching. Phoenix will show you the Project view. Look at the ‘Properties’ panel on the right hand side. Scroll down to the ‘Facility’ section and **take a screenshot of your screen**.

Note the '**Total Cost**‘ (above facility tab), '**Stock Cost**' (above facility tab), '**Total Layouts**’ (below facility tab) and '**Time**' (below facility tab) properties. Your results should match the results below. Make sure your screenshot looks similar to the below screenshot:



1.2.1.6. Run Imposition AI (part3 Combo + 56 Offset)

For the final part of the guide, we will use Phoenix to evaluate the same job running on a larger, 7-color press.

Adding a New Press

In Phoenix, a 'Thing' (or plural 'things') is a physical object or process that is used in a production flow when transforming a product part and/or component into a final product. A 'Thing' could be a piece of equipment such as a digital press or a die- cutting device, or it could be a manual resource that would perform a task such as diemaking or hemming/sewing a banner.

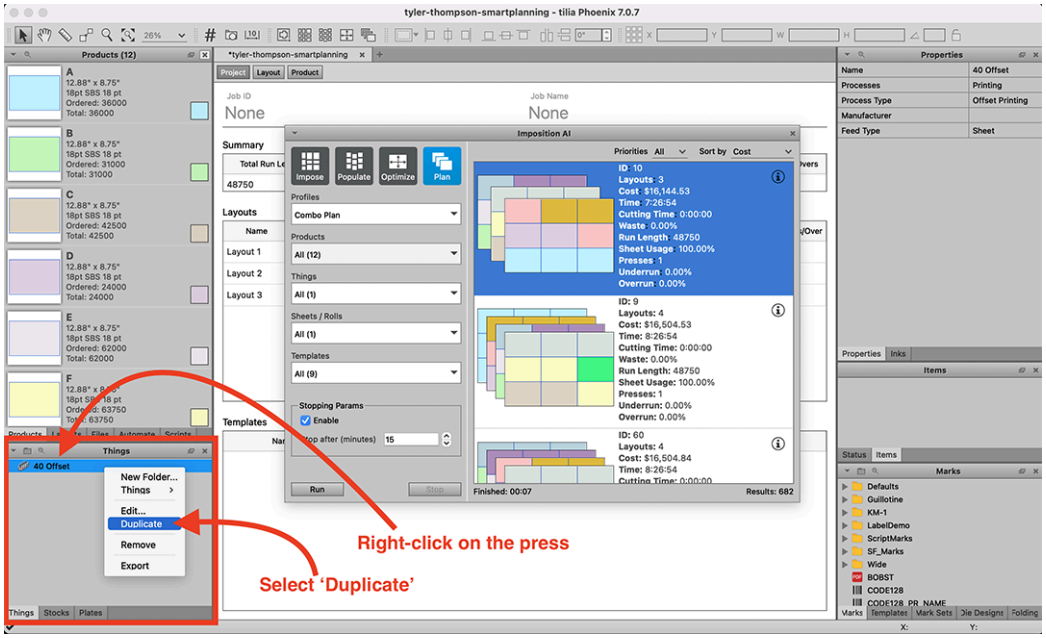
Presses consist of the following:

- Speed and cost information used by estimation + ganging
- Min/max sheet constraints used by ganging
- Media template (optional)
- Gripper, sheet placement, content and image margins
- Press-specific marks (optional)

There are different types of Presses available within Phoenix:

- Digital, both Sheet-fed and Web-fed
- Offset, both Sheet-fed and Web-fed
- Wide Format, both Flatbed and Roll-fed

For the guide, we will be duplicating and modifying the existing Sheet-fed Offset Press 'Thing' ('40 Offset'). To duplicate the existing press, right-click on the press named '40 Offset' in the Things panel, and select 'Duplicate'



After duplicating, double-click on the new duplicated press to edit the press settings. Use the following values to update the fields to match our new press settings:

General:

- 1. Rename the press to **56 Offset**
- 2. Change 'Number of Units' to 7

Costing:

- 3. Change '**Setup Layouts**' to **300** (this is for make ready sheets)
- 4. Change '**Running Waste**' to **10.5%** (scrap %)

Capabilities:

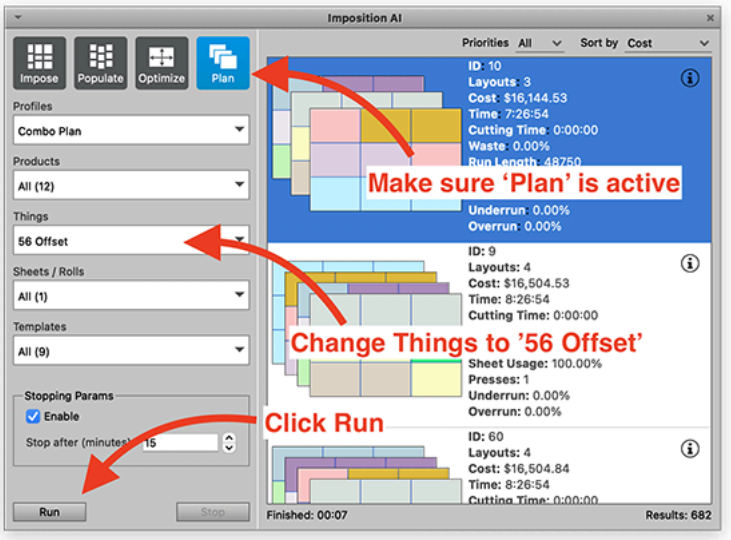
- 5. Change '**Min Width**' to **40"**
- 6. Change '**Min Height**' to **28"**
- 7. Change '**Max Width**' to **56"**
- 8. Change '**Max Height**' to **38"**

Click '**OK**' to save the new press settings. You will now see a new 'Thing' named '**56 Offset**' in the 'Things' panel.

Now, let's use Phoenix to calculate the best way to run these orders considering combo forms on our new 7-color 56 Offset press.

Go back to the **Imposition AI** window (if you closed it, navigate to the **Window** menu at the top of the application and choose **Imposition AI**). Again, click "Plan" to make sure the Plan tool is active at the top of the Imposition AI window, and set the Profile to '**Combo Plan**'. Make sure to use the '56 Offset' press! Your settings should be set as follows (see screenshot):

- **Profiles**: Combo Plan
- **Products**: Select All
- **Things**: **56 Offset**
- **Sheets/Rolls**: Select All



Now click **Run**. Phoenix uses the parameters above to begin searching for the best possible plan using the stock and press specified. Allow Phoenix to generate the results — this one is more complicated so may take slightly longer to find the best results; the top result in the list will be the most cost-effective.

After clicking Run, Phoenix will display results on the right side of the window. Double-click to apply the top result after the algorithm finishes searching.

Look at the '**Properties**' panel on the right hand side (just like the above exercises). Scroll down to the **'Facility'** and take a screenshot of your screen.

Note the '**Total Cost**' (above facility tab), '**Stock Cost**' (above facility tab), '**Total Layouts**' (below facility tab) and '**Time**' (below facility tab) properties.

Now that we've seen the ways to make layouts and how Imposition AI works, the only thing left to do is export our production files.

Go to the File menu, click on "Export for Printing" and choose "Imposed PDF..." In the resulting export dialog, choose the Factory Default PDF Export and click OK. Now choose where to save your PDF.

You can similiarly export a file for cutting if you need to create a die or send a cutting PDF, CF2, DXF, or ZCC file downstream.

Lastly, export a PDF report of the project. Go to the File menu, click on Export Report and choose PDF... You can modify the settings if you'd like, and then click OK to create a report. Save the report, and then open it.

Here you can see the details of the project. On the first page you can see total run length, cost, waste, sheet usage, and more, along with a breakdown of each layout. After the overview, there is a layout by layout breakdown with a preview of the layout, followed by an overview of each product in the project.

1.3. Corrugated Quick Start

If you're strapped for time and just want a quick, step-by-step introduction to some Phoenix basics, follow the steps below. For more info, check out the complete user guide, or try out the search bar to find a particular term.

For this Quick Start Guide, you'll need a few files to get started. Grab those here, and we'll tell you where to use them later on in the guide.

Download these files to your desktop and unzip:

Quickstart for Corrugated Assets.zip

Contents:

1. Folder containing example artwork
2. Phoenix Quickstart Library
3. Example Order CSV file



Important: Preserve the names and structure of the contents of this folder. Changing names or folder structure will disrupt the flow of this guide.

1.3.1. Creating your first project

1.3.1.1. Importing the Library

Phoenix stores configurations in Phoenix Libraries. Let’s load a pre-built library so that you can follow along with this guide.

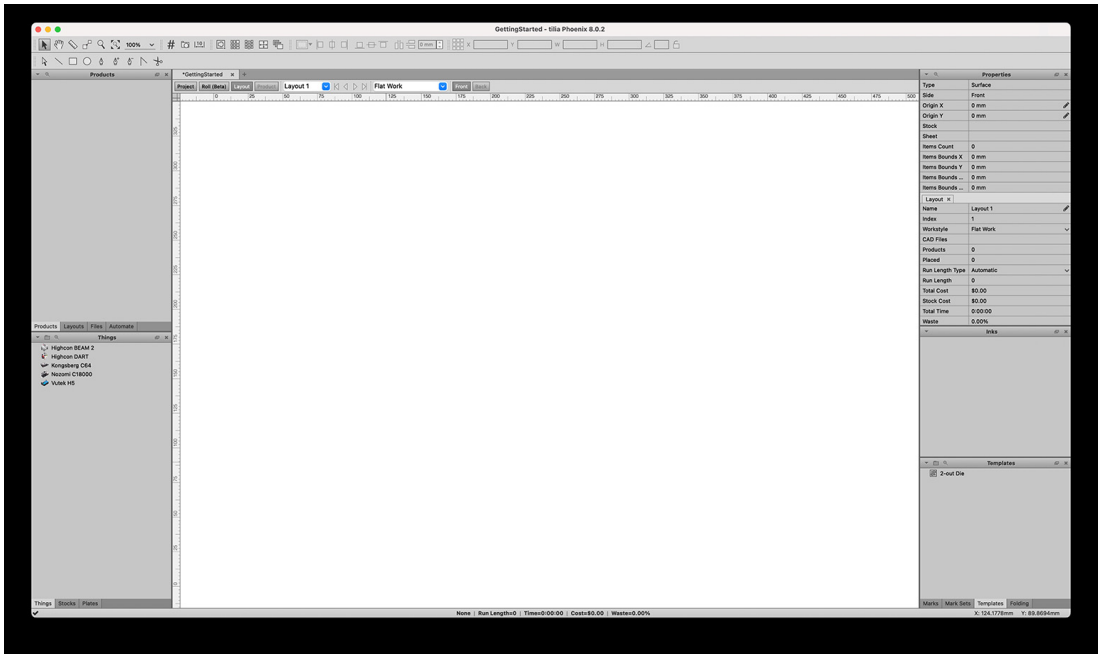
Open Phoenix, and navigate to Preferences. On a Mac, Preferences can be found in the Phoenix menu. On a PC, go to Edit and then select Preferences. From there, click on Diagnostics in the left hand panel, and then click Import Libraries.

Select okay, choose the .phxlib file from the .ZIP file you downloaded earlier, and click OK once it's loaded. Phoenix will close down. Open it back up, and now we're ready to create a project!

1.3.1.2. Create a project

To create a new project, go to File > New project (or press Command or Control and "N"). This will create a new project, and prompt you for additional project information. It is best-practice to fill out the project properties.

Set the filename to "GettingStarted" and leave the rest of the fields blank. These fields can be used to add additional information to the project, but are not necessary. Now click "OK". You should now see a blank layout like the screenshot below.

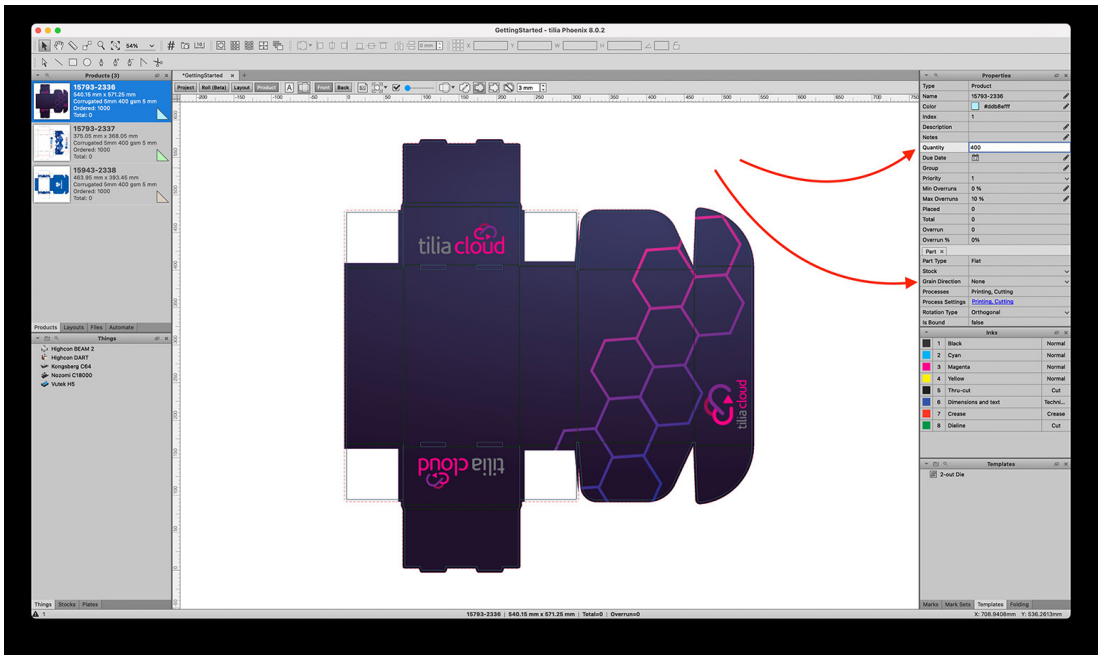


1.3.1.3. Add Products

Let’s start adding products to this project. We can do this by simply dragging and dropping the products you downloaded earlier into Phoenix.

After dragging and dropping, you will see the products displayed in the Products panel on the left side of the window. The products have been given some default properties, so let's modify them to make sure they're set properly.

Click on the first product to select it. Notice the Properties panel on the right side of the screen. It now is displaying the properties for the product you have selected - things like Quantity, Stock, and Grain Direction. Let's specify a Quantity of 400 and a Grain Direction as Horizontal.



Product Properties with the pencil icon are editable. For a full list of product properties, see *General Properties* on page 71

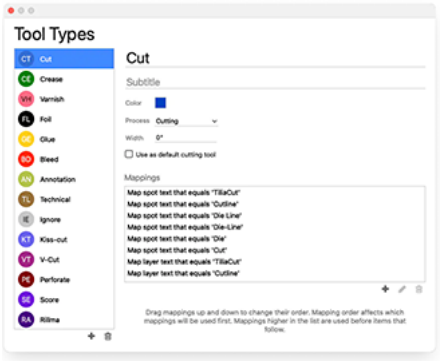
Tip: Certain product properties like Grain Direction can be set to default values by navigating to Preferences > Product and clicking on the Default Properties tab.

Change the quantity ordered and grain direction for the other products to match the first product. Note that you can also select multiple products at once to change parameters for multiple products at the same time. Now the products have been added to the project, and we're ready to create a layout.

1.3.1.4. PDF Spot Color and Layer Mapping

Did you notice how Phoenix automatically created a shape for our products? This happened behind the scenes using a process called Tool Type Mapping. Phoenix is looking for inks or layers in the PDF to define things like cut and crease lines.

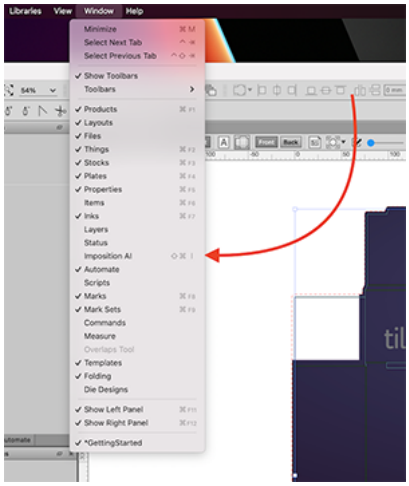
You can see how Phoenix mapped the layers in our files by visiting Libraries > Tool Types... in the menu bar.



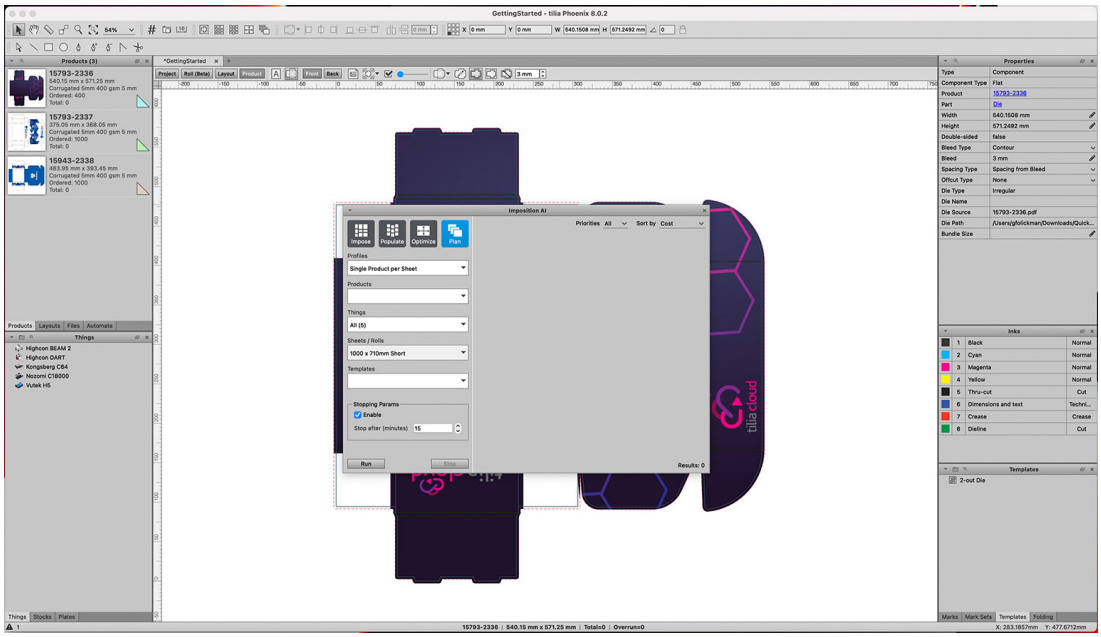
Phoenix found inks called “Cut” and “Crease” in our example PDFs and automatically mapped those for us. Use the Tool Types Library in your own workflow when you need to add, delete, or edit these mappings.

1.3.1.5. Creating our first layout

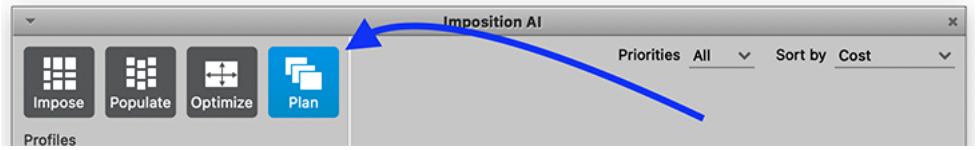
Let’s start building layouts! The tool inside Phoenix for automatically generating layouts is called Imposition AI. You can open Imposition AI by navigating to Window > Imposition AI or by using the shortcut Command/Crtl + Shift + I.



Your screen should now look like this:



Before proceeding, there are four boxes at the top of the Imposition AI window labelled: Impose, Populate, Optimize, and Plan. Make sure Plan is selected by clicking it. The box will highlight in blue.



Next, select an Imposition AI profile from the Profiles dropdox. Profiles are customizable recipes that instruct Phoenix how to generate layouts and what rules to follow. More on these in a bit.

For this first example, select the profile called “Single Product per Sheet.”

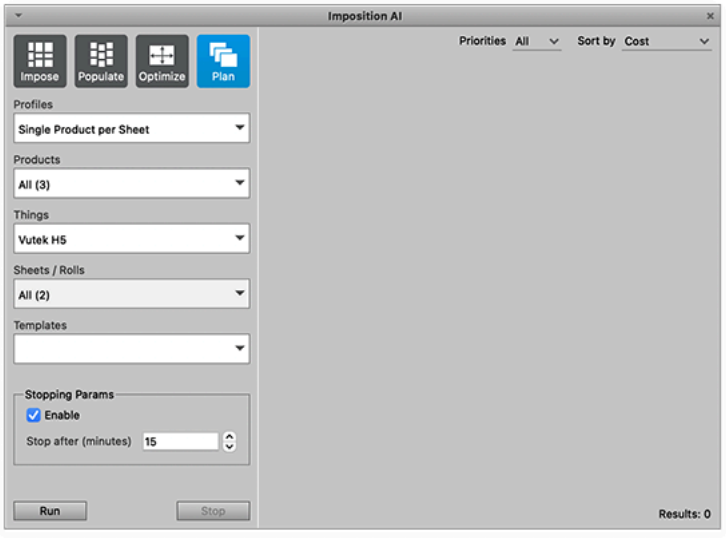
Next, select the Products dropdown and click “Select All.” This will tell Phoenix to make layouts from all products in the project. You could also select individual products for certain cases but for now let’s select them all.

Up next is the Things dropdown. We will cover Things in more detail with you in training but for now, just select the Thing called “Vutek H5.”

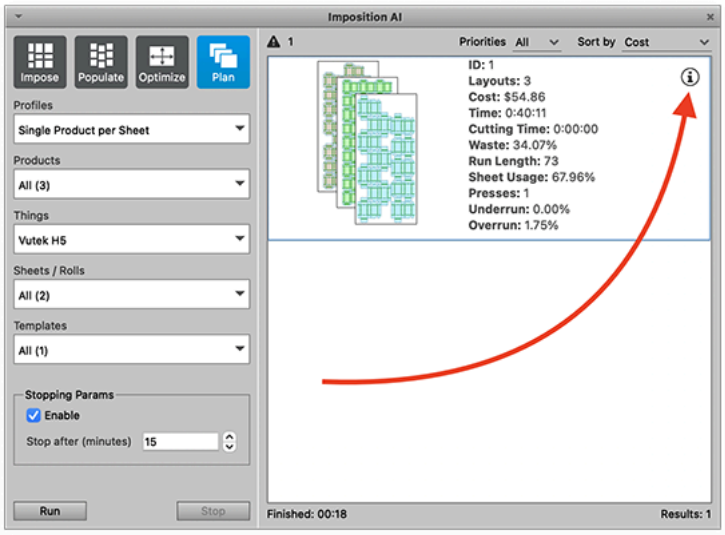
From the Sheets dropdown, click the “Select All” checkbox. One exciting feature of Phoenix is its ability to select the most optimal sheet size for a set of orders. You can also select a specific size from this list.

Finally, you can ignore the Templates dropdown for now. We can populate this list later with existing steel rule dies that match the size and shape of our products.

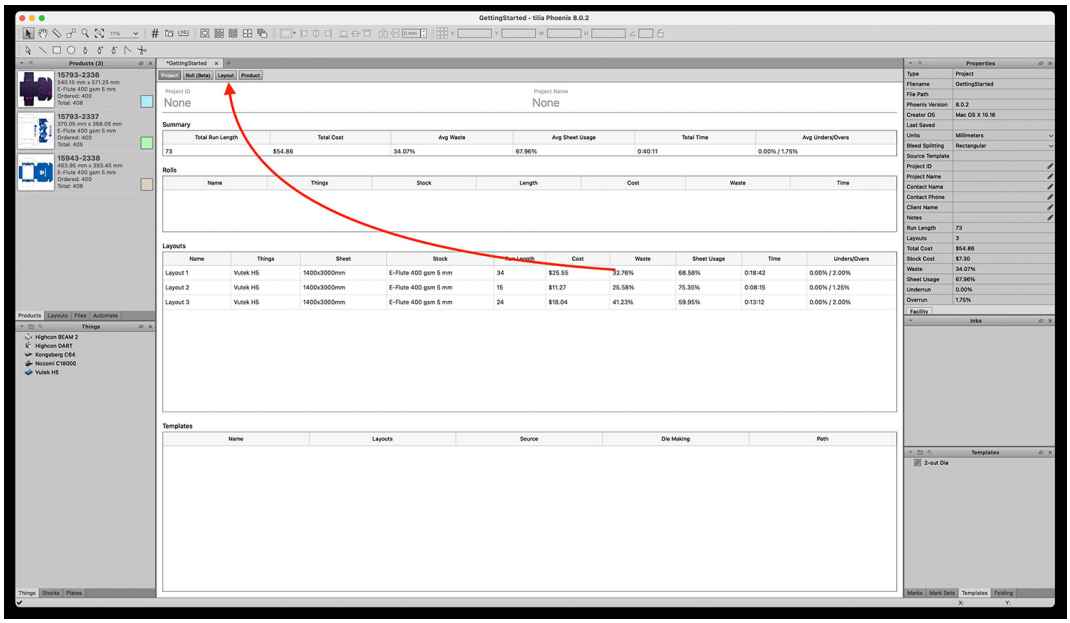
To recap, your Imposition AI menu should look like this:



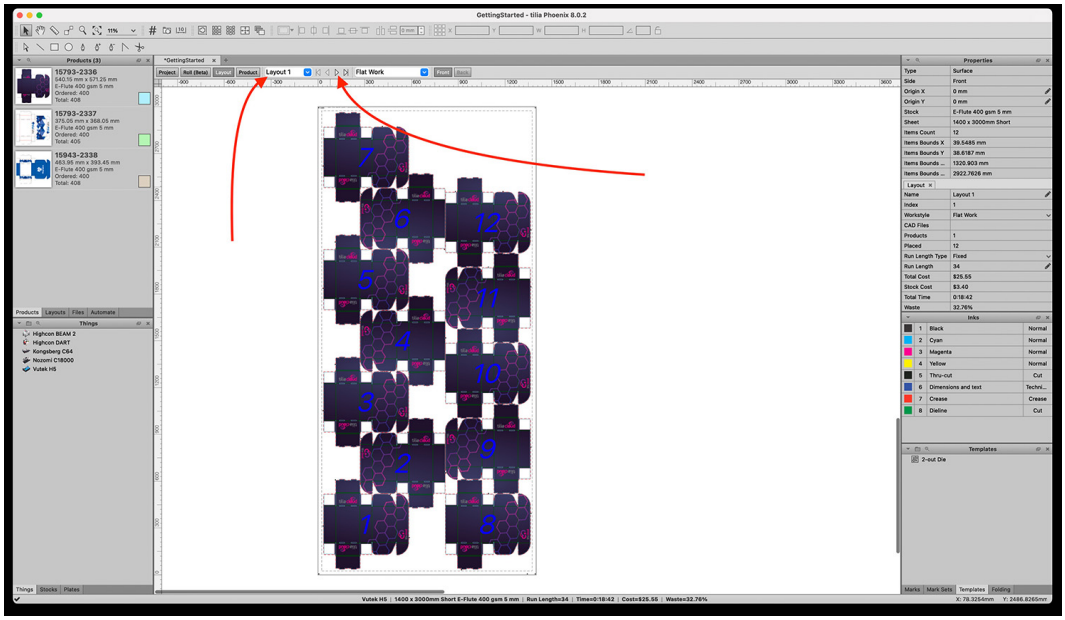
Click the Run button and after a few moments, Imposition AI should return one result. View this result in more detail by clicking the (i) button. Double click the the result in the Imposition AI window to apply this result.



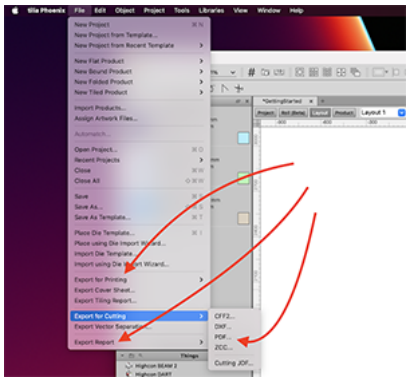
After double clicking to apply the results, you can close your Imposition AI window or move it out of the way. You will be looking at the job summary screen. Click the Layout tab at the top of the Project workspace to view the individual layouts.



Scroll through your layouts using the left and right arrow buttons or pick a specific layout by using the dropdown list.



Finally, export the print files as a high res PDF, cutting file as a PDF / ZCC / DXF / CFF2, and a PDF report file. You can find all these exports in the File Menu.



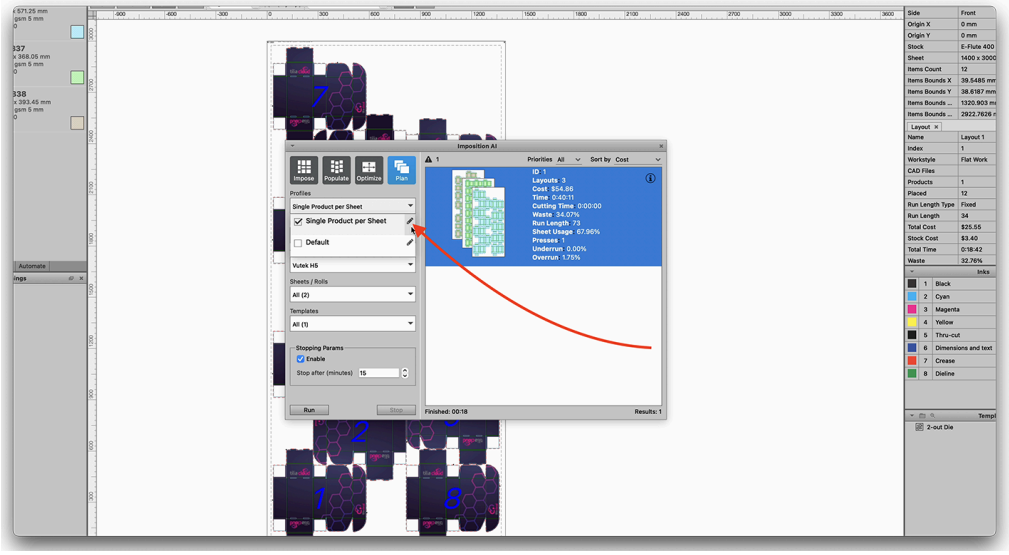
Congratulations! You have created and exported your first layouts! If you are struggling at all, don't hesitate to reach out for help. Otherwise, let's take things one step further.

1.3.1.6. Creating Ganged Layouts in Phoenix

The power behind Phoenix is its ability to look at different products and optimize material by ganging things together. This reduces waste and press time.

We will continue to use our current GettingStarted project. Open the Imposition AI window again (Window > Imposition AI) and let's take a closer look at Profiles.

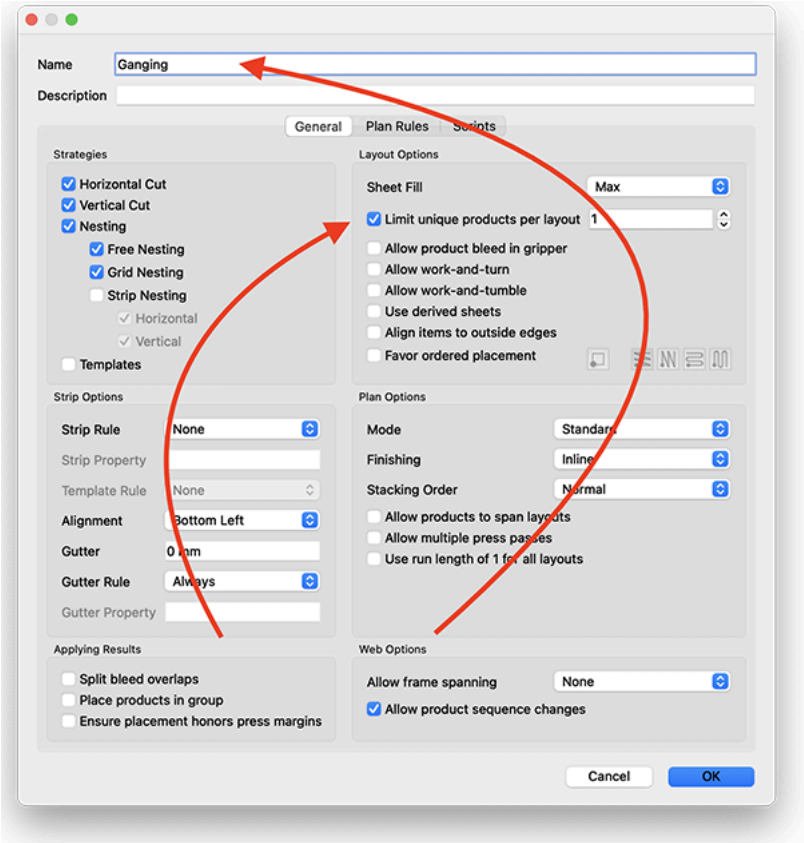
You can open an Imposition AI profile by clicking on the Profile dropdown list then clicking the pencil icon. Open the Imposition AI profile we first used called "Single Product per Sheet."



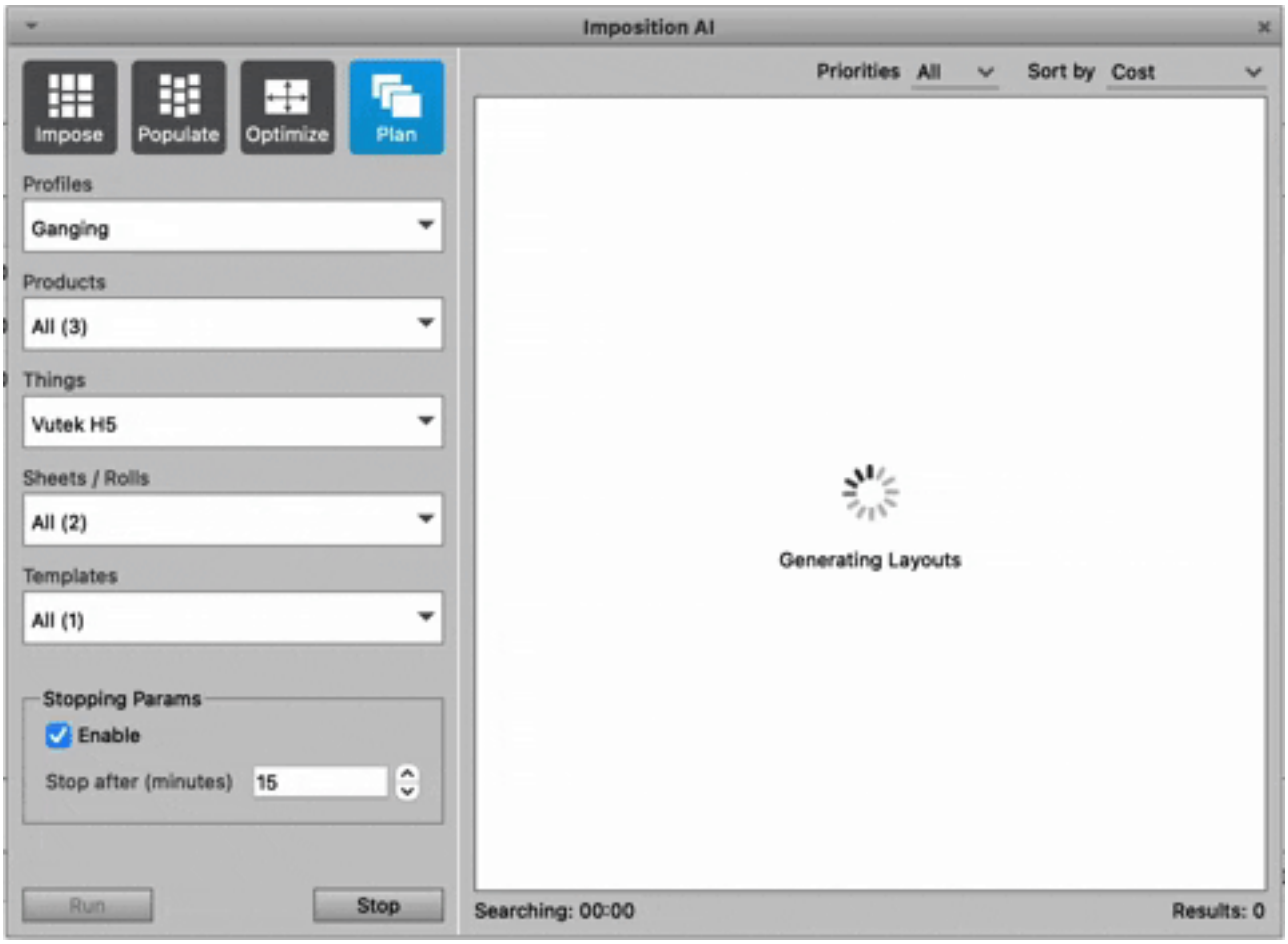
There are a lot of options and rules inside of Imposition AI profiles. It's not necessary to know them all right now but more reading and videos on Imposition AI profiles can be found in *Imposition AI* on page 201

For now, let's remove the rule that we have set limiting the number of products that appear on layout. Uncheck the box next to the option "Limit unique products per layout."

Let’s save this new profile with a different name.



We have now told Imposition AI that we can mix our products to get better, more optimized results. Let’s run Imposition AI with this new Profile selected.



After a few moments, Phoenix starts generating a number of results sorted by cost (material + press time). Clicking on the "(i)" button at the top right corner of each layout proposal will give you a more detailed view of the job and each layout.

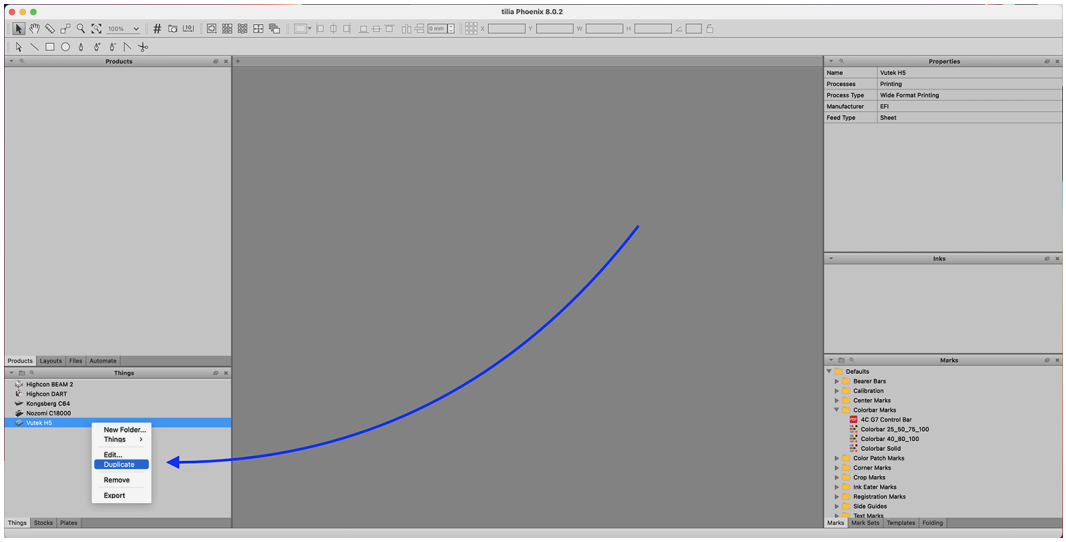
As before, you can double click the layout proposal that you want to apply and follow the previous process to export print and cut files.

1.3.1.7. A bit about Presses, Stocks and Marks

Presses Library

Phoenix has a library of Things that include presses, finishing devices, and processes. Double clicking on a Thing will open the configuration menu. From here, you can preset information about the Thing such as minimum and maximum sheet sizes, speeds, margins, marks, and more.

Right clicking on a Thing in the Things panel will duplicate it. Try duplicating the Vutek H5 and playing around with the settings to get a feel for how to make changes to the press.



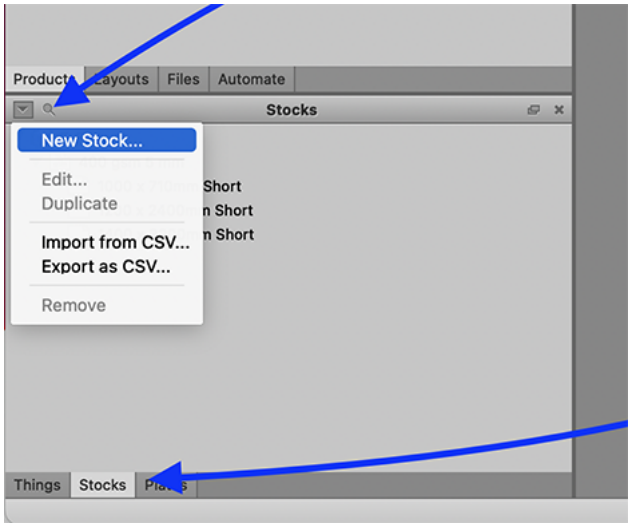
Note:

You can also set up finishing devices like conventional and digital die cutting equipment and die creation cost. This is an advanced topic that you can read about *here* or cover in your full Phoenix training sessions.

Stocks Library

Let's add some additional stocks and stock sizes in the Stocks library. Access the Stocks library by clicking the "Stocks" tab in the bottom left panel (it is probably currently on the "Things" tab).

Start by adding another stock to our library. When importing multiple products with different stocks, Phoenix will automatically ensure that products end up on the correct stock!



Let's add a B-Flute White stock to our library. Clicking the grey "+" button will add new items to Phoenix libraries. Start by giving this new stock a name - ideally one that correlates with your upstream ordering system for good data consistency.

Another good practice for further automation in to select the appropriate “Stock Type” from the dropdown list.

Add a new Grade (caliper) and fill in the Caliper and Cost information at the bottom of the dialogue.

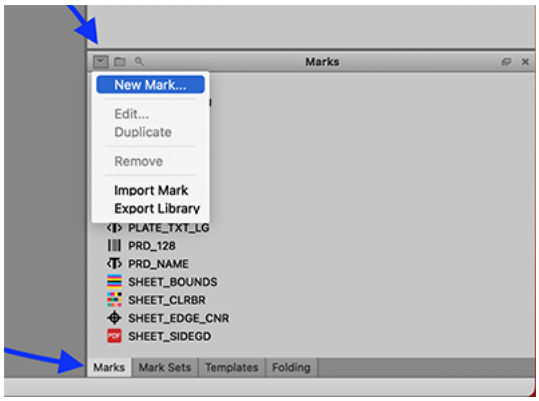
Finally, add your available sheet sizes. Be sure to add a flute direction by specifying the “Grain” property of the sheet. Long refers to the flutes running parallel to the larger dimension and short refers to the flutes running parallel to the shorter dimension.

Tip: Phoenix can also determine the optimal sheet size based on the order but more on that during your full training.

Marks Library

Phoenix has a vast library of dynamic, “smart” productions marks that can be applied to artwork or layouts. These marks include things like variable text, barcodes, and registration marks. While we don’t have time to cover all the different kinds of marks and their use cases, let’s spend a bit of time reviewing the most important marks for digital corrugated print and finishing.

First, navigate to the Marks panel by clicking the “Marks” tab in the bottom right panel. You should see a few pre-built marks for our Quickstart Library. You can build marks from scratch by clicking the triangle menu icon at the top left corner of the marks panel.

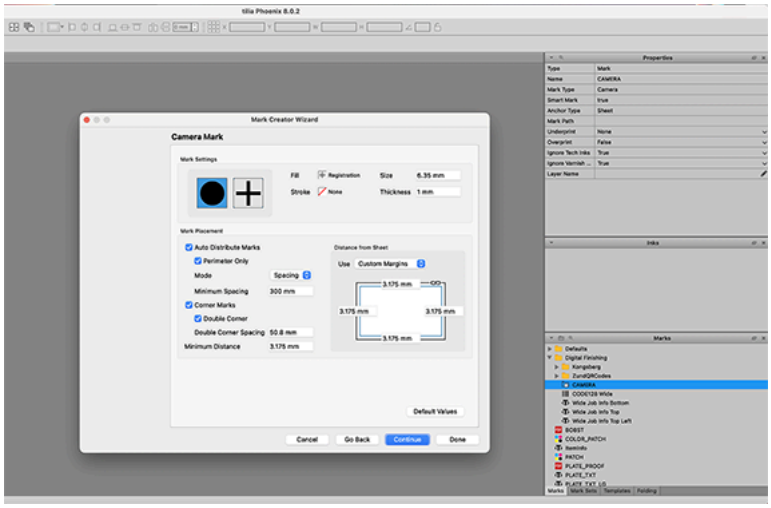


From here you can browse the different kind of marks available for various applications and build them from scratch. A full rundown of our marks and keywords can be found here:

- *Marks* on page 121
- *Phoenix Keywords* on page 250

For now, let’s just stick to the pre-built marks that we have included in this quickstart library.

One common set of marks we need for digital print and finishing are camera registration marks. Navigate to the Marks panel and open the “Digital Finishing” folder. You should see a mark called “Camera”. Double click this mark to open the wizard.



Browse through the wizard screen by clicking the “Continue” button. You can change these settings to match the specifications required by your cutting table - although these default setting should work for most common kinds of cutting tables.

We can apply these camera marks to a layout in one of two ways:

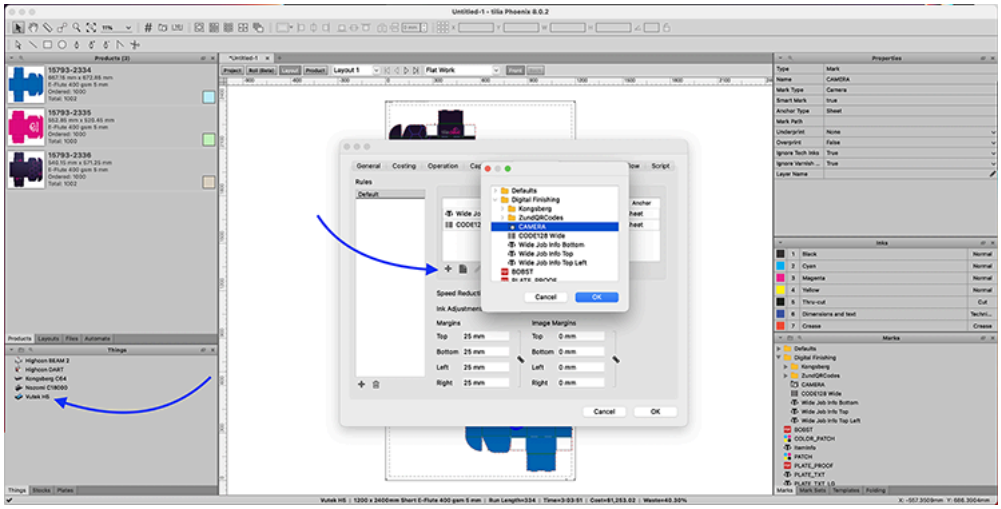
Manually drag them onto a layout we have created.

Click *here* to open a video on adding marks to a layout.

Or add them to a Thing as default marks. This ensures that any layout created using this Thing always has a given set of marks. Let’s add Camera marks to the Vutek H5.

Double click the Vutek H5 in the Things panel. Navigate to the “Media Rules” tab in the wizard. Under the Marks window, click the “+” button and add the Camera mark.

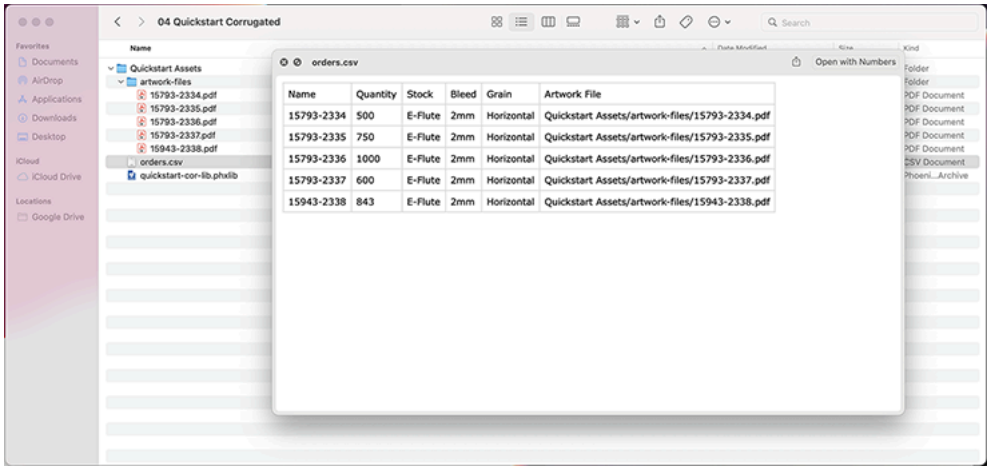
Now any layout created for the Vutek H5 will include these camera marks!



1.3.2. Add a little automation: Importing products from a CSV file

In this final section, let's explore how we can speed up the process by importing products from an Excel spreadsheet.

Instead of manually dragging and dropping PDF files, Phoenix has the capability to mass import products from a spreadsheet. Take a look at the included .CSV file. Double clicking it will open it in Excel or Numbers.



Notice this spreadsheet contains a row for each product we will import into Phoenix. We have a column for Product Name, Quantity, Stock, and Artwork File.

Create a new Phoenix job. Next, drag this spreadsheet file directly into Phoenix from your finder.

Click *here* to watch a video on CSV Import.

You will now see all five products import at one time with the proper Stock and Quantities already set. From here, proceed to Imposition AI to create your layouts!

1.4. Folding Carton Quick Start

If you're strapped for time and just want a quick, step-by-step introduction to some Phoenix basics, follow the Folding Carton Quick Start. For more info, check out the complete user guide, or try out the search bar to find a particular term.

For this Quick Start Guide, you'll need a few files to get started. Grab those here, and we'll tell you where to use them later on in the guide.

Download these files to your desktop and unzip:

QuickStartFC.zip

This .zip contains:

1. Folder containing example artwork
2. Phoenix Quickstart Library
3. Example Order CSV file



Important: Preserve the names and structure of the contents of this folder. Changing names or folder structure will disrupt the flow of this guide.

1.4.1. Creating your first project

1.4.1.1. Importing the Library

Phoenix stores configurations in Phoenix Libraries. Let's load a pre-built library so that you can follow along with this guide.

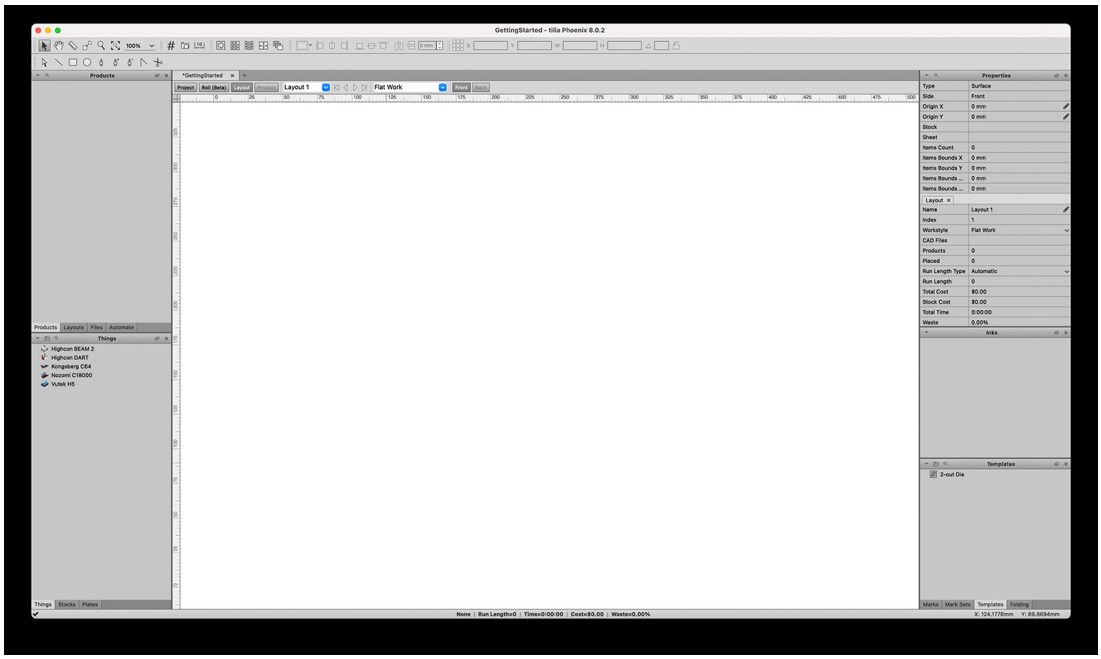
Open Phoenix, and navigate to Preferences. On a Mac, Preferences can be found in the menubar under the **Phoenix** menu. On a PC, navigate to the **Edit** menu and then select **Preferences**. From there, click on **Diagnostics**, and then **Import Libraries**.

Select OK, choose the .phxlib file you downloaded earlier, and click OK once it's loaded. Phoenix will shut down once the libraries have been imported. Open Phoenix back up, and now we're ready to create a project!

1.4.1.2. Create a project

To create a new project, go to File > New project (or press Command or Control and "N"). This will create a new project, and prompt you for additional project information. It is best-practice to fill out the project properties.

Set the filename to "GettingStarted" and leave the rest of the fields blank. These fields can be used to add additional information to the project, but are not necessary. Now click "OK". You should now see a blank layout like the screenshot below.

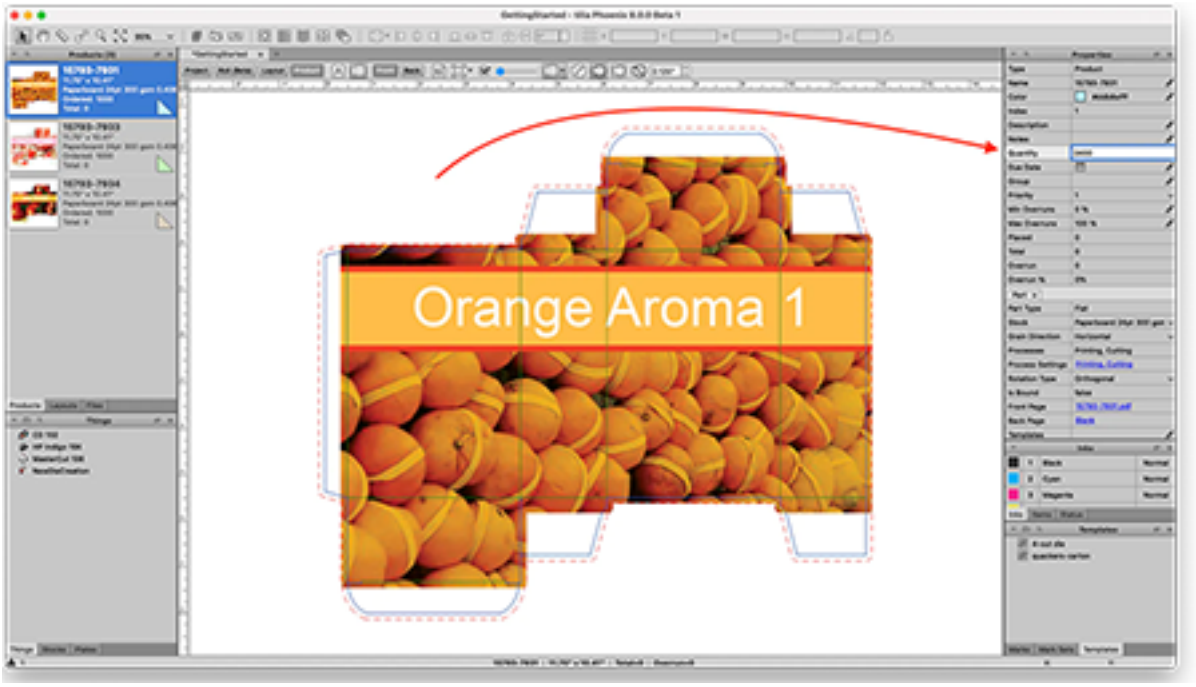


1.4.1.3. Add Products

Let’s start adding products to this project. We can do this by simply dragging and dropping the products you downloaded earlier into Phoenix.

After dragging and dropping, you will see the products displayed in the Products panel on the left side of the window. The products have been given some default properties, so let's modify them to make sure they're set properly.

Click on the first product to select it. Notice the Properties panel on the right side of the screen. It now is displaying the properties for the product you have selected. Let's specify a quantity of 2400.



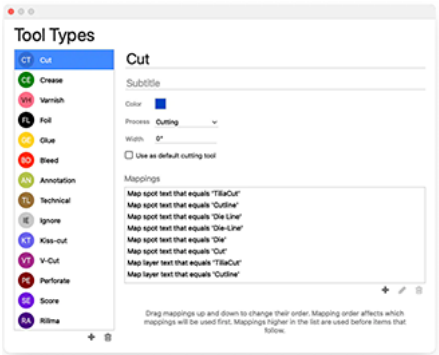
Product Properties with the pencil icon are editable. For a full list of product properties, visit *General Properties* on page 71.

Change the quantity ordered for the second carton. Note that you can also select multiple products at once to change parameters for multiple products at the same time. Now the products have been added to the project, and we're ready to create a layout.

1.4.1.4. PDF Spot Color and Layer Mapping

Did you notice how Phoenix automatically created a shape for our products? This happened behind the scenes using a process called Tool Type Mapping. Phoenix is looking for inks or layers in the PDF to define things like cut and crease lines.

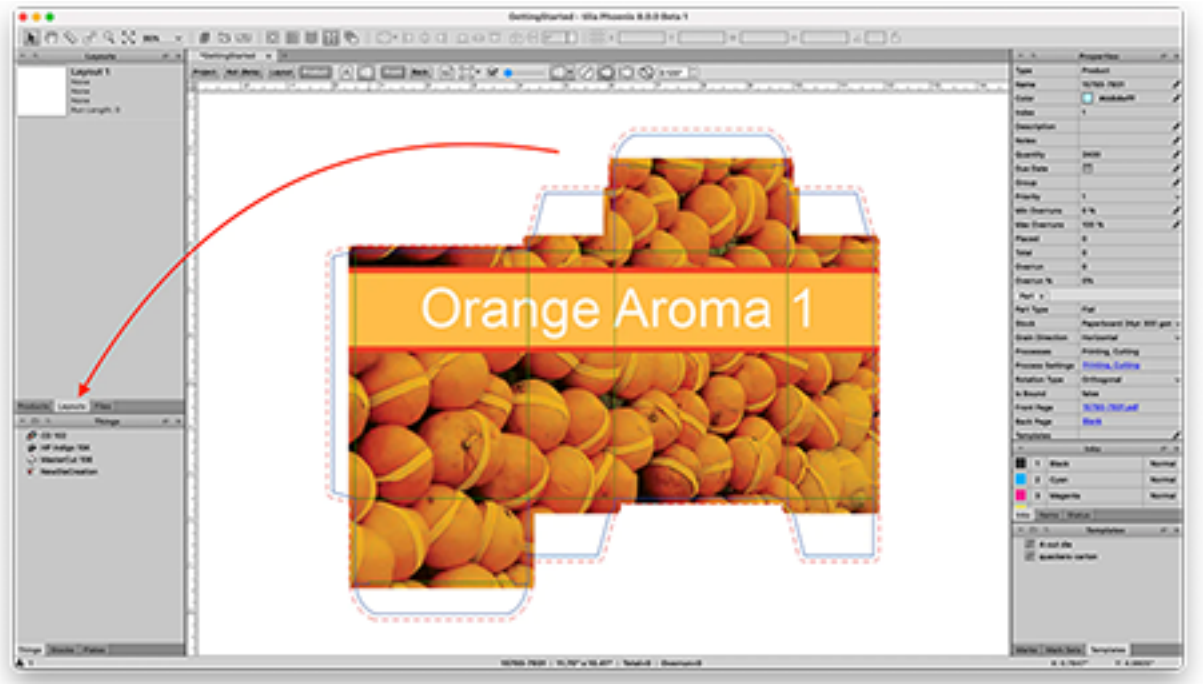
You can see how Phoenix mapped the layers in our files by visiting Libraries > Tool Types... in the menu bar.



Phoenix found inks called “Cut” and “Crease” in our example PDFs and automatically mapped those for us. Use the Tool Types Library in your own workflow when you need to add, delete, or edit these mappings.

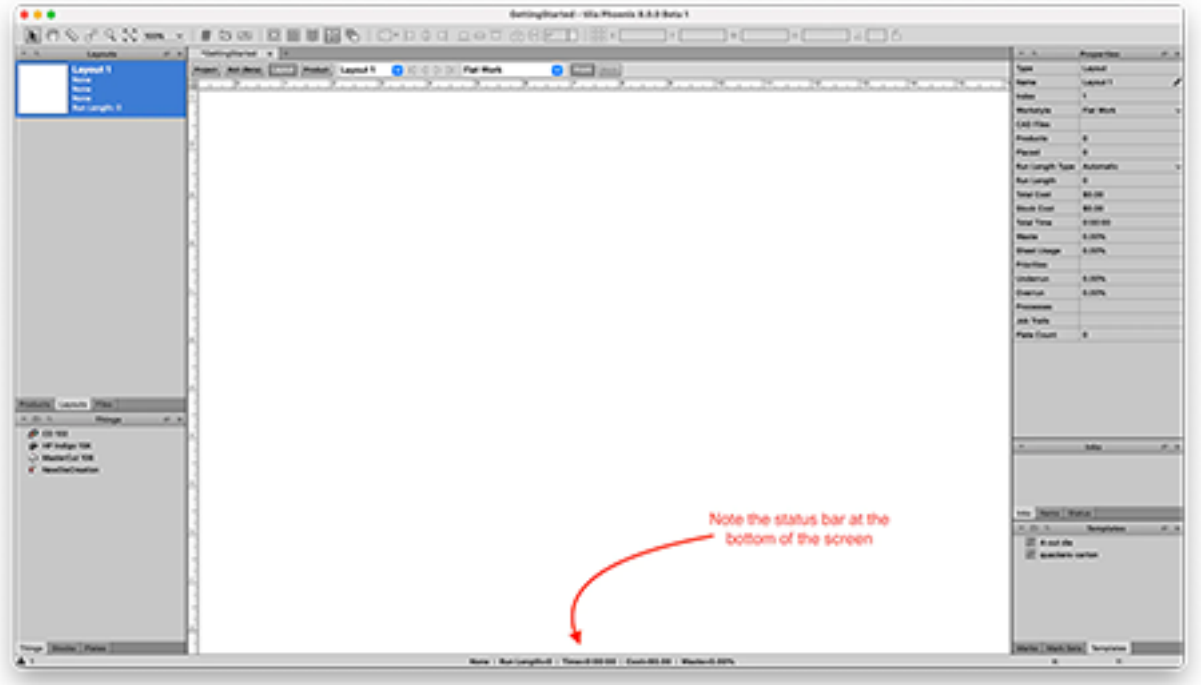
1.4.1.5. Create a layout

Let’s start building a layout by hand. Click the Layout Panel tab to view the project’s layouts.



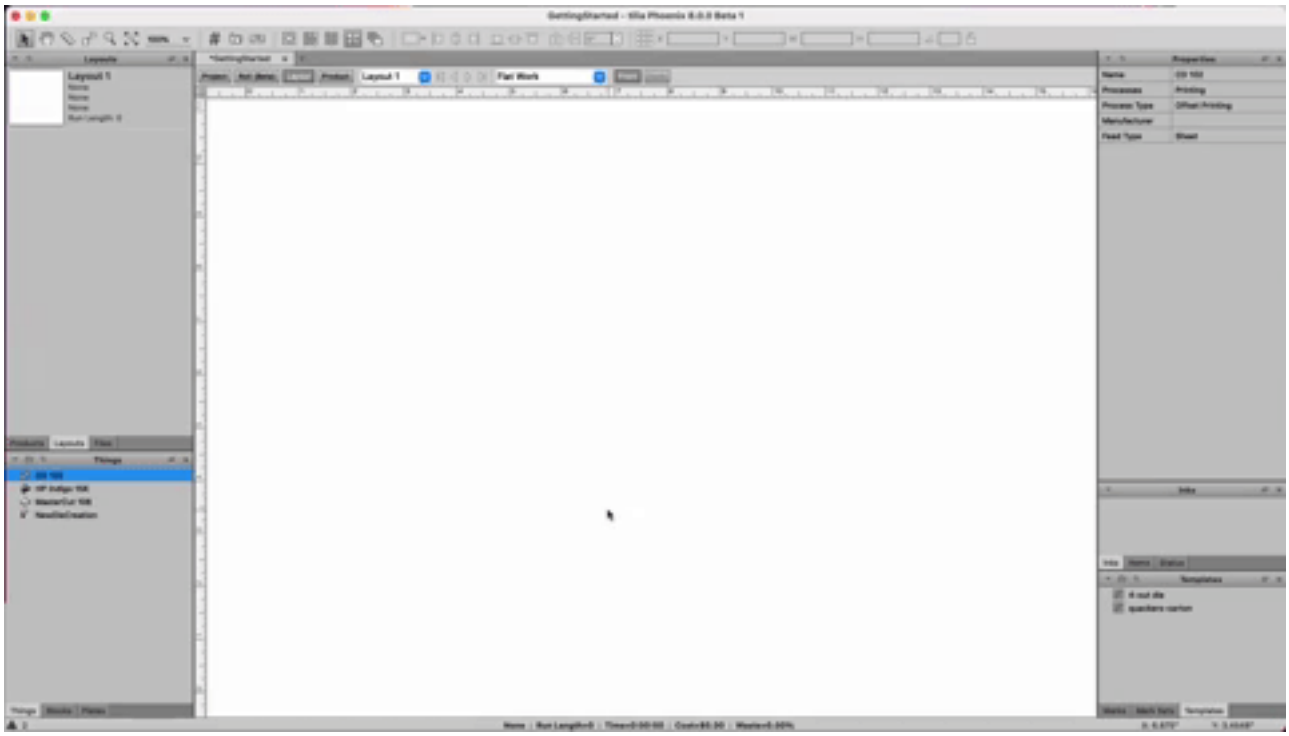
When the project was created, a blank layout was automatically added. You can see this in the Layouts panel as "Layout 1."

Double click Layout 1 in the Layout Panel. Your screen should now look like this:



Notice that in the staus bar at the bottom of the window, there is no sheet size or press specified, and it shows "None." This means that there is a layout, but no actual stock size defined, and no press assigned. Let's fix that.

Navigate to the Things panel in the bottom left of the Phoenix window. Click and drag the CD102 press from the Things panel onto your artboard.

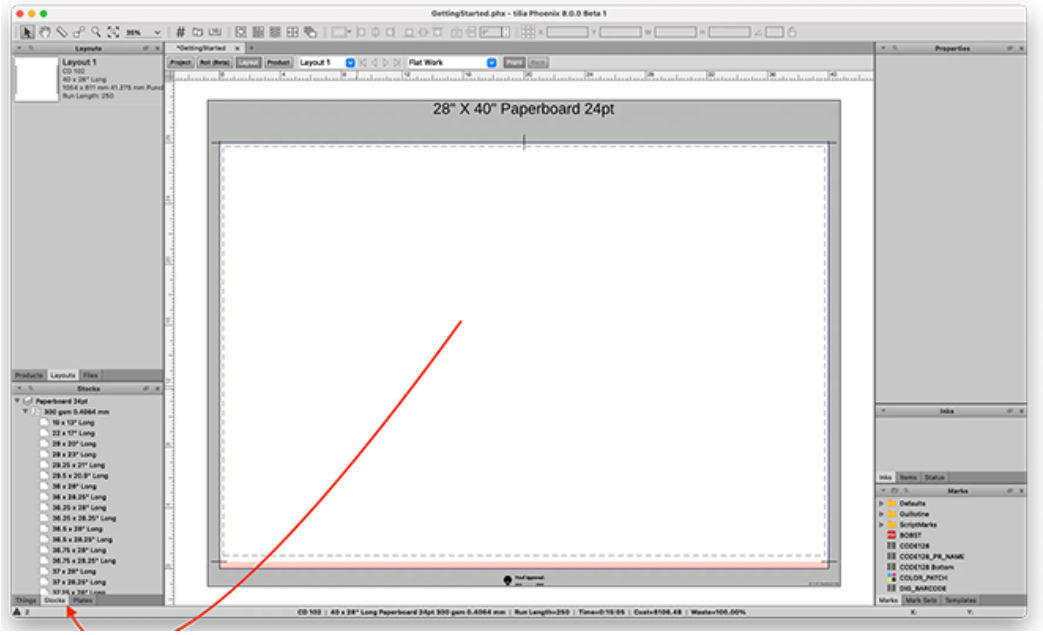


A few things happened:

1. A press is assigned. You can see this in the status bar at the bottom, where it shows "CD102"
2. A stock and sheet is assigned. This press had a default sheet assigned, which was a 40x28 sheet of Paperboard.
3. You can also see the layout itself looks different, as we can see the plate, gripper margin, and some default marks.

Our default sheet size is 40 x 28" but let's change that.

Everything in Phoenix is drag-and-drop. Select the "Stocks" panel and drag a different sheet size onto the artboard. Notice how the sheet size changes?

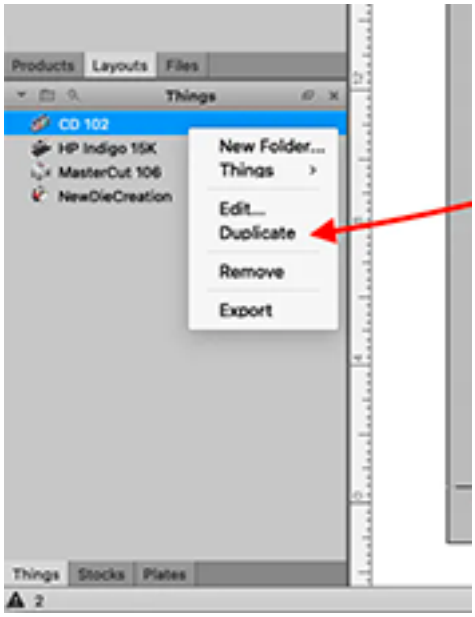


Now drag our 40 x 20" sheet back onto the artboard. We will continue with this size for now.

Where did our default press settings come from?

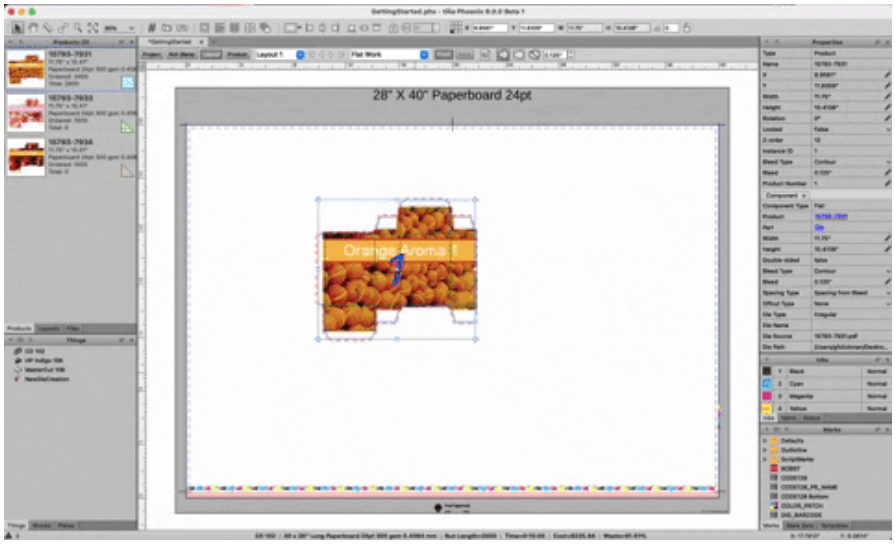
Phoenix has a library of Things that include presses, finishing devices, and processes (more about Things *here*). Double clicking on a Thing will open the configuration menu. From here, you can preset information about the Thing such as minimum and maximum sheet sizes, speeds, margins, marks, and more.

Right clicking on a Thing in the Things panel will duplicate it. Try duplicating the CD 102 and playing around with the settings to get a feel for how to make changes to the press



1.4.1.6. Add your products to the layout

Back in the Products Panel, select on the first product and drag it onto the Layout.



Tilia Labs is a full imposition editor. Move products around, hold option and drag to duplicate, or delete products as you please. Many of the keyboard shortcuts for Phoenix are the same as those found in applications like Adobe Illustrator.

1.4.1.7. Creating a new Step-and-Repeat or Die Template

Let's use Phoenix to create a step-and-repeat of a product. Delete all but one product from our artboard.

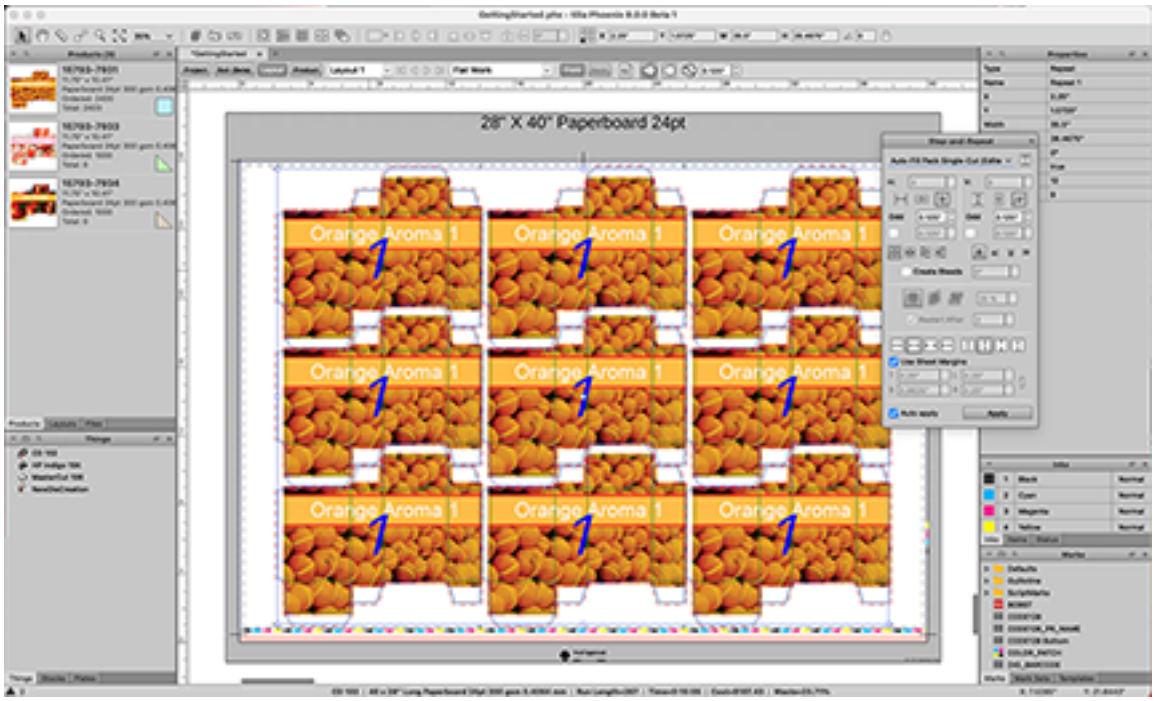
Now, right-click on the product, or go to the Tools menu, and select "Step-and-Repeat" to show the Step-and-Repeat panel.

You can click the "Apply" button on the Step-and-Repeat panel to create a repeat of the selected product with the current settings.

Click the drop down and choose "Auto Fill Pack Single-Cut" to turn on Auto Apply. This will use a preset to automatically fit as many products as can be placed on the sheet both horizontally and vertically, using the cut path of the artwork and no gap distance. Since this artwork has 3mm bleed, change the step distance to 3mm both horizontally and vertically.

If you'd like, play around with the other settings in the Step and Repeat tool to get a feel for what they do.

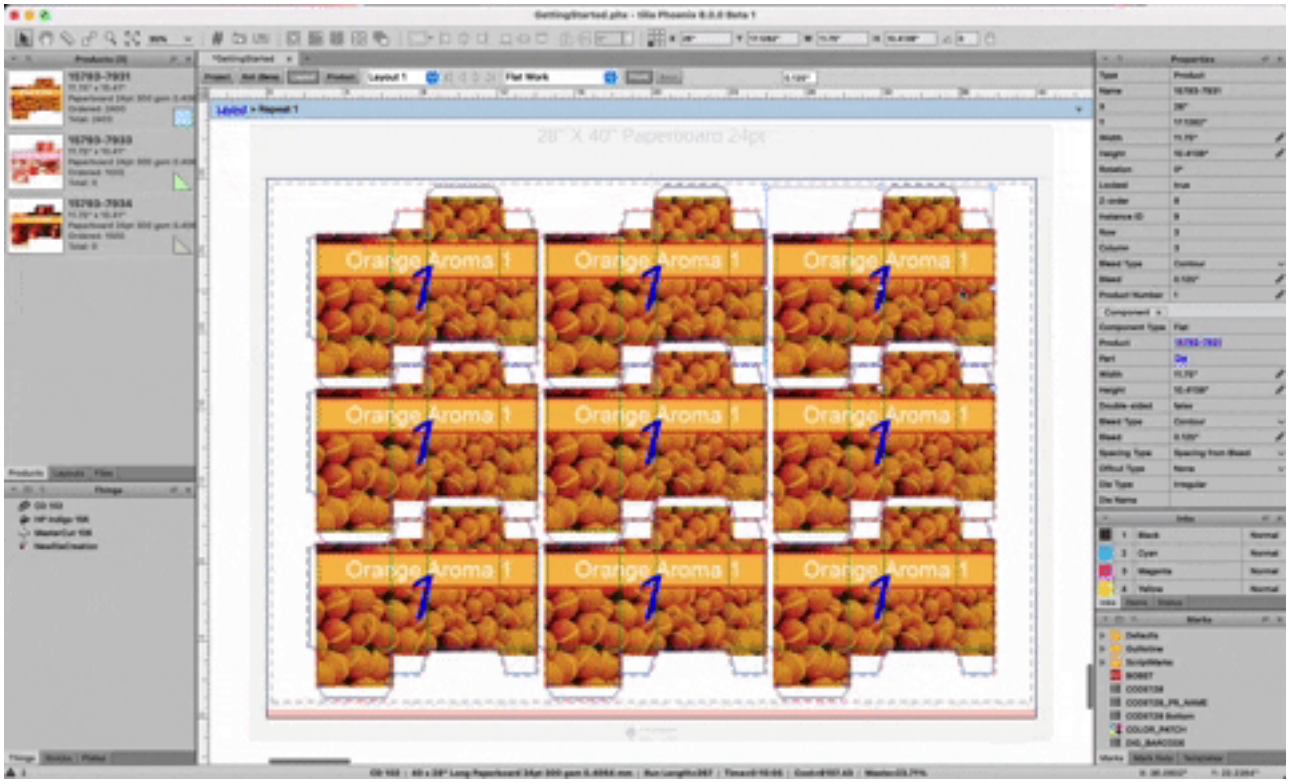
At this point the layout is complete with one product and should look like this:



Now let's add another product to our step and repeat. Double click on the repeat to enter the repeat context so you can select individual items in the repeat.

Hold the SHIFT key while selecting individual products inside the step-and-repeat. Now, drag and drop the another product on top of the selected products, but before releasing, hold down

the Command (on a Mac) or Control (on a PC) key. Now release, and you'll see that the selected products have been replaced by the new product.



Important: If selecting a product in the step-and-repeat isn't working it may be because you have not first double-clicked on the step-and-repeat to get inside the group. Notice if you see a blue bar at the top of the artboard. This indicates you have selected into the step-and-repeat group.

1.4.1.8. Already have an existing die template?

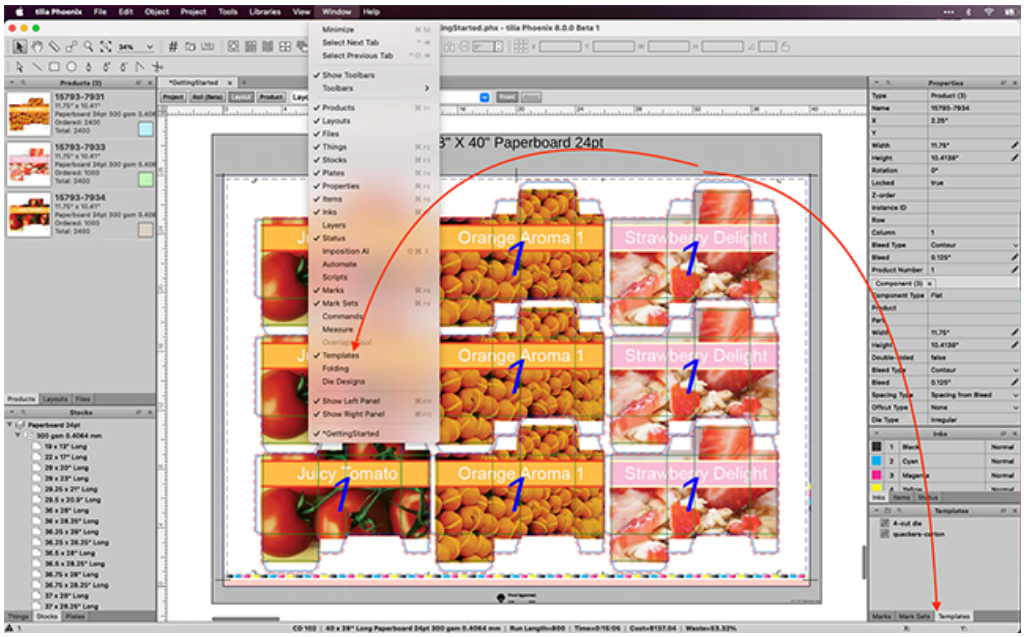
Phoenix allows you to import existing die templates from CFF2 files, DXF files, or even PDF with vector dies lines! Let's give this a try to see how it works.

From inside our current project, navigate to the menu bar to File > Export for Cutting > CFF2...

This prompts us with the export dialogue. For now, let's just click "OK" and save a CFF2 file to our desktop.

Note: Despite the fact that we are generating this example CFF2 file right from Phoenix, the next few steps will work with any CFF2, DXF, or PDF file that was created in an external CAD program such as ArtiosCAD or Cimex.

Next, navigate to the Templates panel in the bottom right set of panels. If you do not see a Templates tab, navigate to the menu bar Window > Template.



Click the small triangle icon on the top left corner of the Templates panel to open up our die import tools. Select "**Import using Die Import Wizard...**"

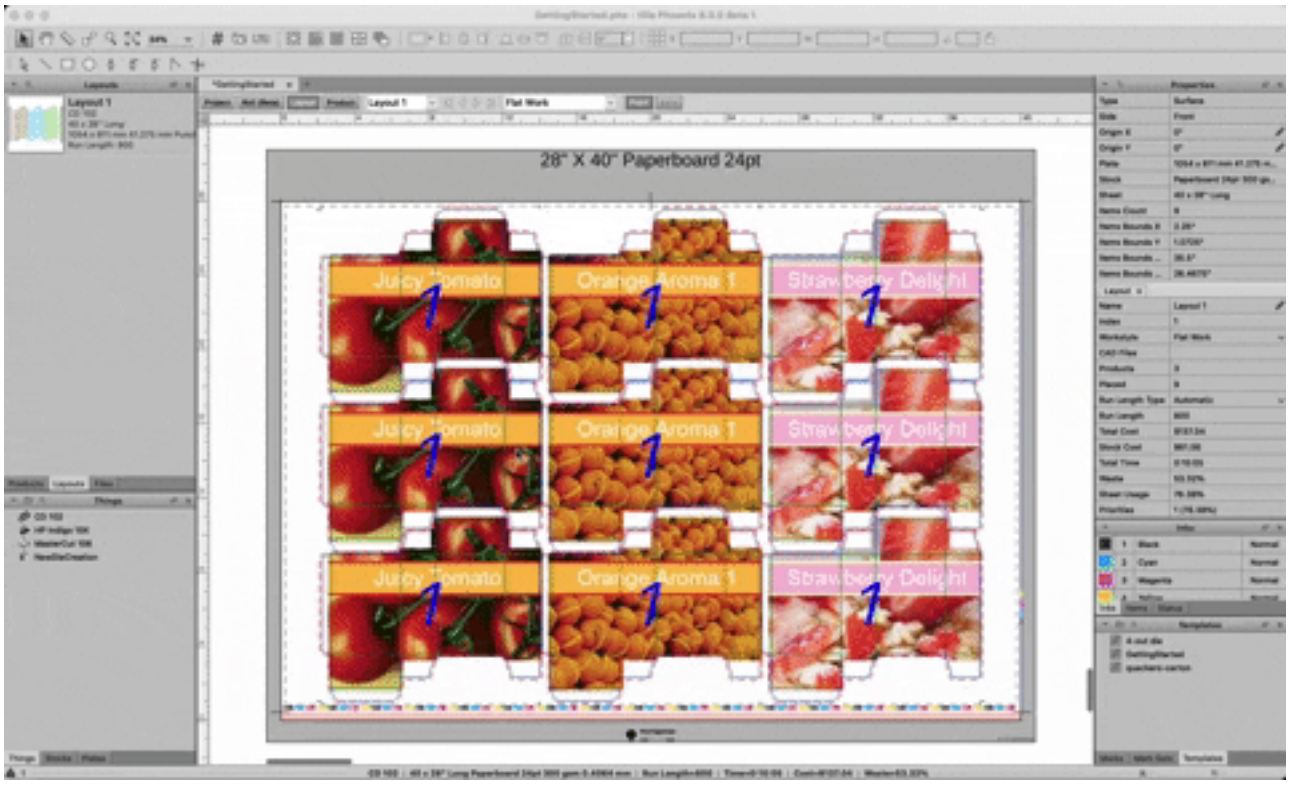
Select the .cf2 file we just created and saved to your desktop. This will open our CFF2 in the Die Import Wizard.

Luckily, since we created this CFF2, all the lines map perfectly! But if you needed to remap lines from a file created in another program, notice that you can use this tool to assign line types to different tools. Much more on the Import Dies tool *here*.

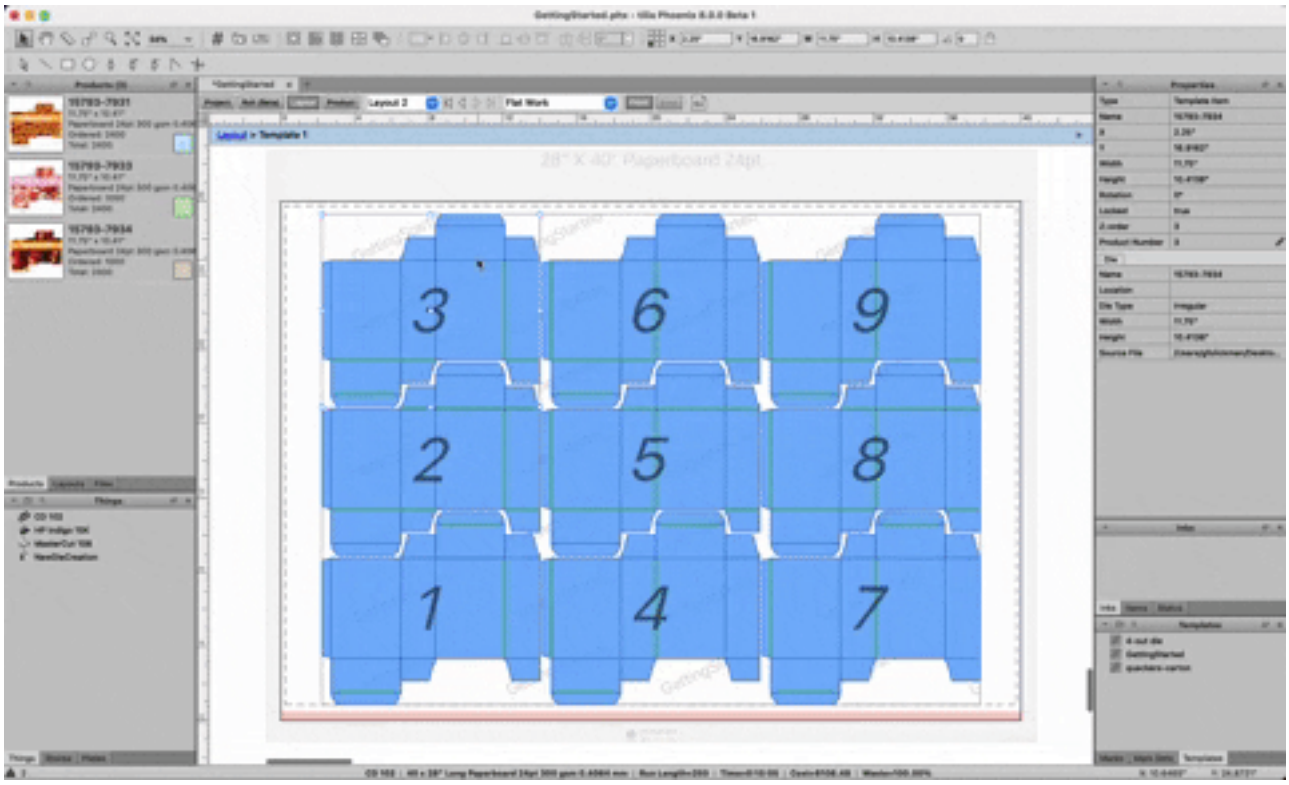
For now, let's click "Done". Notice that this adds a new die template to our die design library!

Navigate to the Layouts panel and click the triangle icon in the top left corner. Select "Add Layout".

We now have a new empty layout. Drag your CD102 onto the artboard from the Things panel. Drag our new die from the Templates panel onto the layout.



From here, we can add products to the template the same way we did for the Step-and-Repeat. Simply double click a die cavity to select it. Drag and drop products and hold the Command key (Control on Windows) to snap into the die cavities.



1.4.1.9. Export your project

Now that the layout is finished, we need to export it.

Go to the File menu, click on "Export for Printing" and choose "Imposed PDF..." In the resulting export dialog, choose the Factory Default PDF Export and click OK. Now choose where to save your PDF.

Let's also export a PDF report of the project. Go to the File menu, click on Export Report and choose PDF... You can modify the settings if you'd like, and then click OK to create a report. Save the report, and then open it.

Here you can see the details of the project. On the first page you can see total run length, cost, waste, sheet usage, and more, along with a breakdown of each layout. After the overview, there is a layout by layout breakdown with a preview of the layout, followed by an overview of each product in the project.

1.4.2. Creating your first project with Imposition AI

Now that you have a basic overview of creating a project manually, we'll go through a much faster and efficient method using Imposition AI.

Create a project

Go to the File menu and select New Project, or press Command + N or Control + N to create a new project.

Add Products with CSV

This time, instead of dragging and dropping the PDF artwork directly into Phoenix, we'll use a CSV. This CSV has the product parameters already predefined, making for fewer steps in Phoenix. Phoenix can map data from the CSV into any product parameter. So much more on the data you can import from a CSV file *here*!

Find the provided CSV file called “orders.csv” and drag into Phoenix to import the products. You'll notice the parameters are all mapped correctly, and the order quantity, file name, and stock are properly assigned.

Click “OK” in the CSV import dialogue and notice that thirteen products are automatically imported including their stock and variety of order quantities - 120,000 all the way down to 5,000.

Run Imposition AI

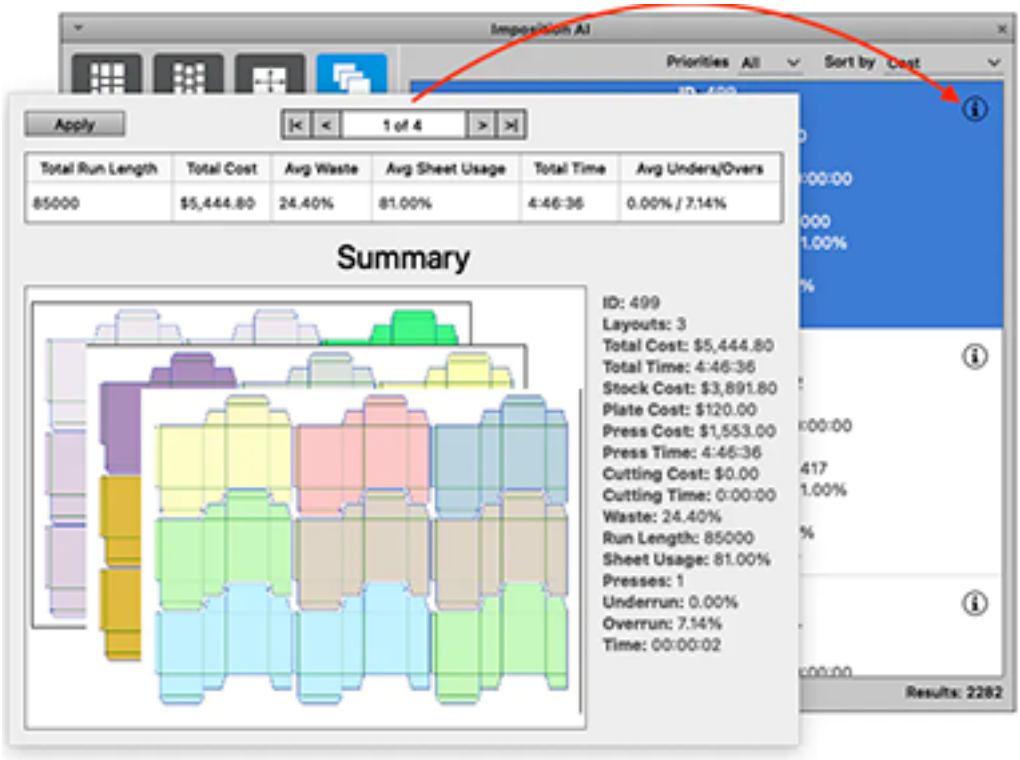
Now, Phoenix knows what stock the product needs to be placed on since the information was in the CSV. It also knows your production capabilities since the presses and stocks are predefined. Phoenix is now equipped to automatically find the best layout for you!

Navigate to the Window menu at the top of the screen and choose Imposition AI. Click the "Plan" option at the top of Imposition AI, and then choose the following settings:

- Profiles: Use Existing Tooling - Combo Forms
- Products: Select All
- Devices: CD102
- Sheets/Rolls: Select All

Now click Run. Phoenix uses the parameters above to find the best possible layout using all the sheets of that stock and the possible options onto our existing tooling that we imported earlier.

You can play around with other settings here if you'd like. Try running different profiles and different presses to see what is possible!



When you find a plan you like, click on the (i) to view more information about the result, or double click in the Impostition A.I. window to apply.

Now you will see that Phoenix shows you the Project view, which is similar to the exported Project Report from earlier. This shows you the details about the Project. You can navigate back to the Layout View by clicking on the "Layout" button. This layout is still editable, so you can add or remove marks, or change the products in the layout however you see fit.

Finally, you can export your project by navigating to the File menu and choosing Export for Printing, Imposed PDF... as you did earlier.

1.5. Labels Quick Start

If you're strapped for time and just want a quick, step-by-step introduction to some Phoenix basics, follow the Labels Quick Start. For more info, check out the complete user guide, or try out the search bar to find a particular term.

For this Quick Start Guide, you'll need a few files to get started. Grab those here, and we'll tell you where to use them later on in the guide.

Download these files to your desktop and unzip:

QuickStartLabels.zip

This .zip contains:

- Phoenix Library (.phxlib) containing all of the Phoenix settings
- Demo Artwork Files

- Example order csv

1.5.1. Creating your first project

1.5.1.1. Importing the Library

Phoenix stores configurations in Phoenix Libraries. Let's load a pre-built library so that you can follow along with this guide.

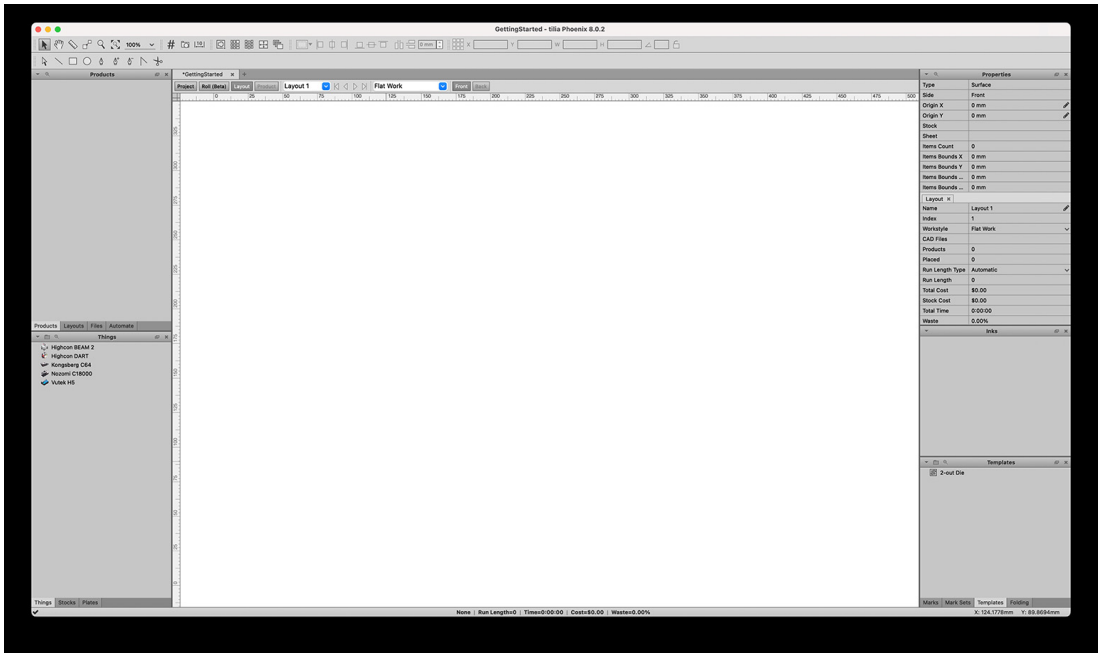
Open Phoenix, and navigate to Preferences. On a Mac, Preferences can be found in the Phoenix menu. On a PC, go to Edit and then select Preferences. From there, click on Diagnostics in the left hand panel, and then click Import Libraries.

Select okay, choose the .phxlib file from the .ZIP file you downloaded earlier, and click OK once it's loaded. Phoenix will close down. Open it back up, and now we're ready to create a project!

1.5.1.2. Create a project

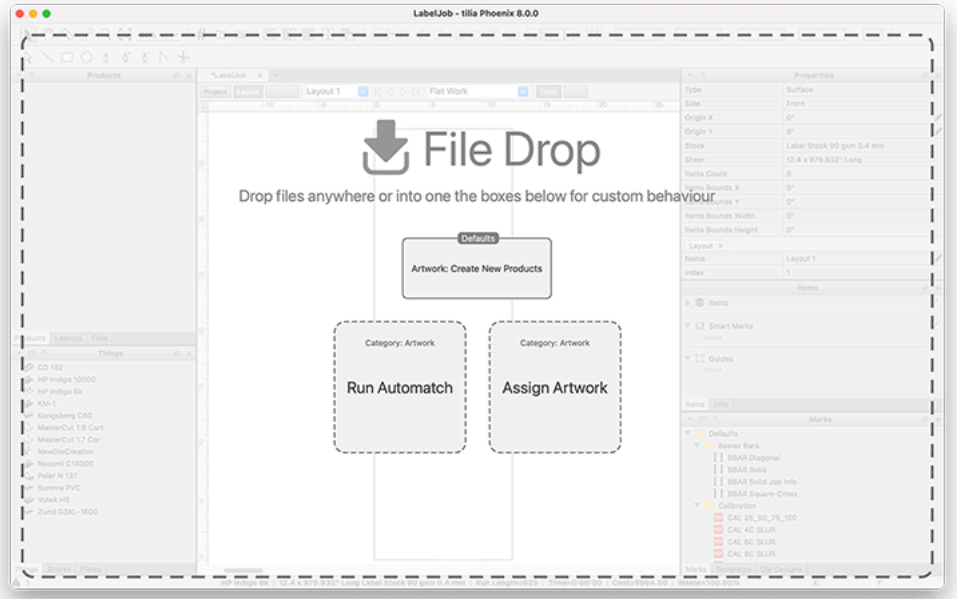
To create a new project, go to File > New project (or press Command or Control and "N"). This will create a new project, and prompt you for additional project information. It is best-practice to fill out the project properties.

Set the filename to "LabelJob" and leave the rest of the fields blank. These fields can be used to add additional information to the project, but are not necessary. Now click "OK". You should now see a blank layout like the screenshot below.

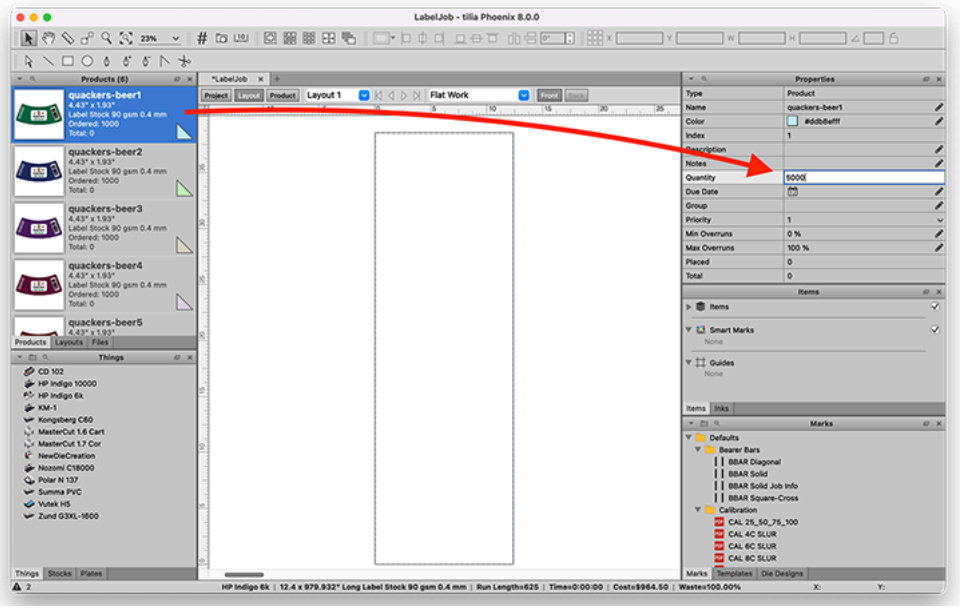


1.5.1.3. Add Products

Now we want to add products to the layout. For this first example we'll just grab the first 6 products. We can do this by simply dragging and dropping the first 5 pdf artwork files you downloaded earlier onto Phoenix. As you drag the files onto the Phoenix interface, you'll see that you have different options depending on where you drop the files. For now, just drop the files anywhere other than the two boxes. We'll use the default drag and drop behavior, which is to simply add the products to the project.



Click on the first product to select it, and then find the Properties panel on the right side of the screen. It now is displaying the properties for the product you have selected. Let's specify a quantity of 5000 and change the stock to Label Stock.



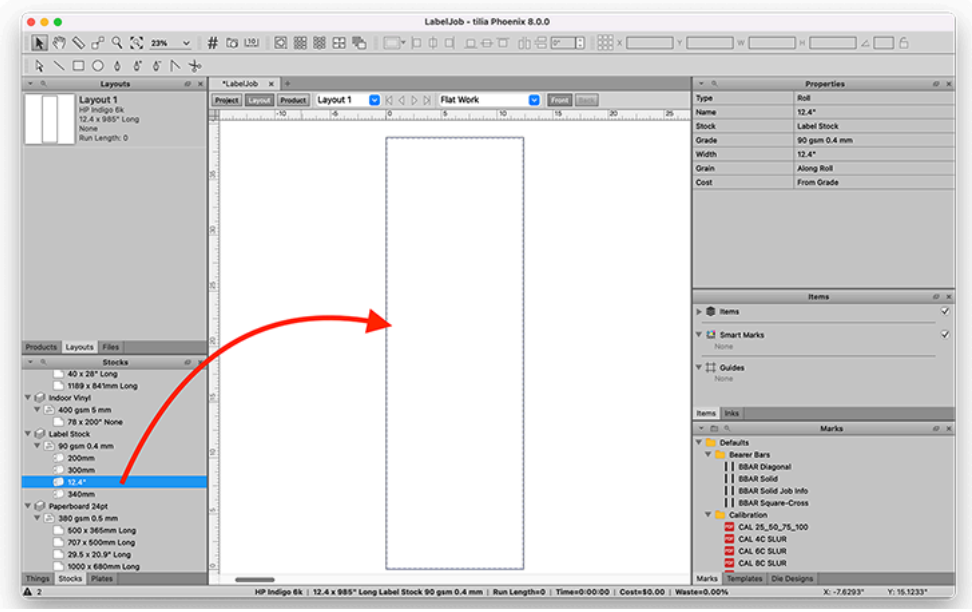
Repeat the same steps with the remaining labels. Note that you can select multiple products at once by shift+clicking the first and last products in a selection, or holding the control/command keys while clicking to add to an existing selection. With multiple products selected, you can change parameters for multiple products at the same time. Now the products have been added to the project, we have order quantity and stock defined, and we're ready to create a layout. Notice that there are many more product properties available to us, including bleed, grain direction, rotation, and more. For our example these aren't necessary to set, but they all can have an effect on the way Phoenix creates layouts and are useful depending on your needs.

1.5.1.4. Create a layout

When the project was created, a blank layout was automatically added. You can see this in the Layouts panel as "Layout 1." You could create another layout, but we'll stick with this one. Notice that in the staus bar at the bottom of the window, there is no sheet size or press specified, and it shows "None." This means that there is a layout, but no actual sheet sizes have been defined and no press assigned. Let's fix that.

Navigate to the Things panel in the bottom right of the Phoenix window. Click and drag the HP Indigo 6k from the Things panel onto your Artboard. This assigns the press to this layout. You can see this in the status bar at the bottom, where it shows "HP Indigo 6k", and if you navigate back to the Project tab you'll see the press listed in the "Things" column.

Now let's add a stock to the layout. Navigate to the Stocks panel and find the Label Stock. For each stock, there is one or more grades defined, and one or more sheets or rolls. For this example, the label stock has a grade of 90 gsm and different roll widths available. Click and drag the 12.4" wide roll onto the layout. You'll see the layout has a size defined now, represented by a tall rectangle



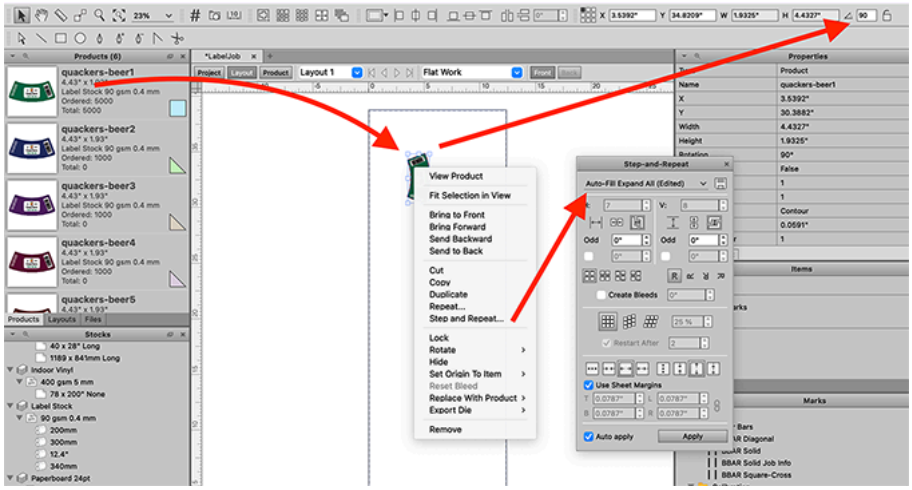
Even though the stock is defined as a roll with no set "height", the layout only shows a height of around 38 inches, or around 985mm. This is because the press assigned, the HP Indigo 6k, has a max height defined, so Phoenix is smart enough to know that the layout created cannot exceed the max height of the press.

Now we have our layout set up with the correct stock and press.

1.5.1.5. Add your products to the layout

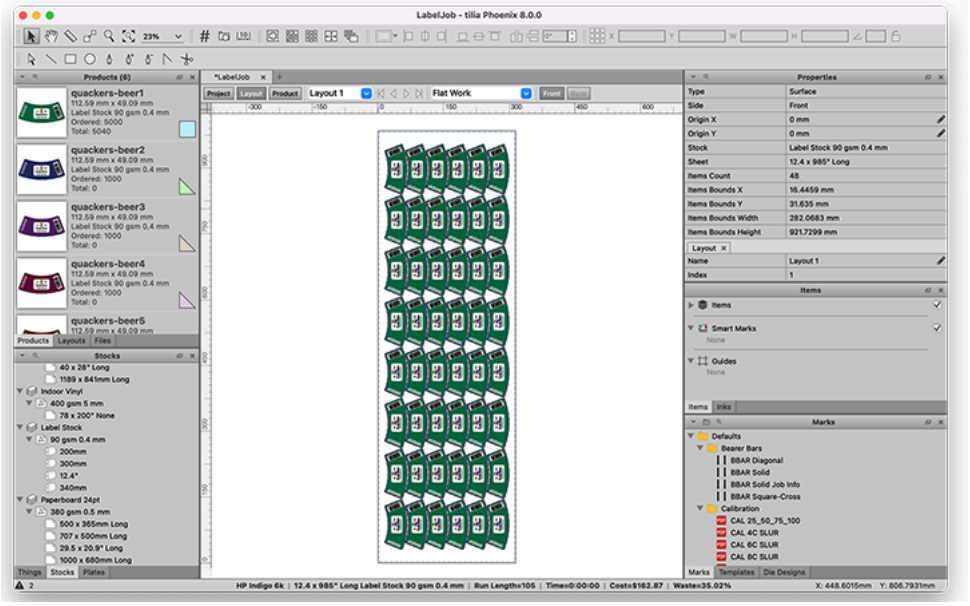
Drag the “quackers-beer1” product from the Products Panel onto the Layout. Now, rotate the product by either selecting it and typing in 90 in the rotation field in the very top right of the Phoenix window, or by clicking and holding one of the corners of the product and rotating it interactively. Note that if you’re interactively rotating, you can hold the shift key on your keyboard to restrict the rotation to 45° increments.

Now right-click on the product, or go to the Tools menu, and select “Step-and-Repeat” to show the Step-and-Repeat panel. You can click the “Apply” button on the Step-and-Repeat panel to create a repeat of the selected product with the current settings.



Click the drop down and choose “Auto Fill Pack Single-Cut” to turn on Auto Apply. This will use a preset to automatically fit as many products as can be placed on the sheet both horizontally and vertically, using the cut path of the artwork and no gap distance. Since this artwork has 1.5 mm bleed, change the step distance to 3mm both horizontally and vertically. If you'd like, play around with the other settings in the Step and Repeat tool to get a feel for what they do.

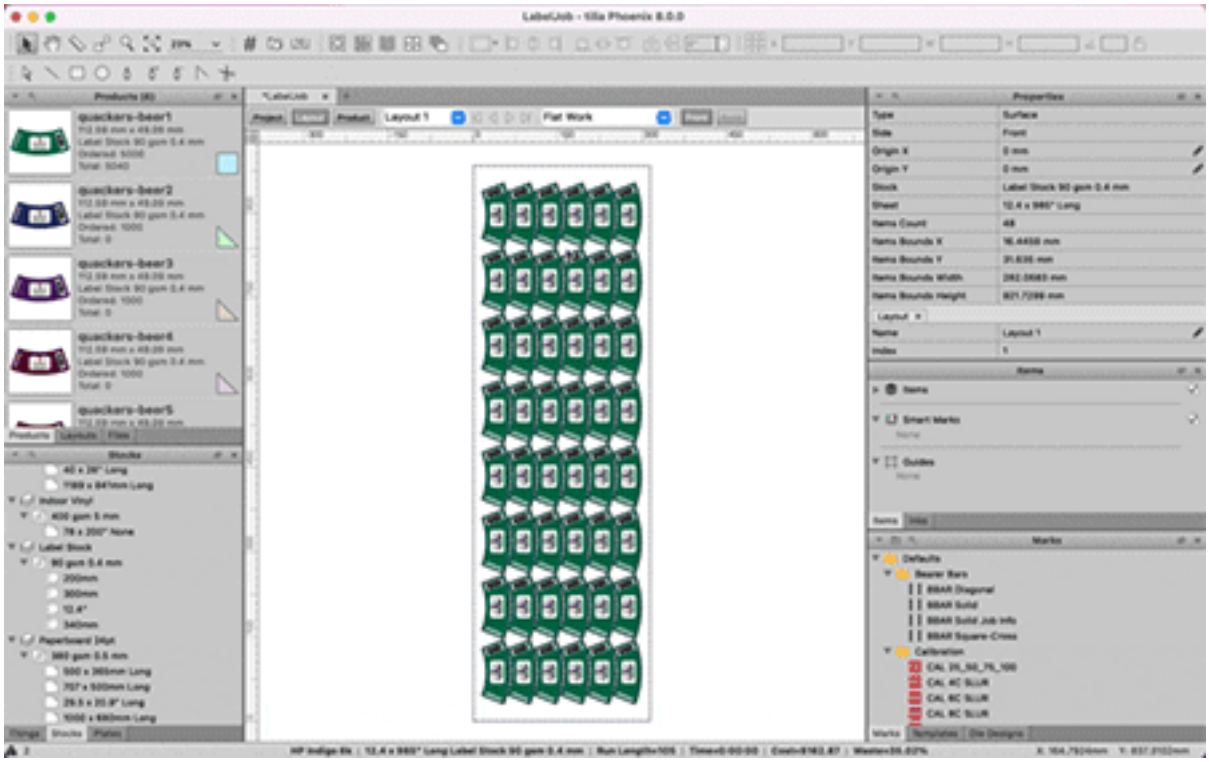
At this point the layout is complete with one product and should look like this:



Now let's add the other labels to our step and repeat. Phoenix allows you to easily swap out products in a layout with drag and drop, so we’ll see how that’s done. Double click on the repeat to enter the repeat context so you can select individual items in the repeat. You’ll see a blue bar at the top of the layout window that indicates you’re currently looking at “Repeat 1” within the Layout.

You’ll notice that if you now click on the products, you can select an individual one instead of selecting the entire repeat group. Click and drag to make a marquee selection that includes

the all but the first column of labels. Now, with those products selected, click on the “quackers-beer2” product in the products list, and drag and drop it onto your selection while holding the control/command key. When you release the mouse, Phoenix will replace the selected products with the “quackers-beer2” product. Repeat this process for the rest of the products so that each column of the layout has a different product.

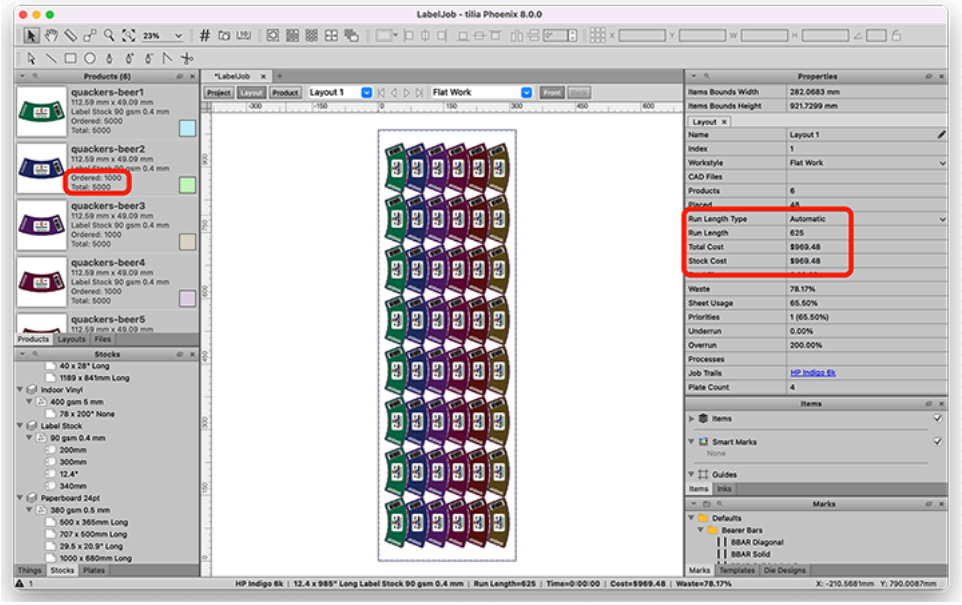


Now that the layout is complete, let’s look at a few things:

The status bar at the bottom now shows a cost and waste for this layout

If you exit the context of the repeat by clicking the X in the blue bar mentioned earlier or double clicking on a blank spot in the layout view, you’ll be able to see the properties for this layout. The properties view now displays everything about this layout, including cost, run length, waste, and plate count. The run length is automatically calculated, but you can change this to be a fixed number and change the run length manually. If you do this, the cost and overruns/underruns will update dynamically.

In the Products panel, the ordered quantity is displayed as well as the total quantity as determined by the number placed on the layout multiplied by the run length.



1.5.1.6. Export your project

Now that the layout is finished, we need to export it.

Go to the File menu, click on "Export for Printing" and choose "Imposed PDF..." In the resulting export dialog, choose the Factory Default PDF Export and click OK. Now choose where to save your PDF.

You can similiarly export a file for cutting if you need to create a die or send a cutting PDF, CF2, DXF, or ZCC file downstream.

Lastly, export a PDF report of the project. Go to the File menu, click on Export Report and choose PDF... You can modify the settings if you'd like, and then click OK to create a report. Save the report, and then open it.

Here you can see the details of the project. On the first page you can see total run length, cost, waste, sheet usage, and more, along with a breakdown of each layout. After the overview, there is a layout by layout breakdown with a preview of the layout, followed by an overview of each product in the project.

1.5.1.7. Save layout as a template

Now that we've manually made this layout, we can save time by saving it as a template for use in the future. Navigate to the Layouts panel, where you can see a list of any layouts in the project. Since we only have one layout, right click it, and choose Save as Template, and give it the name QuackersLabel. This will save the layout as a template to our Templates library for later use.

You can browse all template in the Templates panel which should be in the bottom right of your Phoenix window, or available via the Window > Templates menu.

1.5.2. Creating your first project with Imposition AI

Now that you have a basic overview of creating a project manually, we'll go through a much faster and efficient method using Imposition AI.

Create a project

Go to the File menu and select New Project, or press Command/Control + N, to create a new project and name it **LabelJob-ImpositionAI**

Add Products with CSV

This time, instead of dragging and dropping the PDF artwork directly into Phoenix, we'll use a CSV file. This CSV has the product parameters already predefined, making for fewer steps in Phoenix. Phoenix can map data from the CSV into any product parameter.

Drag the downloaded CSV into Phoenix to import the products. You'll notice the parameters are all mapped correctly, and the order quantity, file name, and stock are properly assigned.

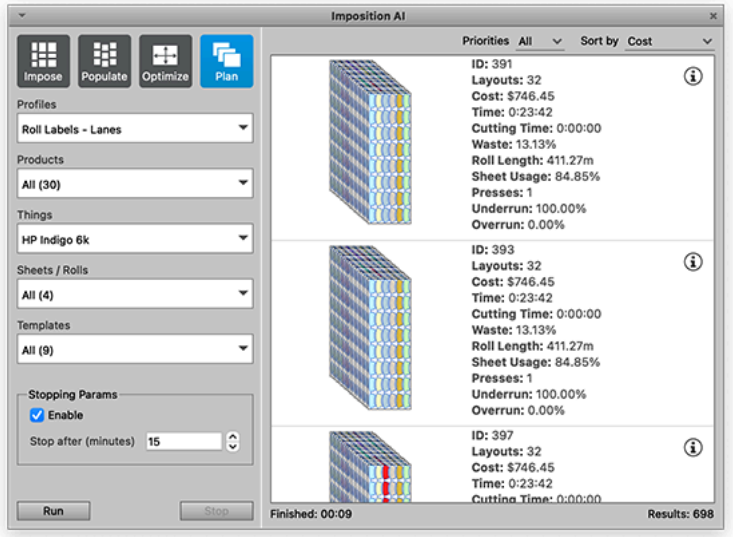
Run Imposition AI

Now, Phoenix already knows what stock the product needs to be placed on since the information was in the CSV. It also knows your production capabilities since the presses and stocks are predefined. So, Phoenix is now equipped to automatically find the best layout for you!

Navigate to the Window menu at the top of the screen and choose **Imposition AI**. Click the "Plan" option at the top of Imposition AI, and then choose the following settings:

- **Profiles**: * Roll Labels - Lanes
- **Products**: Select All
- **Devices**: * HP Indigo 6k
- **Sheets/Rolls**: Select All

Now click Run. Phoenix uses the parameters above to find the best possible layout using all available sizes of that stock that will fit the selected press and the possible options with the two presses specified. You can play around with other settings here if you'd like, and see what a different press could do, for example.



Note:

Imposition AI Profiles allow you to set parameters around how Imposition AI finds results. Feel free to click the pencil icon next to a profile name to see the available options, or visit the documentation for *Imposition AI* to learn more.

One of the options within a profile is to evaluate any existing templates to see if the products match the template and can be used. This is where you might use the template we created earlier to automate this, if, for instance, you were trying to use the template to ensure the products match on a particular die.

After clicking Run, Phoenix will return potential layouts on the right side of the window. You can click on the **(i)** for more information about the result, or just double click to apply. Once you're ready, double-click the top result to apply it. Now you will see that Phoenix shows you the Project view, which is similar to the exported Project Report from earlier. This shows you the details about the Project. You can navigate back to the Layout View by clicking on the "Layout" button. This layout is still editable, so you can add or remove marks, or change the products in the layout however you see fit. You can navigate to other layouts by clicking the arrows at the top of the main window, selecting a specific layout from the dropdown menu, or navigating to the **Layouts** panel and choosing a layout.

Finally, you can export your project by navigating to the File menu and choosing Export for Printing, Imposed PDF... as you did earlier.

2. User Guide

2.1. Intro

User Guide

Welcome to the Phoenix User Guide. Inside, you will find a comprehensive guide to Phoenix, including explanations of the features, settings, and UI of Phoenix, along with use cases and examples. This documentation is designed to help you understand how Phoenix works and in the process increase efficiency, productivity, and use of Phoenix.

What is Phoenix?

In the simplest terms, Phoenix exists to increase the productivity and efficiency of your print production workflow through creating intelligent, cost-optimized layouts. Phoenix is the flagship product of Tilia Labs and is used by hundreds of businesses worldwide to drive down costs and reduce errors.

Application Architecture

Phoenix is a desktop application for Mac and Windows that integrates with your existing software. Phoenix is made to be open and can easily ingest and export files and data in a variety of formats to make integration seamless. Phoenix can also be automated through the use of hot folders and a modern REST API, as well as integrations with CERM and Enfocus Switch.

How to read the documentation

The documentation can be consumed in a variety of ways. You can:

- read it straight through by following the links at the bottom of each page
- click directly to a topic of interest on the sidebar
- search for a term using the search bar at the top of the screen (or via the shortcut "s")

The goal is that it is easily digestible, so if you ever see something that doesn't make sense, or you think is better explained in a different way, please *let us know*.

2.2. The Basics

Built from the ground up to cut costs, Phoenix is a sophisticated open-API planning and imposition application that uses AI technology to improve efficiencies for print service providers in all sectors including packaging, labels, commercial, and wide format printing.

Phoenix Imposition AI takes an entirely different approach to common imposition solutions. Rather than template-driven, it operates according to machine and production requirements to generate print-ready layouts on-the-fly. It factors in parameters such as project specifications, print devices, finishing requirements, and delivery considerations to search across potentially millions of possibilities for the optimal layout. When a final option has been selected, Phoenix

generates print-ready layouts, JDF or die instructions, and reports for all devices in the production chain.

Uniting planning and prepress functions, Phoenix can be integrated into your chosen workflow or MIS system to enable fast accurate estimates, shrink prepress time, automate error-prone tasks, maximize media usage, and reduce postpress complexity.

2.2.1. Modules

Phoenix is modular which enables you to pick and choose exactly what features you need for your production environment. The features of Phoenix are separated out into the following modules:

Imposition AI

Imposition AI is the heart of Phoenix and provides intelligent planning and ganging tools. The Imposition AI module includes four tools to heuristically find the most cost-effective way to combine print products - **Plan**, **Optimize**, **Impose**, and **Populate**. Imposition AI evaluates millions of possible layout options based on each unique production environment, combining the press, stock, template, and device possibilities to find the most efficient results in a matter of seconds. Digital printers are able to leverage 'Just In Time' planning to reduce waste and human intervention with shorter runs. Conventional printers can find combination layouts on-the-fly to reduce plates, make-readies, press time, material, and waste to print more profitably than ever before.

For more on Imposition AI, see *Imposition AI* on page 201.

Products Plus

The Products Plus module increases how many products Phoenix can handle for simultaneous planning and ganging, bringing the total from 50 up to 2000 products in one project.

CAD

Essential for step-and-repeat workflows, CAD makes Phoenix the fastest and most advanced CAD-based step-and-repeat (imposition) application in the industry.

Featuring its unique auto-alignment algorithm, Phoenix uses AI to autosnap artwork to the multi-out die and provide instant feedback when a mismatch occurs between the artwork and die. The net result is hours of saved preproduction time per day. Supported formats include CFF2, DXF, DDES 2/3, and Structural PDF.

Barcodes

For print providers using barcoded product tracking right through fulfillment, this module adds support to generate dynamic data-driven barcodes featuring vector precision for accurate scanning.

Supported formats include UPC-A, UPC-E, EAN-13, EAN-8, Codabar, Code 128, Code 39, Interleaved 2 of 5, POSTNET, and QR Code.

Braille

A specialized capability that generates dynamic data-driven braille with ADA compliance including hardcoded size and spacing.

The default alphabet is set to US English Grade 2. Supported languages include US English Grade 1, US English Grade 2, UK English Grade 1, UK English Grade 2, Unified English Grade 1, Unified English Grade 2, Unified French Grade 2, German Grade 1, German Grade 2, and Spanish.

Grand Format

Indispensable for those offering a large-format print service, Grand Format increases the maximum export size from 3.5m x 3.5m to 10m x 10m.

Scripting

Gain access to powerful scripting features to draw customized marks, set properties, automate processes, and much more. This module exposes much of the core architecture allowing for unprecedented customization and automation.

Automate

Phoenix Automation offers an open API platform allowing integration with any external system. Automation options include REST Web Service, Switch Connector, Scriptable Hot Folders, and MIS Connectors.



Warning:

The Phoenix base limits for automation are as follows:

- Phoenix base maximum number of layouts per day is 3000.
- Phoenix base maximum area export per day is 1000 m2.
- Phoenix base maximum number of Imposition AI sessions per day is 1000.

To scale for additional output, see **Production Max** below.



Tip: The Automate module can be purchased multiple times as desired to meet specific ImpositionAI concurrency needs.

Production Max

The Production Max module increases max output in automated scenarios.

Production Max increases the base Automation limits to add an additional 30,000 maximum layouts, 10,000 m^2 maximum export area, and 10,000 maximum Imposition AI sessions. This module can be purchased multiple times as desired to meet specific production needs.



Note:

The Phoenix base limits for automation are as follows:

- Phoenix base maximum number of layouts per day is 3,000.
- Phoenix base maximum area export per day is 1,000 m2.
- Phoenix base maximum number of Imposition AI sessions per day is 1,000.

2.2.2. Installation

Phoenix is packaged as a .msi installer for Windows and a .dmg disk image for Mac. You can download Phoenix from our *Downloads* page.

Upgrading

Before upgrading Phoenix, please be aware of the following:

We **always** recommend exporting a copy of your Phoenix Libraries before performing any upgrade. You can export your Phoenix libraries from the **Preferences** > **Diagnostics** window.



Note: If you're upgrading from a Phoenix tech preview, alpha, or beta build, and you are using Windows, you need to uninstall that version of Phoenix before installing the official release build.

Windows

Open the Phoenix .msi installer and follow the installation wizard instructions.

MacOS

Mount the Phoenix .dmg disk image. In the resulting mounted installer, copy Phoenix to your Applications directory

2.2.3. License Activation

Phoenix can be activated with an activation key or by logging in to a tilia Cloud account. On startup, Phoenix will check to see if you have a license and, if not, prompt you to enter your activation key or choose to log in with tilia Cloud.

For more information on licensing, check *How Tilia Labs Licensing Works* on page 60.

2.2.3.1. How Tilia Labs Licensing Works

All variations of Phoenix licenses are software based. In order to activate a license an internet connection is required. During activation Tilia Labs licensing server will be contacted over https. This connection is secure and safe.

Once a standalone license is activated on a computer it will be locked to that computer and cannot be activated simultaneously on another workstation. This also applies to virtual machines, which means a single license cannot be activated on a machine and then also activated on a VM running on that machine.

Trial License

Tilia Labs can generate trial licenses with either a trial period or a fixed expiry date. In the case of a trial period, once the license has been activated the trial period will begin. This means that a customer does not need to activate their trial immediately. So as an example if a customer receives a 15 days trial license and they activate it 1 week after receiving it, it will be valid for 15 days from the time it was activated. Fixed expiry trial licenses do not have this flexibility, and will expiry on the specified expiry date regardless of the activation time. For all trial licenses, an internet connection is required during Phoenix start-up to verify it's authenticity.

Partner License (NFR)

Partner licenses are essentially the same as trial licenses, with the exception that they do not require an internet connection at start-up to verify authenticity. This is particularly useful for resellers who perform on-site demos with a laptop and tradeshows.

Perpetual License

Perpetual licenses are the licenses generated for purchased copies of Phoenix. During purchase an initial expiry is usually set while payment is collected. Once payment has been received this expiry is removed and the license can then be used indefinitely.

2.2.3.2. Use with Tilia Cloud

Tilia Cloud licenses allow you to manage, distribute, and set up licenses online. You can create an unlimited number of users for your organization and define exactly who can and can't have access to your licenses.



Note:

When licenses of products such as Phoenix, tilia Griffin, etc., are used with tilia Cloud, an active MSA is required at all times.

Additionally an active tilia Cloud account is required at all times.

Upgrades

For Trial and Partner Licenses, upgrades are always valid. For perpetual licenses during start-up Phoenix will verify that the license is valid for the current version of Phoenix. If the license is not valid for the current version of Phoenix, Phoenix will attempt to update the license by contacting Tilia Labs servers. This process is automatic and requires no manual intervention by the user. If the license is covered under an MSA or the server has an updated copy of the license with support for a newer version of Phoenix, the upgrade will be successful. If the license cannot be updated for the current version of Phoenix, the user will be required to downgrade back to their previous version in order to continue using Phoenix.

Deactivation

Local licenses, defined as those licenses distributed as a license key and not using Tilia Cloud, cannot be shared between multiple computers, and should be activated and used on one dedicated computer. These licenses should be deactivated and moved to a different computer only out of necessity.

In order to deactivate a license an Internet connection is required. Once a license has been deactivated on a given computer, Phoenix can no longer run on that workstation. This process unlocks the license from the computer it was activated on, and the user is then free to activate the license on a different workstation. Please note this feature is *not* intended as a method to allow users to periodically use Phoenix on different machines. There is a limit to the number of times Phoenix can be deactivated. If this limit is surpassed, the customer or reseller will need to contact Tilia Labs in order to allow the license to be deactivated.

Computer Failure

In the event of computer failure please contact Tilia Labs to resolve the issue. We will manually deactivate the license on the broken workstation, at which point the customer will be able to use the same license on a new computer.

Remote Desktop

Standalone licenses are not intended for use in perpetual with remote desktop access. This essentially allows customers to use a single standalone license as multiple licenses. We are not

able to enforce this for all remote desktop systems on the market, but it is against our policy and will violate the EULA if customers utilize Phoenix in this way.

Firewall/Proxy settings

If you are experiencing issues with connecting to our licensing server due to a firewall or proxy, add an exclusion to your firewall or proxy settings to allow the following URLs on port 443:

- engine.tilialabs.com
- engine2.tilialabs.com
- engine3.tilialabs.com
- engine4.tilialabs.com
- https://cloud.tilialabs.com
- https://api.tilialabs.com
- wss://stream.tilialabs.com

Alternatively, you can set a wildcard exception for any URLs ending in tilialabs.com.

2.3. Key Concepts

To fully understand how to Phoenix works, there are a few key concepts we need to discuss and define. Nearly Everything in Phoenix is built around the idea of **Products** and **Costing**.

First, products are the artwork items that can be placed on a **Layout**. There can be one or more layouts within a **Project**.

Next, nearly everything with in Phoenix can have a cost associated with it to be used for estimating as well as making decisions based on cost. We can associate costs with **Things** (like a press or finishing device), **Consumables** (like stocks and plates), and **Tooling** (such as thru-cut or creasing). So, for example, Phoenix can intelligently decide that it may be cheaper to use Press 1 and stock size A instead of Press 2 and stock size B because it is cheaper (when combining press costs, finishing costs, and stock costs).

Let's dive into more specifics on each of these concepts.

2.3.1. Products

A **Product** is the fundamental building block of any project in Phoenix. Simply put, in Phoenix a product is the unique postcard, sign, carton, label, artwork, etc... that needs to be printed. Products are the reason for Phoenix - the item you need to produce is a product.

Every instance of a product in your project will have the same front and back side artwork, marks, and die design. Any change made to a product is propagated to all instances of that product in your layout automatically. The Product is also where all the parameters for a product is stored, such as the ordered quantity that need to be fulfilled, grain direction, stock, spacing, bleed, and so on.

For a given product, the following aspects will be the same across all instances placed in the project:

- Die design including all cut and crease lines.
- Artwork for front and back of product including artwork offset within the die.

- Marks including mark positions within the die.

Whereas the following aspects *can be* customized for each instance:

- Bleeds. Product instances will have the same bleed as defined by the product by default but each instance's bleed path can be changed independently from the Artboard Toolbar, the Overlap Tool, or by directly editing the bleed with the Edit Bleeds tool.
- Mark visibility. Turning off visibility of a mark in one instance of a product does not affect other instances.

Products can be edited in the Product View or directly within the Layout View by drilling down into product context.

2.3.2. Layouts

A **Layout** is the arrangement of Products in Phoenix, and is a representation of how the products will eventually be printed our output on either a sheet or roll. Each Phoenix project will contain one or more layouts and all layouts in a project can be viewed in the Layouts panel (Window > Layouts).

When a new project is created in Phoenix, a layout is created for the project. To see the layout, click the Layout view button, jus t under the project tab. You can select a different layout by clicking on the layout selection dropdown, or by double-clicking the desired layout in the Layouts panel. You can create a new layout from the layout selection dropdown, or from the dropdown menu in the Layouts panel.

By default, a layout doesn't have a stock defined. A stock can be added to a layout through drag-and-drop from the Stocks panel, or can be automatically assigned when a layout is created through Imposition AI.

2.3.3. Projects

A project is the native file type of Phoenix, and was formerly called a "job" in prior versions. Everything in Phoenix is based on a project. Projects are typically based on a customer order, and can contain one or many products and one or many layouts. To create a new project, navigate to the File menu and select "New Project" or use the keyboard shortcut Command + "n" (on a Mac) or Control + "n" (on a PC).

Projects contain everything about the order, including products, layouts, marks, and all of the associated parameters, such as product order quantity, or layout sheets. A Phoenix project can be saved to the .phx file format, and reopened later. You can optionally save the artwork in a

project file by enabling the preference "Embed artwork in project save" in the Preferences > Project menu.

2.3.4. Things

Phoenix models your production environment and includes the "things" in your production environment. A Thing could be a Press, a Finishing Device, or Die Making. You can read more about Things and the various types of Things in *Things* on page 95.

2.3.5. Tooling

Tooling refers to any process that needs to be performed before a project is complete.

Tooling could include cut or crease lines, varnish or coating inks, embossing/debossing, glueing, and many other configurable processes. The inks within a product are used to describe steps in a process chain that require additional inline or nearline steps to create the finished product.

Mapping Tool Types is an integral part of Phoenix to capture all neccessary costing of a product to be used with the ImpositionAI module.

2.3.6. Consumables

Consumables refer to the materials used in the process of making a project. Phoenix includes costing breakdowns for Inks, Stocks, Die Templates, and Plates (if a convential printing press is used).

Ink costing is specified at the press level. For each press, Phoenix allows you to customize the costing of inks using either a Click-based ink cost or a Coverage-based ink cost. You can also model the ink costs using different print 'Modes' for each press *(for example, the EPM mode on an HP Indigo press may have a $0.00 click cost for the black ink)*

Stocks are the material on which the project will be produced, such as a sheet or roll of paper or corrugate. More can be found on Stocks in *Configuration* on page 94

Plates are the medium that transfers ink to the stock in offset and flexo printing. Plates are necessary to model in Phoenix for costing as well as ensuring correct product and sheet placement in a layout. More can be found on configuring Plates in Phoenix in *Configuration* on page 94

2.4. Products

Products are the fundamental unit in Phoenix. Below, we go in depth into the various types of products in Phoenix, how to create products, setting properties, and importing products from a CSV file.

2.4.1. Types of Products

Phoenix understands that different products serve different purposes for various market segments, and as such have different properties based on how they are produced. The product types are:

Flat	Bound	Folded	Tiled
			

Flat

A 'Flat' product type (flatwork) in Phoenix is any non-bound, non-folded product or a product that only contains packaging folds. A 'Flat' product can consist of one or two pages (front only or front & back).

Examples include (but not limited to): business cards, postcards, leaflets, flyers, posters, folding carton, corrugated, banners, labels, shrink-sleeves, etc...

Bound

A 'Bound' product type in Phoenix is any product which will contain many pages that are printed using mulitple printed signatures (sheets) which are gathered and bound together to create a finished booklet.

Folded

A 'Folded' product type in Phoenix is any product which will contain many pages that are printed using one printed signature (sheet) which is folded to create the finished booklet.

Examples include (but not limited to): folded flyers, brochures, 4-page single fold or half fold, tri-fold or letter fold, z-fold, gate folds, etc...

Tiled

A 'Tiled' product type in Phoenix is any product which will require tiling of the graphical element. Tiling is common for large-format or wide-format graphics where the finished product exceeds the size of the printer and/or cutting equipment. A 'Tiled' product in Phoenix makes the printing

process easier by ensuring your overlaps/gaps/bleeds will be correct, plus there's no need to create a separate file per tile as there is when you use Photoshop or Illustrator.

2.4.2. Creating Products

Products can be created in multiple ways:

- Defining die dimensions (New Empty Product)
- From PDF or AI artwork
- From CAD file
- From the Die Design Library
- From CSV file
- By dragging and dropping artwork files into Phoenix
- Automatically, using a hot folder, 3rd party integration, or via the Phoenix API

2.4.2.1. New Empty Product

Products can be created by simply defining the width and height. This is referred to as an **Empty Product**, with no artwork specified. This is particularly useful for creating layouts with placeholder shapes before you have the artwork, or to create a reusable layout template where artwork can be replaced at any time.

To create an empty product, go to the File menu, find the product type for which you want an empty product, and then select the corresponding **Empty...** option.

Alternatively, select one of the **New ... Product** options from the Product Panel action menu (upper left corner of panel) and then choose **Empty**

When selected, the New Empty Product dialog will appear, where the dimensions and select properties of the product are defined

Field	Description
Name	Unique name of this product.
Quantity	Order Quantity needing to be fulfilled for this product.
Due Date	*(Optional)* The date the product is due.
Stock	Stock this product is to be printed on.
Grain	Grain direction required for this product: **Horizontal**, **Vertical** or **None**. Grain direction and current sheet grain are used to determine product orientation the ganging tools.
Width	Width of product die.
Height	Height of product die.
Bleed	Bleed offset from rectangular die defined by Width and Height.

When you are done click the **OK** button. You can assign artwork, changed the bleed, change the die line and more in **Product View**. You can also edit properties by selecting the product in the **Product Panel** and editing the properties in the **Properties Panel**.

2.4.2.2. New Product from Artwork

Products can be created directly from PDF and AI artwork files, as well as from image files. Products can be created from a "New Product" dialog in the File menu or the Products panel. In addition, flat products can be created by dragging and dropping into the file into a layout. By default, for PDF files the PDF Trim Box is used to create a rectangular die line of the new product and the first page is assigned as the front side artwork of the new product.

In **Preferences** > **Product** you can change the default behavior to automatically set die design from Line Type mappings. After creating the product, you can set the die line to spot colors in the artwork by going into **Product View** and selecting the cut and optionally crease line spot colors.

For image-base file types such as TIFF, PNG, BMP, JPG, and GIF, the dimensions of the image are used to create a rectangular die line for the new product. If the artwork file contains exactly two pages, the second page artwork is automatically assigned to the back side of the product. This default behavior can also be changed in **Preferences** > **Product** by editing the Page Handling options.

Using New Product from Artwork Dialog

To create a new product from artwork using the New Product from Artwork Dialog, go to the **File** menu, find the **New ... Product** flyout menu for the product type you are wanting to create, and then click the corresponding "**From Artwork...** button.

Alternatively, select **New ... Product** for the desired product type from the Product Panel action menu and then click **From Artwork...** (upper left corner of panel).

Once selected a file dialog will appear. Select the artwork file you wish to import and click OK. Once the artwork has been loaded you will be presented with a dialog allowing you to define select product properties.

Field	Description
Name	Unique name of this product.
Quantity	Order Quantity amount needing to be fulfilled for this product.
Due Date	*(Optional)* The date the product is due.
Stock	Stock this product is to be printed on.
Grain	Grain direction required for this product: **Horizontal**, **Vertical** or **None**. Grain direction and current sheet grain are used to determine product orientation the ganging tools.
Width	Width of product die.
Height	Height of product die.

Field	Description
Bleed	Bleed offset from rectangular die defined by Width and Height.

2.4.2.3. Using File Drag-and-Drop

Products can also be created from artwork by dragging the artwork into Phoenix from the desktop or file explorer. The overall behavior is the same as creating product from dialog with ordered amount and grain direction set to default values from the Products section in Preferences (Edit menu). Product name will be generated from the file name of the dropped in artwork file.

Pressing Alt / Option key during artwork drop will cause Phoenix to look through the existing list of line type mappings in preferences to automatically create the product die design based on spot inks and PDF layer paths in the artwork.

2.4.2.4. New Product from CAD

Module: CAD Products can be created from CAD files. Phoenix supports CFF2, DDES2, DDES3 and DXF CAD formats. Select a 1-up design within a CAD file using the New Product from CAD dialog or drag- and-drop a CAD file into Phoenix to automatically create products for each unique 1-up in the CAD file. If a CAD file contains lines mapped to bleed, a bleed mask will be created from the CAD bleed lines, otherwise a bleed is generated as an offset from the CAD cut lines using the **Default Bleed** defined in the project.

Using New Product from CAD Dialog To create a new product from artwork using the New Product from CAD Dialog, go to the **File** menu and select **New Product from CAD**.

Alternatively, select **New Product from Artwork...** from the Product Panel action menu (upper left corner of panel).

Once selected a file dialog will appear. Select the CAD file you wish to import and click OK. Once the CAD file has been loaded you will be presented with a dialog allowing you to choose the 1-up design you want to use as well as CAD line mappings and product properties.

Field	Description
Die	Name of 1-up die within CAD file to use to create new product.
Name	Unique name of this product.
Quantity	Order Quantity amount needing to be fulfilled for this product.
Due Date	*(Optional)* The date the product is due.
Stock	Stock this product is to be printed on.
Grain	Grain direction required for this product: **Horizontal**, **Vertical** or **None**. Grain direction and current sheet grain are used to determine product orientation the ganging tools.
Preset	CAD Import preset to use to define line mappings such as cut, crease and bleed. For well- defined CAD formats like CFF2 and DDES, most often the default presets will correctly

Field	Description
	map line types. CAD files from certain applications and the DXF format in general can contain non-standard line types that need user-defined mappings to correctly import the 1-up design. User defined presets are a simple, powerful way to define the line mappings from a specific client or application to reuse again in the future.
Line Mappings	Table of line type mappings used to map lines to cut, crease and bleed lines in the product. Line mappings can be added, removed or edited with the icons below the line mappings table. Line mappings can also be defined directly in the interactive preview pane on the left by right clicking on a line and selecting the appropriate line type from the context menu.
Save Preset	To save the current line mappings as a preset to reuse again in the future either here or in the Die Import Wizard, click this button and enter the name you would like to save the preset as. If using an existing preset name, you will be prompted to confirm you would like to override the existing preset.

2.4.2.5. New Product from Die Design

Choose a 1-up die design that has already been imported into the Die Design Library to create a product from.

Using the New Product from Die Design Dialog

To create a new product from Die Design using the New Product from Die Design Dialog, go to the **File** menu and select **New Product from Die Design**.

Alternatively, select **New Product from Die Design...** from the Product Panel action menu (upper left corner of panel).

In the Dialog, Select the die design you want to use and specify the properties.

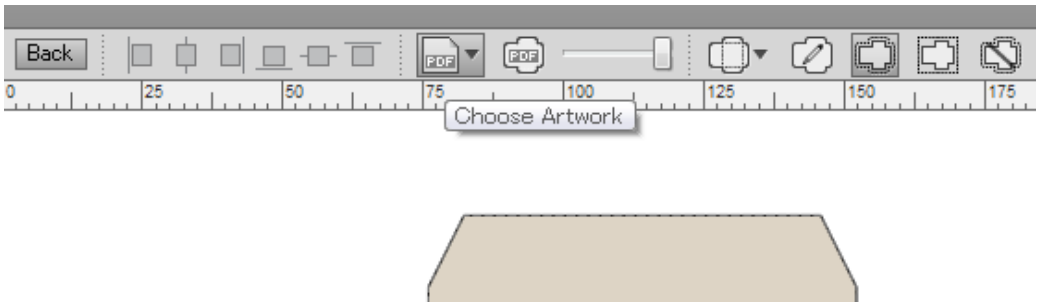
Field	Description
Name	Unique name of this product. By default, die design name is populated in this field.
Quantity	Order Quantity amount needing to be fulfilled for this product.
Due Date	*(Optional)* The date the product is due.
Stock	Stock this product is to be printed on.

Field	Description
Grain	Grain direction required for this product: **Horizontal**, **Vertical** or **None**. Grain direction and current sheet grain are used to determine product orientation the ganging tools.

2.4.3. Autosnap

Autosnapping artwork into a product die or die template is one of the most powerful features in Phoenix. Autosnap handles a wide range of scenarios such as mismatched rotation, non-centered artwork, incorrect Trim Box sizes, etc., providing perfect placement of artwork in the product die for a vast majority of cases.

The normal way to autosnap artwork into a die is by clicking on the Choose Artwork button in the Product View or Layout View toolbar.



A shortcut for snapping artwork into the die is to hold down the Control key while dragging and dropping the artwork file into the desired side (Front or Back) in Product View or in Layout View. If Control key is not held down, a new product will be created from the artwork.

When in Layout View, the artwork being dropped into Phoenix will be snapped into all selected product or die template items in the Artboard. If all instances of a product are selected, artwork will be snapped into the existing product. In cases where a subset of all product's instances are selected, the following steps take place automatically:

1. A new product will be created using the name of the artwork file by duplicating the existing product.
2. The artwork will be autosnapped into this new product.
3. Selected product or template items in the Artboard will be replaced by instances of this new product.

If you are drilled into the context of a product instance in Layout View, you are editing the product itself and behavior is the same as in Product View.

Also note, if you are snapping to the Front of the product or template item and the given artwork has two pages, the first page automatically snaps into the Front of the product while the second page snaps to the Back of the same product. If you need to snap different pages of the artwork

file to the given side(s) of a product, click on the Choose Artwork button down arrow to open the Page Mapping dialog.

2.4.4. General Properties

2.4.4.1. Bleed

To change the bleed settings for individual product (or multiple products at one time):

1. Click to select the Product (or Products) you wish to modify
2. Look to the right side of the window to find the Product Properties sidebar
3. Scroll down to find the Bleed Type setting. This allows you to choose how you want bleed in this product
   - **None** - no bleed will be allowed for the selected product(s)
   - **Contour** - bleed will be specified as a distance from the contour
   - **Margins** - bleed will be specified as a distance from each side of the product. This should only be used with rectangular products.
4. Adjust the Bleed Type option to your preferred setting
5. Click on the existing values to modify the bleed values, then click away or press Enter/Return to accept the setting.

2.4.4.2. Other Properties

Property	Description
Type	Type of product
Name	Unique name of the product
Color	Color to use to represent the product in Phoenix. This color is not printed, but only a representation within the UI to identify the product, and will also be displayed in an exported project report
Index	Index of the product within the project
Description	Optional product description
Notes	Optional notes to associate with product
Quantity	Number of product ordered in the project, also referred to as ordered quantity
Due Date	Product due date
Group	Optional product group used in Imposition AI
Priority	Optional priority of product starting from 1 as highest priority

Property	Description
Min Overruns	Minimum overrun percentage allowed for the product
Max Overruns	Maximum overrun percentage allowed for the product
Bundle-size	Bundle size needed for product. When set, Imposition AI tools will ensure layouts including this product will have run length multiples of this bundle size
Placed	The number of products placed on a layout
Total	The total number of products produced when the project is run the specified number of times in the project run length
Overrun	The number of overruns of the product
Overrun %	The overrun percentage, calculated as total / quantity
Stock	Stock of product
Grain Direction	Grain direction of product ('Horizontal', 'Vertical', 'Consistent', 'None')
Processes	List of processes the product will route through which controls process-specific behavior. For example *'Printing, Cutting'*
Mode	When clicking on 'Process Setting', Mode is the name of Mode to run the given process at
Mode Value	When clicking on 'Process Setting', Mode Value is the specific mode value to run the given process at
Rotation	Rotation type to allow in product, defaults to Product Settings defaults unless allowed-rotations is defined in which case 'Custom' rotation type is assumed = ['Any', 'Orthogonal', 'None', 'Custom']
Allowed-rotations	Allowed rotations of product when rotation type is 'Custom'
Templates	List of templates this product can be used with
Component Type	Type of product component: flat, tiled, bound, folded. *For example, a 32 page bound product with an F16-7 folding pattern will be made up of two bound components (2x F16-7 signatures)*
Part	Product parts that make up this product
Width	Width of product when creating a custom size product or the desired scaled width or scale percentage when creating the product die from a die design or artwork
Height	Height of product when creating a custom size product or the desired scaled height or scale percentage when creating the product die from a die design or artwork
Double-sided	If product is two-sided (Boolean)

Property	Description
Bleed-type	Product bleed type = [Margins, Contour, Cad, or None] = ['Margins', 'Contour', 'CAD', 'None']
Bleed Margin	Scalar offset from die design to generate bleed
Bleed Margins	Four sided bleed margins when bleed type is Margins
Spacing Type	How products should be spaced. Choose from **Margins**, **Uniform Spacing**, **Spacing from Bleed**, or **Spacing from Tool**
Spacing Margin	Single scalar spacing offset when spacing type is Uniform
Spacing Margins	Four sided spacing margins when spacing type is Margins
Offcut Margins	Four sided offcut margins
Die Type	Die design typeAllowed: Rectangle, Irregular, Open
Die Name	Name or 1-up die
Die Source	Name of the source file for the dieline
Die Path	Local path to the die source file

2.4.5. Product Inks

Phoenix will automatically find the inks in a product and display them in the Ink Panel. Inks are a fundamental part of how Phoenix works, so let's take a closer look at how this all works.

Ink Mappings

First, there are different types of inks, such as Normal inks (process or spot color printing inks), Coatings, Technical, and so on. The ink types are set based on the Ink Mappings set in the *Preferences*. You can also set the ink type manually by right-clicking on the ink type in the Inks panel. Phoenix will use this ink type to determine what presses and devices are capable of producing the product when using Imposition AI.

Tool Type Mappings

In addition to Ink Mappings, Phoenix uses Tool Type Mappings. Tool Types represent any tooling to be done on a product, such as die cutting, creasing, or scoring. You can learn more about Tool Types and how they are configured in *Tool Types* on page 162

Automatic Ink Coverage Calculation

Phoenix 8.0 also introduces Automatic Ink Coverage Calculation. Phoenix auto-computes ink coverage percentages in product artwork by rasterizing each separation of the artwork and analyzing the raster data. This new feature is controlled via the new **Color Analysis** property in each product page. By default, Color Analysis is set to **Fast** which analyzes the artwork content stream without rasterizing in the same way as previous versions of Phoenix. When Color Analysis is set to **Raster**, the new separations raster algorithm automatically computes ink coverages in that page's colors list and removes any colors that are not output. An additional Color Detection property is also available in Raster mode which controls whether colors are detected only within the cut shape of the product or within the bleed area as well. The new Color Analysis property can be set to Raster by default if desired via product preferences for each product type.

Ink Coverage can be used to calculate much more accurate project costing and lead to more accurate Imposition AI results. Simply make sure you have your press configured to have an Ink Cost based on ink coverage in the *Operation Properties* on page 100.

2.4.6. Product CSV Import

Importing Products from CSV allows you to create several products at once. Define multiple products manually in Excel or similar application to save significant time or export product order information already stored in your MIS system and import directly into Phoenix. All product fields such as dieline, bleed offset, spacing, stock, and order amounts can be defined in the CSV file.

Use the predefined column heading names or create your own custom presets to map spreadsheet columns to product fields. Column name and column number mappings are both supported, allowing you to import CSVs from any pre-defined third-party column format.

To import products from a spreadsheet (csv), go to the **File** menu and select **Import Products...**

Alternatively, you can select the same action from the **Products Panel** menu by clicking on the button in the upper-left corner of the panel.

You will be prompted to select a CSV file, after which you can define column to product field mappings.



Note: Phoenix also supports copying and pasting of spreadsheet data directly into a project! You can copy data from a spreadsheet (i.e. Excel, Numbers, .csv text, etc...) and paste in a project to import spreadsheet data without having to save a file and import it or drag and drop into Phoenix.

2.4.7. CSV Product Import Fields

Columns in your CSV spreadsheet will be mapped to product fields. The following table lists all supported product fields you can define in your CSV files.



Note: At a mimimum, you must have Height and Width specified (which will create an empty product), or Artwork File specified. Otherwise, Phoenix will not be able to create a product. All other fields are optional.

Field Name	Field Type	Description
Allowed Rotations	Comma delimited list of numbers	Allowed rotations of product used for ganging when Rotation is set to Custom or is not specified. If Rotation is set to a value other than Custom, this field is ignored. **Example:** 0, 90 **Default:** None
Artwork File	Path	Relative or absolute path to PDF or AI file containing artwork for product. **Example:** "artwork/prd-29211.pdf"

Field Name	Field Type	Description
		Example: "C:\Users\cliff\prd-29211.pdf" **Default:** None
Artwork Page Number	Number	If artwork file is defined, the page number of artwork to use on front side of product. **Example:** 4 **Default:** 1
Assembly Mode	Manual, LargestFirst	Determines how folding patterns are used when creating the book assembly: • Manual: Phoenix creates the signatures based on the specified order of the folding patterns. Duplicate patterns are honored (for example, multiple consecutive F8-7 patterns). • LargestFirst: Phoenix creates signatures from largest (outer) to smallest (inner), based on the specified folding patterns, which define the allowed combinations. **Example:** Manual **Default:** LargestFirst
Autosnap Ink	Spot Color Name	When present, specified ink name will be used when autosnapping front artwork into product die. If not specified, Phoenix will attempt to automatically detect the correct cut line ink. **Example:** TiliaCut **Default:** None
Autosnap Layer	PDF Layer Name	When present, specified PDF layout name will be used when autosnapping front artwork into product die. **Example:** Cut **Default:** None
Back Artwork File	Path	Relative or absolute path to PDF or AI file containing artwork for back of product. **Note:** If Artwork File is defined and back side artwork comes from same file, you do not need to re-enter the same path in this field. **Example:** "artwork/prd-29211.pdf" **Example:** "C:\Users\cliff\prd-29211.pdf"

Field Name	Field Type	Description
		Default: None
Back Artwork Page Number	Number	If artwork file or back artwork file is defined, the page number of artwork to use on back side of product. **Example:** 4 **Default:** 1
Back Autosnap Ink	Spot Color Name	When present, specified ink name will be used when autosnapping back artwork into the back side of the product die. If not specified, Phoenix will attempt to automatically detect the correct cut line ink. **Example:** TiliaCut **Default:** None
Back Autosnap Layer	PDF Layer Name	When present, specified PDF layout name will be used when autosnapping back artwork into back side of the product die. **Example:** Cut **Default:** None
Back Colors	Text	Comma-separated list of back colors for back side of flat products **Example:** Cyan, Magenta, Yellow **Default:** None
Back Color Values	Text	Comma-separated list of back color values **Example:** 100 0 0 0, 0 100 0 0, 0 0 100 0 **Default:** None
Back Color Coverages	Text	Comma separated list of back color coverages ranging from 0.0 to 100.0
Back Color Processes	Text	Comma separated list of processes the back colors represent **Default:** Printing
Back Color Types	CMYK, Lab, RGB	Comma separated list of types of back colors
Back Inks	Comma delimited list of ink names (text)	If specified, this list is considered to be the official printing inks for the back side of the product. Used during ganging and estimation to determine how many colors/plates are needed for a given layout.

Field Name	Field Type	Description
		When not specified, all normal inks from the back-side artwork are considered the printing inks. **Example:** Black **Default:** None
Back Marks	Comma delimited list of marks (text)	Optional product marks to apply to the back side of the product
Bleed Bottom	Scalar[3]	Distance of bleed from the bottom of the die shape. If Bleed also defined, this value overrides Bleed value on bottom side. This field is ignored when Bleed Type is not Margins **Example:** "3mm" **Default:** None
Bleed Ink	Spot Color Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, spot color ink name specified here is used to define product bleed mask. **Example:** TiliaBleed **Default:** None
Bleed Layer	PDF Layer Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, PDF layer name specified here is used to define product bleed mask. **Example:** Bleed **Default:** None
Bleed Left	Scalar[3]	Distance of bleed from the left of the die shape. If Bleed also defined, this value overrides Bleed value on left side. This field is ignored when Bleed Type is not Margins. **Example:** "3mm" **Default:** None
Bleed Right	Scalar[3]	Distance of bleed from the right of the die shape. If Bleed also defined, this value overrides Bleed value on right side. This field is ignored when Bleed Type is not Margins

Field Name	Field Type	Description
		Example: "3mm" **Default:** None
Bleed Top	Scalar[3]	Distance of bleed from the top of the die shape. If Bleed also defined, this value overrides Bleed value on top side. This field is ignored when Bleed Type is not Margins **Example:** "3mm" **Default:** None
Bleed Type	Margins, Contour, CAD, None	Bleed Type of Product. If not specified bleed type is automatically determined based on these rules: If die design comes from CAD or artwork inks/layers and there are Bleed line types, bleed type is CAD. If the die design is defined from width and height dimensions or from PDF TrimBox defaults to Margins, otherwise Contour.
Bleed	Scalar[3]	Offset from die-line to create bleed mask. When Bleed Type is Margins, all four sides will be set to this value and overridden by individual side spacing below. **Example:** 0.25" **Default:** Current job's *Default Bleed* value
Binding Edge	Top, Bottom, Right, Left	Page binding edge for bound work
Binding Method	SaddleStitch, PerfectBound, None	Optional binding method for bound work
Bundle Size	Number	The allowed multiples of the product that can be produced. When set, ganging tools will ensure layouts including this product will have run length multiples of the bundle size **Example:** 1250 **Default:** None
CAD Design Name	CAD File 1-up Name	If CAD File defined and CAD file contains multiple 1-up designs, name of 1-up design to use to define product die. **Note:** Requires CAD Module **Example:** "Design 29211"

Field Name	Field Type	Description
		Default: First 1-up design in CAD file
CAD File	Path	Relative or absolute path to CAD file containing cut and crease lines to define product die.  **Note:** Requires CAD Module **Example:** "cad\prd-29211.cf2" **Example:** "/home/cliff/cad/prd-29211.cf2" **Default:** None
Color	RGB color hex value	Product color to display in Products panel, PDF report, and artboard when artwork is not present or visible. **Example:** FFB200 **Default:** None
Colors	Text	Comma-separated list of colors for front side of flat products **Example:** Cyan, Magenta, Yellow **Default:** None
Color Values	Text	Comma-separated list of front color values
Color Coverages	Text	Comma separated list of front color coverages ranging from 0.0 to 100.0
Color Processes	Text	Comma separated list of processes the front colors represent **Default:** Printing
Color Source	Artwork, Specified	Specify how to set up colors for each page
Crease Ink	Spot Color Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, spot color ink name specified here is used to define product crease lines. **Example:** TiliaCrease **Default:** None

Field Name	Field Type	Description
Crease Layer	PDF Layer Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, PDF layer name specified here is used to define product crease lines. **Example:** Crease **Default:** None
Creep	None, Inward, Outward, Both, Custom	Type of creep to apply to bound signatures
Creep Amount	Scalar[3]	Amount of creep to apply which can be total or per-sheet amount based on the calculation mode **Example:** .0625in **Default:** 0in
Creep Calculation	From Stock, Per Page, Total	Creep calculation mode to use to determine creep amount to apply **Example:** Total **Default:** Per Page
Creep Method [5]	Offset, Scale	Creep method to use for performing creep on bound signatures.Page content may get trimmed in finishing due to pages pushing out when the sections get folded. You compensate for this issue by applying creep settings on the Product so each page image area shifts Inward/Outward from the Spine to decrease/increase the Spine Trim/Face Trim, without affecting content. If you want to maintain the Spine Trim and Face Trim gutters, you can choose to Scale the pages instead of Offsetting them. **Example:** Scale **Default:** Offset
Creep Transition	String (percentage)	Percentage from the inner most signatures towards the spine when to change creep direction from inward to outward when using 'Custom' creep type **Example:** 40% **Default:** 50%

Field Name	Field Type	Description
Cut Ink	Spot Color Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, spot color ink name specified here is used to define product die design shape and internal cut lines. **Example:** TiliaCut **Default:** None
Cut Layer	PDF Layer Name	*[Deprecated, could be removed in a future release. Use Die Design Source or automatic line mappings instead].* If front artwork specified, PDF layer name specified here is used to define product die design shape and internal cut lines. **Example:** Cut **Default:** None
Description	Text	Optional notes related to the product visible in product properties and *<product.description>* mark keyword. **Example:** "Company X juice label Spanish" **Default:** None
Die Design Name	Die Design Library 1-up Name	The name of the 1-up design stored in the Die Design Library including any parent folders separated by forward slashes ("/"). **Example:** "Cartons/DIE-126B"
Die Design Source[4]	ArtworkPaths, ArtworkTrimbox, CAD,CustomSize, DieDesignLibrary	Defines the source of the die design for the product. If ArtworkPaths is used, line type mappings in Preferences will be matched with spot colors and layers in the artwork PDF to find the die design and various die lines, falling back on PDF Trimbox if no matches are found. If ArtworkTrimbox is used, the PDF Trimbox alone is used for die design. If CAD is used, the CAD file defined in this row is used for die design. If CustomSize is used, the Width and Height fields in this row are used for die design.

Field Name	Field Type	Description
		If DieDesignLibrary is used, the die design defined in the Die Design Name CSV field specifies the 1-up design from the DieDesign Library to use.
Due Date	Date Format	Due date of product. This field is used by the Plan ganging tool to organize layouts by due dates and also as a property for reporting and mark keywords **Example:** 2016-10-31 **Default:** None
Face Trim	Scalar[3]	Face trim amount in bound signatures **Example:** .0625in
Folding Patterns	List	Comma separated list of folding patterns for a bound product. The order of the folding patterns in the book assembly depends on the chosen Assembly Mode; "Manual" uses the specified sequence as-is, whereas "LargestFirst" arranges the patterns from largest to smallest (see higher). **Example:** F16-8,F4-2 **Example (passing only one folding pattern):** F16-8
Front Inks	Comma delimited list of ink names (text)	If specified, this list is considered to be the official printing inks for the front side of the product. Used during ganging and estimation to determine how many colors/plates are needed for a given layout. When not specified, all normal inks from the front-side artwork are considered the printing inks. **Example:** Cyan,Black,Pantone 3425 **Default:** None
Front to Back	None, Copy, Mirror	Action to perform to copy or mirror artwork on the front side of the flat product to the back side **Example:** Mirror **Default:** None
Grade	Text	Name of grade product is to be printed on. If specified it must match a grade within the specified stock in the Stock Library. **Example:** 340 gsm" **Default:** First grade within the Stock

Field Name	Field Type	Description
Grain	Vertical, Horizontal, None	Grain direction product must be printed on. **Example:** Horizontal **Default:** None
Group	Text	Product group name used by the Plan ganging tool to ensure products with the same group name are imposed together on the same layouts **Example:** "Group A" **Default:** None
Height	Scalar[3]	Height of product die **Example:** 100mm **Default:** None
Horizontal Tile Gap	Double	Gap distance between tiles in the given direction (expressed in points: 72pts = 1in = 25.4mm) **Example:** 720
Horizontal Tile Gap Extension	Double	Amount of extra artwork content beyond the tile gap boundary to extend into the gap in the given direction **Example:** 25
Horizontal Tile Gap Extension Rule	Opposite Start, Both	Rule defining which direction(s) the extension is applied for each tile in the given direction **Example:** Both
Horizontal Tile Overlap	Double	Distance beyond tile edge to extend the tile to create overlap in the given direction **Example:** 25
Horizontal Tile Overlap No Image	Double	Distance of the section at the end of the overlap where artwork content is to be clipped **Example:** 25
Horizontal Tile Overlap Rule	Top, Bottom, Both	Rule defining what edge(s) of tiles overlap is applied to in the given direction **Example:** Both
Horizontal Tiles	Int, Double, List	Horizontal tiling rule value, could be single integer, double, or list of comma separated doubles depending on tile rule type (Horizontal Tiling) **Example (FixedNumber):** 6

Field Name	Field Type	Description
		Example (FixedSize): 60in **Example (VariableSizes):** 60in,40in,60in
Horizontal Tiling	Double	The horizontal tiling rule type which can be, None, FixedNumber, FixedSize, or VariableSizes **Example:** FixedNumber **Default:** None
Horizontal Uniform Final Size	Boolean	If enabled, tile sizes will be uniform after applying overlap or gap methods to the tile, otherwise tile sizes are uniform before overlap or gap methods are applied **Example:** 100mm **Default:** None
Jog Edge	Top, Bottom, Right, Left	Jog edge for bound work. When set, this edge must be perpendicular to the binding edge. Setting jog to Bottom for left- or right-bound work results in 'Foot to Foot' page orientation **Example:** Top **Default:** Top
Jog Trim	Scalar[3]	Jog trim amount in bound signatures **Example:** .25in
Lip	Scalar[3]	Lip amount to add to bound signatures **Example:** .25in
Lip Type[6]	Auto, Front, Back	[6]Lip type for determining where lip gets added to bound signatures **Example:** Auto
Marks	Comma delimited list of marks	Name of smart product marks to apply to the product from the Marks library. Names must include any parent folders separated by forward slashes ("/"). **Example:** Barcodes/QR_PRD, Patches/CMYK
Max Overruns	Percentage	Maximum percentage above ordered amount to allow during ganging.Percentage sign is not required. **Example:** 10% **Default:** 100%

Field Name	Field Type	Description
Min Overruns	Percentage	Minimum percentage above or below of ordered amount to allow during ganging. Negative values are allowed meaning the job is allowed to produce less than the ordered amount. Percentage sign is not required. **Example:** -10% **Default:** 0%
Modes	Text	Names of Modes to run the given process at
Name	Text	Unique name of the product **Example:** Item1234_Eng_12oz
Non-Jog Trim	Scalar[3]	Non-jog trim amount in bound signatures **Example:** .25in
Notes	Text	Text notes related to the product visible in product properties and *<product.notes>* mark keyword. **Example:** "Order date: March 31" **Default:** None
N-Up	Scalar	For bound signatures, the number of N-ups which can be a value of 1, 2, or 3 with 1 signifying normal non N-up repeated signatures
N-Up Gap	Text	Gap spacing to apply between N-up repeat pages
Offcut Bottom	Scalar[3]	Amount of offcut margin to apply to the bottom side of the product die. **Example:** "2mm" **Default:** None
Offcut Left	Scalar[3]	Amount of offcut margin to apply to the left side of the product die. **Example:** "2mm" **Default:** None
Offcut Right	Scalar[3]	Amount of offcut margin to apply to the right side of the product die. **Example:** "2mm" **Default:** None

Field Name	Field Type	Description
Offcut Top	Scalar[3]	Amount of offcut margin to apply to the top side of the product die. **Example:** "2mm" **Default:** None
Ordered	Number	Number of orders for product **Example:** 40000 **Default:** Product defaults in preferences
Page Bleed	Scalar	Bleed margins of individual pages in bound and folded products
Page Handling	OnePerFile, OnePerPage, OnePerTwoPages	Multi-page artwork handling options for flat and tiled products **OnePerFile:** Create one Phoenix product per file (if file is multi-page, only one product is created) **OnePerPage:** Create one Phoenix product per each PDF page **OnePerTwoPages:** Create one Phoenix product per two pages (odd pages will be the front-side graphic, even pages will be the back-side graphic)
Ordered	Number	Number of orders for product **Example:** 40000 **Default:** Product defaults in preferences
Pages Per Section	Number	Number of pages per section for multi-section bound work (i.e. smyth sewn books) **Example:** 16
Priority	Number	Optional priority of product starting from 1 as highest priority **Example:** 2 **Default:** 1
Process Types	Text	List of process types the product can use
Processes	Text	List of processes the product can use
Reading Order	Normal, Calendar	Reading order of pages in bound work**Example:** Calendar**Default:** Normal
Rotation	Any, Orthogonal, None, Custom	Type of rotation that can be used during ganging for this product.

Field Name	Field Type	Description
	If "custom" then include another column called "Allowed Rotation" and express the allowed degrees of rotation as a comma-separated list of numbers.	**Default:** From **Preferences** > **Product** > **New Product Defaults** > **Rotation**, unless Allowed Rotations is specified in which case Custom rotation is used.
Scale Proportionally	Boolean	Whether to scale proportionally when either width or height are not specified. When false, only the dimension that is specified is scaled. **Default:** false
Self Cover	Boolean	Whether bound part includes cover or not. When 'Calendar' is the value set for 'Reading Order', 'true' will cause the last page to be rotated by 180 degrees. **Example:** true
Shape Search	Largest, Multiple	Shape handling mode to use when finding closed path shapes from the dielines in the artwork. 'Multiple' mode will create a new artwork item for each closed path shape detected in the artwork. **Example:** largest
Spacing Bottom	Scalar[3]	Amount of spacing required below the die shape. If Spacing also defined, this value overrides Spacing value on bottom side. This field is ignored when Spacing Type is not Margins. **Example:** "2mm" **Default:** None
Spacing Left	Scalar[3]	Amount of spacing required to the left of the die shape. If Spacing also defined, this value overrides Spacing value on left side. This field is ignored when Spacing Type is not Margins. **Example:** "2mm" **Default:** None
Spacing Right	Scalar[3]	Amount of spacing required to the right of the die shape. If Spacing also defined, this value overrides Spacing value on right side. This field is ignored when Spacing Type is not Margins.

Field Name	Field Type	Description
		Example: "2mm" **Default:** None
Spacing Top	Scalar[3]	Amount of spacing required above the die shape. If Spacing also defined, this value overrides Spacing value on top side. This field is ignored when Spacing Type is not Margins. **Example:** "2mm" **Default:** None
Spacing Type	Margins, Uniform, Bleed	Spacing type of product. If not specified, default spacing type from the CSV Import Preset will be used.
Spacing	Scalar[3]	Amount of spacing required outside of the die shape when placing product. When Spacing Type is Margins, all four sides will be set to this value and overridden by individual side spacing below. **Example:** "4mm" **Default:** None
Spine Trim	Scalar[3]	Spine trim amount in bound signatures **Example:** .25in
Stock	Text	Name of stock product is to be printed on. If specified must match a stock in the Stock Library. **Example:** Gloss Coated" **Default:** First stock in Stocks Library
Templates	Comma delimited list of template names	List of templates from the Templates library that this product is allowed to be placed into during ganging. When not specified, all templates with matching diedesign shapes are used.
Things	Text	Comma-separated list of things this process can use **Note:** If defining a Thing, you must also add a **Processes** column and value to define what process(es) the product will require.
Pages	Number	Total number of pages for bound and folded work

Field Name	Field Type	Description
Tiling Order	Snaking Vertical, Snaking Horizontal, Zigzag Vertical, Zigzag Horizontal	Order rule to use from start corner to define tile placement order **Example:** Snaking Vertical"
Tiling Start	Top Left, Top Right, Bottom Left, Bottom Right	Starting corner for tile placement order **Example:** Top Left"
Type	Flat, Tiled, Folded, Bound	Type of product: flat, tiled, bound, folded **Example:** flat"
Vertical Tile Gap	Double	Gap distance between tiles in the given direction (expressed in points: 72pts = 1in = 25.4mm) **Example:** 720
Vertical Tile Gap Extension	Double	Amount of extra artwork content beyond the tile gap boundary to extend into the gap in the given direction **Example:** 25
Vertical Tile Gap Extension Rule	Opposite Start, Both	Rule defining which direction(s) the extension is applied for each tile in the given direction **Example:** Both
Vertical Tile Overlap	Double	Distance beyond tile edge to extend the tile to create overlap in the given direction **Example:** 25
Vertical Tile Overlap No Image	Double	Distance of the section at the end of the overlap where artwork content is to be clipped **Example:** 25
Vertical Tile Overlap Rule	Top, Bottom, Both	Rule defining what edge(s) of tiles overlap is applied to in the given direction **Example:** Both
Vertical Tiles	Int, Double, List	Vertical tiling rule value, could be single integer, double, or list of comma separated doubles depending on tile rule type (Vertical Tiling) **Example (FixedNumber):** 6 **Example (FixedSize):** 60in **Example (VariableSizes):** 60in,40in,60in

Field Name	Field Type	Description
Vertical Tiling	Double	The vertical tiling rule type which can be, None, FixedNumber, FixedSize, or VariableSizes **Example:** FixedNumber **Default:** None
Vertical Uniform Final Size	Boolean	If enabled, tile sizes will be uniform after applying overlap or gap methods to the tile, otherwise tile sizes are uniform before overlap or gap methods are applied **Example:** 100mm **Default:** None
Width[2]	Scalar[3]	Width of product die **Example:** 120mm **Default:** None

[1] *When Product Name is not present, name is taken from the file name in Artwork File excluding filename extension. If Artwork File is also not specified, Phoenix assigns a unique name following the naming convention "New Product 1", "New Product 2", etc.*

[2] *Width and Height are required when Artwork File and CAD File are both not specified.*

[3] *Scalars are decimal numbers that can optionally contain units. Supported units are: mm, cm, pt, ", or in. If scalar does not have unit defined, the default units for the current job are used.*

[4] *If Die Design Source is not defined, the source of the die design is inferred from other CSV fields as explained in section 3.2.2 below.*

[5] *Scaling happens in a horizontal only manner to achieve desired creep value.*

[6] *When Lip Type is set to 'Auto', When Lip Type is set to Auto, the lip is applied to the high folio when running “head to head” and the lip is applied to the low folio when running “foot to foot”.*

Die Design (Cut Path) Logic

When importing products, the die design *(cut path)* is determined from fields in the following order:

1. **Die Design Source** - If this field is present, the die design will be generated from the specified source, one of **ArtworkPaths**, **ArtworkTrimbox**, **CAD**, **CustomSize**, or **DieDesignLibrary**.

   Note: If ArtworkPaths is used, paths in the artwork are automatically matched with Tool Type mappings defined in preferences. If no matches are found, the artwork Trimbox is used.

2. **CAD File / CAD Design** *(CAD Module)* – If **CAD File** and optionally 1-up **CAD Design** name are defined, product die design is created from the cut lines in the CAD die.
3. **Die Design Name** – If **Die Design Name** is defined, DieDesignLibrary die design source is assumed and the corresponding 1-up in the Die Design library is used as the die design.

4. **Cut Ink (deprecated)** – If CAD die has not been defined (A), artwork has been specified with **Artwork File** and optionally **Artwork Page**, and **Cut Ink** has been defined specifying the cut line spot color in the artwork, die design is created from the die ink contours.
5. **Cut Layer (deprecated)** - If CAD die has not been defined (A) and **Cut Ink** has also not been defined (B), all paths in the PDF layer defined in **Cut Layer** will be used to define die design if specified.
6. **Width & Height** – If none of the fields above have been defined die design shape is created the Width and Height fields if present.
7. **Artwork File / Artwork Page** – If artwork file and optionally artwork page are defined and Die Ink and Width / Height fields are all not defined, die design is created from the PDF paths if "Automatically set die design from line type mappings" is enabled in Product preferences. If no matches are found or this setting is disabled, die design will be generated from the Trimbox of the artwork.



Note: If none of the fields above are defined, CSV import will fail since the product die design has not been defined.



Note:

In Phoenix the binding and jog edge are completely customizable so the technical definition of 'Auto' Lip Type is this:

- If binding is set to the Left or Right edge, then high folio lip is used when jog edge is Top while low folio lip is used when jog edge is Bottom.
- If binding is set to the Top or Bottom edge, then high folio lip is used when jog edge is Right while low folio lip is used when jog edge is Left.

2.4.7.1. Defining Mappings

After you select the CSV file you are going to import you are presented with a dialog to define column to product field mappings or choose an existing import preset.

Once you have defined the correct mappings from your CSV columns to product fields you can save the mappings as a preset to reuse again in the future.

Import Preset – Dropdown list of all available presets. Selecting a preset will change all options and mappings to the last saved values of the given preset. If edits are made, the preset name is appended with the text "(Edited)".

Save Preset Button – Click the button to the right of the preset dropdown to save the current options and mappings to the existing or a new preset.

Spreadsheet has column headings – Option specifying whether the first row of the CSV file is a headings row or not. If not, then columns can be mapped only by number as there are no heading names to match and the first row of the CSV file will be interpreted as a product.

Map Columns by – Choose whether to map columns to fields by column heading names from the first row of spreadsheet or by column numbers. Column numbering starts at 1. Note that mapping by column heading names option is disabled when **Spreadsheet has column headings** is unchecked.

Delimited by – Specify whether columns in the CSV file are separated by commas, tabs, semi-colons, carets, or pipe characters. CSV files are typically separate by commas, for example when saving as CSV in Microsoft Excel.

Character encoding – Character encoding of the CSV file. By default, CSV import will use the default system encoding of the operating system. UTF-8, UTF-16, and several other encodings are available to choose from covering most language environments worldwide.

Default Spacing Type – Default spacing to apply to products when **Spacing Type** is not present.

Mappings – Define the mappings from column name or number to product field. **CSV Column** values are left empty if a mapping is not defined. To edit a **CSV Column** value, click on the cell and start editing the text. **Product Field** values (see *CSV Product Import Fields* on page 74) marked with the * character denote required fields.

Clear All – Button to clear all **CSV Column** values in the **Mappings** table.

2.4.7.2. Mapping from Column Name Example

In the following example, the CSV file contains headings row of column names. Columns correspond to product name, width, height, and order amount respectively. We will create a mapping from these column heading names to the product fields.

product	width	height	amount
PRD-19001	120mm	100mm	20000
PRD-19002	110mm	85mm	18000
PRD-19003	80mm	67.5mm	40000

To import this CSV file correctly we need to check **Spreadsheet has column headings** checkbox, select the **Headings** option in **Map Columns by** and enter the following mappings:

- product -> Product Name
- amount -> Ordered
- width -> Width
- height -> Height

2.4.7.3. Mapping from Column Number Example

Mapping from Column Number Example

In the following example, the CSV file does not start with a headings row of column names, instead starting with the first product. Columns correspond to product name, width, height, and order amount respectively. We will create a mapping from the column numbers to the product fields.

PRD-19001	120mm	100mm	20000
PRD-19002	110mm	85mm	18000
PRD-19003	80mm	67.5mm	40000

To import this CSV file correctly we need to check **Spreadsheet has column headings** checkbox, select the **Numbers** option in **Map Columns by** and enter the following mappings:

- 1 -> Product Name
- 4 -> Ordered

- 2 -> Width
- 3 -> Height

2.4.7.4. Saving Spreadsheet as CSV in Excel

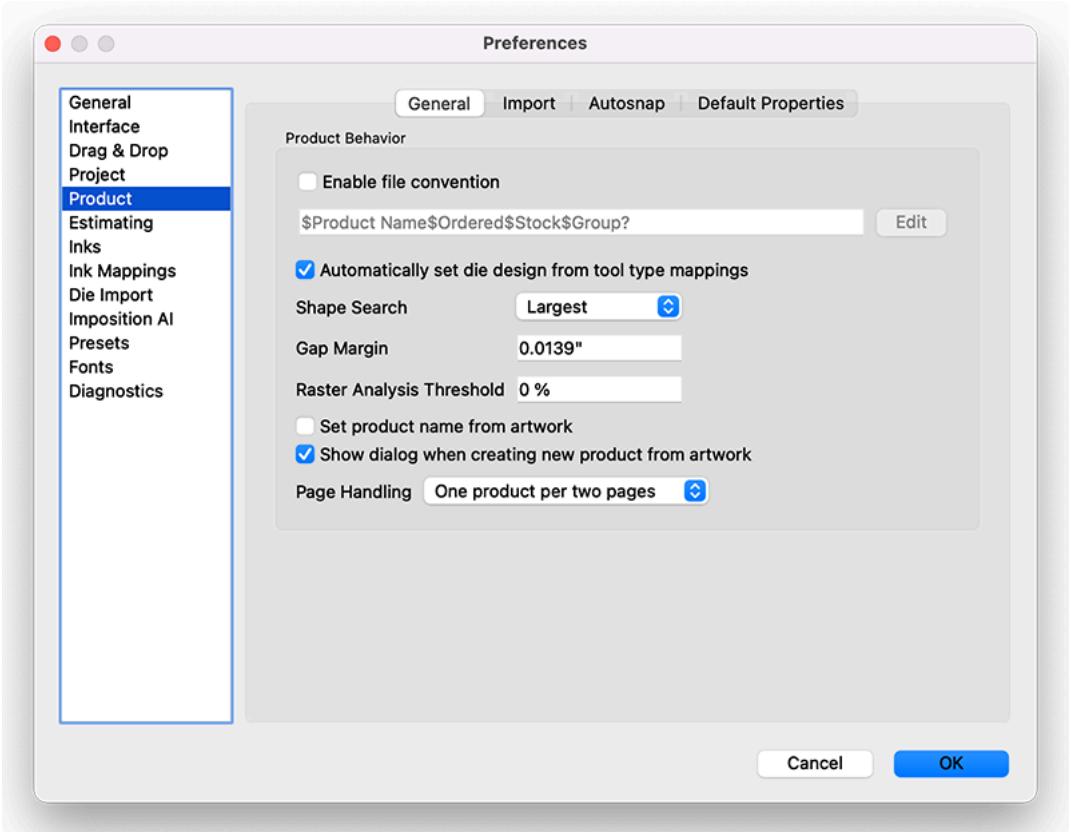
Follow the steps below to save a spreadsheet in CSV format in Microsoft Excel:

1. Go to the **File** menu and click on **Save As**.
2. In the Save As dialog click on the **Save as type** dropdown menu below **File Name**
3. Select the option labeled 'CSV (Comma Delimited) (*.csv)'
4. Enter the desired file name and press **Save**

2.4.8. Filename Conventions

Filename convention allow product properties to be automatically set simply by encoding the value in a product's filename, and can even include multiple parameters separated by a delimeter. You can customize which product parameters are encoded in the filename, which delimeter is used, and whether or not a given parameter is optional - that is, whether or not it will definitely be in the filename and should be mapped, or it may not appear and won't be mapped.

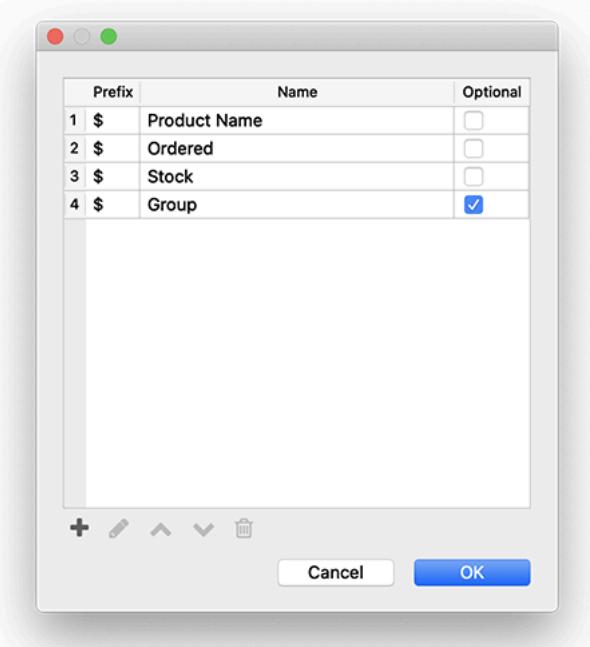
To enable file name conventions, go to **Preferences** > **Product** and toggle the checkbox next to "Enable file convention"



You can see in this Product view of the Preferences what the current file convention is configured to be. For example, in the screenshot above, the convention is as follows: `$Product Name $Ordered$Stock$Group?`

This means that the filename will begin with a '$', and anything between the first $ and the second $ in the filename will be used as the *Product Name*. Anything between the second $ and third $ will be set to the *Ordered* quantity. Anything between the third $ and the fourth $ will be set to the *Stock* property. Finally, anything after the fourth $ will be set to the Group property. Notice that the convention has a ? after the "Group" text. This means that this value is optional, and may not appear in the filename. If it doesn't appear in the filename, nothing will be mapped to the Group property.

To edit and customize the file name convention, click on the **Edit** button:



Here, we can add (+), remove (), edit, and reorder the sections of the convention we are setting. You can also use different prefixes, so, for example, the filename could be $springwater#1500%PVC, where the product name is prefixed by $, the ordered quantity prefixed by #, and the stock prefixed by %.

You can choose any product property and even specify custom product properties to be set via file naming conventions. When done, click OK to return to the Preferences window, and OK again to save the Preference changes.

2.5. Configuration

This configuration page will guide you through each part of Phoenix and the various ways that Phoenix can be configured.

Phoenix is built around the idea of modeling your production environment, so Phoenix must be configured to represent how your environment is currently set up. This includes the following, which are explained in detail below:

- *Things* on page 95 (*presses and finishing devices*)
- *Stocks* on page 114
- *Plates* on page 117 (*optional*)
- *Templates* on page 117 (*optional*)
- *Marks* on page 121
- *Die Design* on page 160
- *Mark Sets* on page 161
- *Tool Types* on page 162
- *Ink Mappings* on page 165
- *Presets* on page 167

Phoenix has the ability to import and export each of these configuration libraries via a single library archive file, in the format .phxlib. You can import and export your Phoenix Libraries from the Preferences dialog, under the Diagnostics tab. Exporting your libraries will create a single .phxlib file, containing all of your libraries. You can import these .phxlib archives as well, but do keep in mind that by importing libraries you will overwrite all existing libraries with what is in the imported .phxlib. Phoenix also has ability to Merge Libraries, which will combine the contents of two separate Libraries. Before performing a Merge Libraries function, it is recommended to first create a backup of the current libraries by exporting them.

In addition to importing and exporting all of your libraries, Phoenix 7.0 enables you to import and export individual libraries. You can do this from each individual library's panel under the dropdown menu. These panels also make the library searchable, making it easier than ever to find the item you're looking for.

2.5.1. Things

In Phoenix, a 'Thing' (or plural 'things') is a physical object or process that is used in a production flow when transforming a product part and/or component into a final product. A 'Thing' could be a piece of equipment such as a digital press or a die-cutting device, or it could be a manual resource that would perform a task such as diemaking or hemming/sewing a banner.

2.5.1.1. Presses

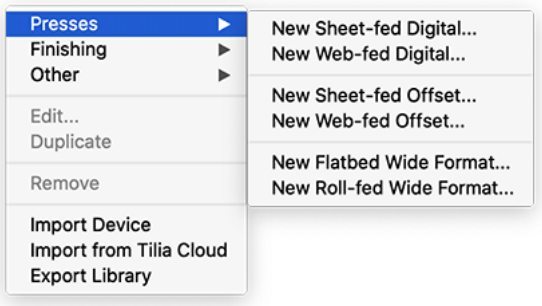
A Press represents the physical press. For most types of work in Phoenix, Presses are technically optional as Sheets and Plates can be used directly, but they are strongly recommended, especially for use with Imposition AI. Presses consist of the following:

- Speed and cost information used by estimation + ganging
- Min/max sheet constraints used by ganging
- Media template (optional)
- Gripper, sheet placement, content and image margins
- Press-specific marks (optional)

There are different types of Presses available within Phoenix:

- Digital, *both Sheet-fed and Web-fed*
- Offset, *both Sheet-fed and Web-fed*
- Wide Format, *both Flatbed and Roll-fed*

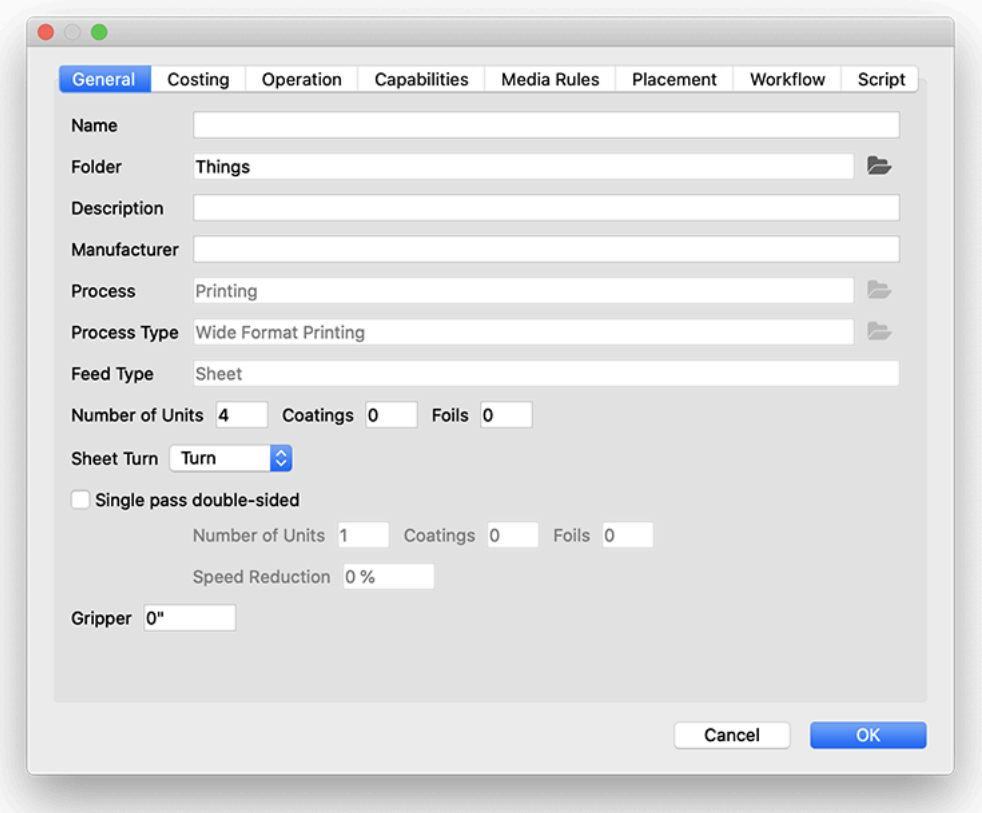
To add a new press, click the dropdown in the top left of the Things panel, and select the type of press you want to add.



Once you select a press type, the Press Configuration window will appear. The settings vary slightly based on what press type you select, but they all consist of the following tabs:

- General
- Costing
- Operation
- Capabilities
- Media Rules
- Placement
- Workflow
- Script

General Properties



Field	Description
Name	Name of the press
Folder	Folder to organize the press in Phoenix. You can click the folder icon to choose from existing folders, or drag and drop in the Devices panel after creation.
Description	Press Description
Manufacturer	Press Manufacturer
Process	What this device does. For Presses, this will always be “Printing”
Process Type	What type of Printing Press this press is, based on the type of press you selected.
Feed Type	How stocks are fed into the press
Number of Units	Total number of printing units on the press
Coatings	Max number of coatings on the press
Foils	Max number of foils possible on the press

Field	Description
Sheet Turn	Workstyle of the press. Either turn or tumble. **Only available for sheet-based presses*
Single pass double-sided	Checkbox to enable whether this press can perform single pass double-sided printing
Number of Units	If Single pass double-sided is enabled, the number of printing units for the backside. See *Note* below.
Coatings	If Single pass double-sided is enabled, the number of coatings possible for the backside
Foils	If Single pass double-sided is enabled, the number of foils possible for the backside
Speed Reduction	Percentage of speed reduction when doing single-pass double sided printing
Gripper	Gripper distance from the bottom of sheet



Note:

If using the "Single pass double-sided" option, the *Number of Units* for the back side will subtract from the total *Number of Units* specified above.

This means that if you have a press with 6 stations, and four of these stations allow for single pass double sided printing, you would specify the total *Number of Units* as 10, and single pass double-sided *Number of Units* as 4.

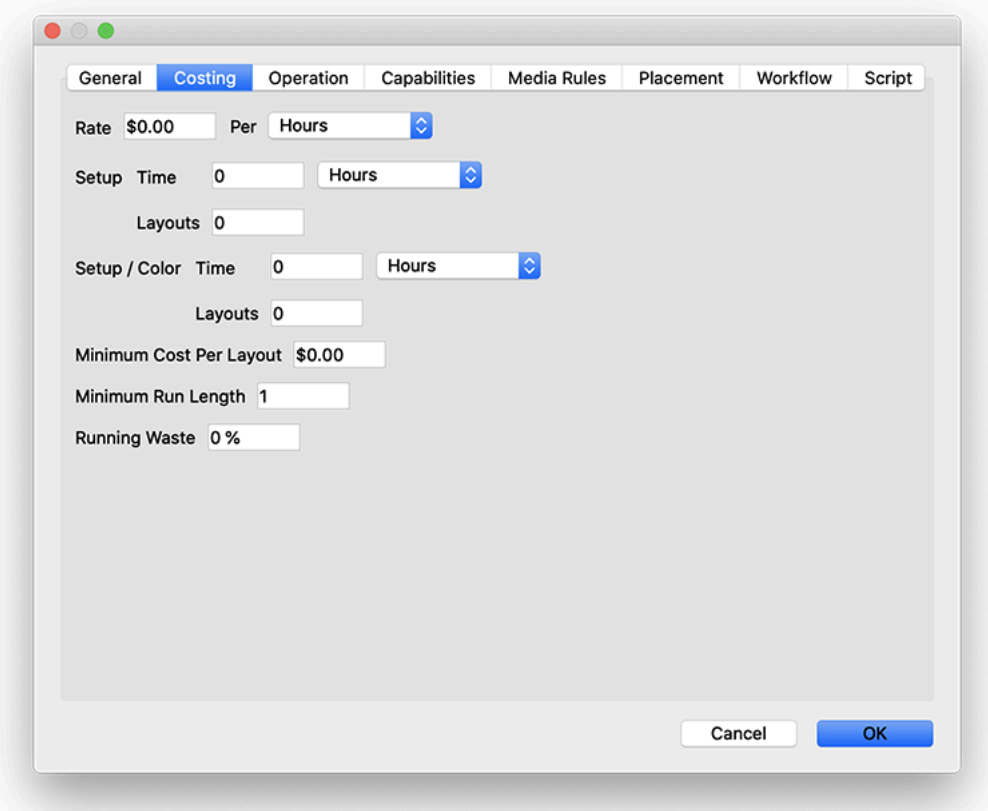
In the above example, Phoenix would understand that to mean that the press can handle layouts with up to 6 front inks and up to 4 back inks.



Note:

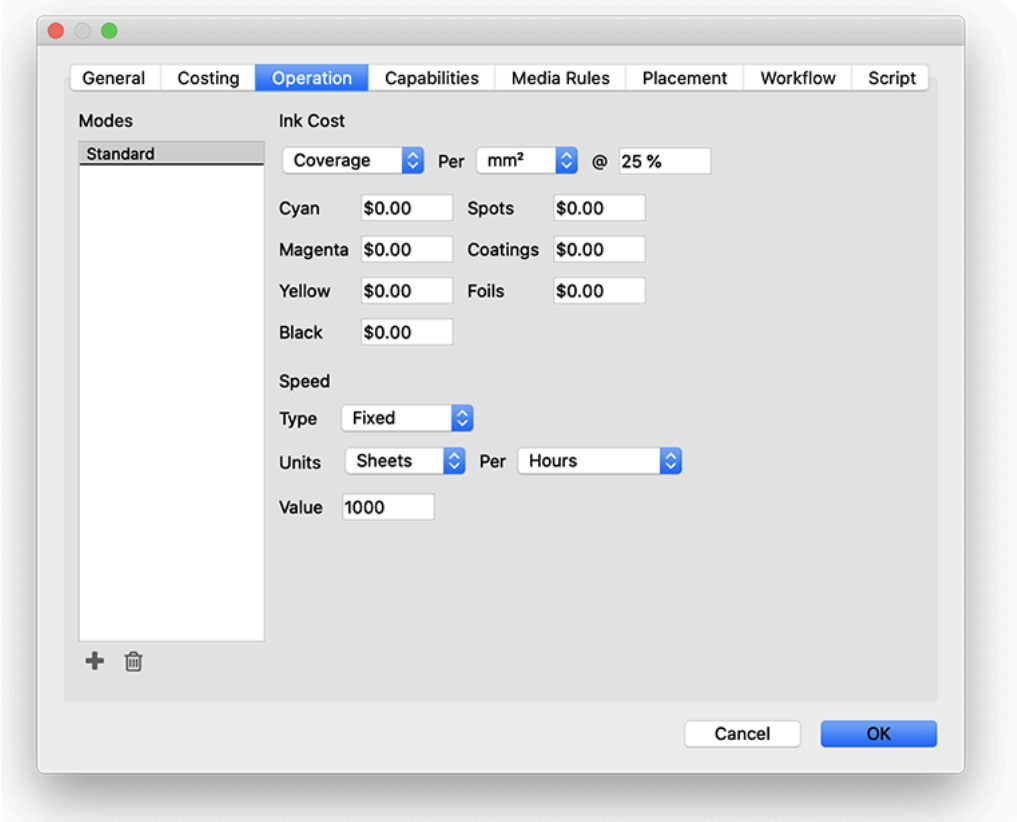
In Phoenix 7.0, the option for multiple passes has been moved to the *Imposition AI* profile rather than in the Press settings

Costing Properties



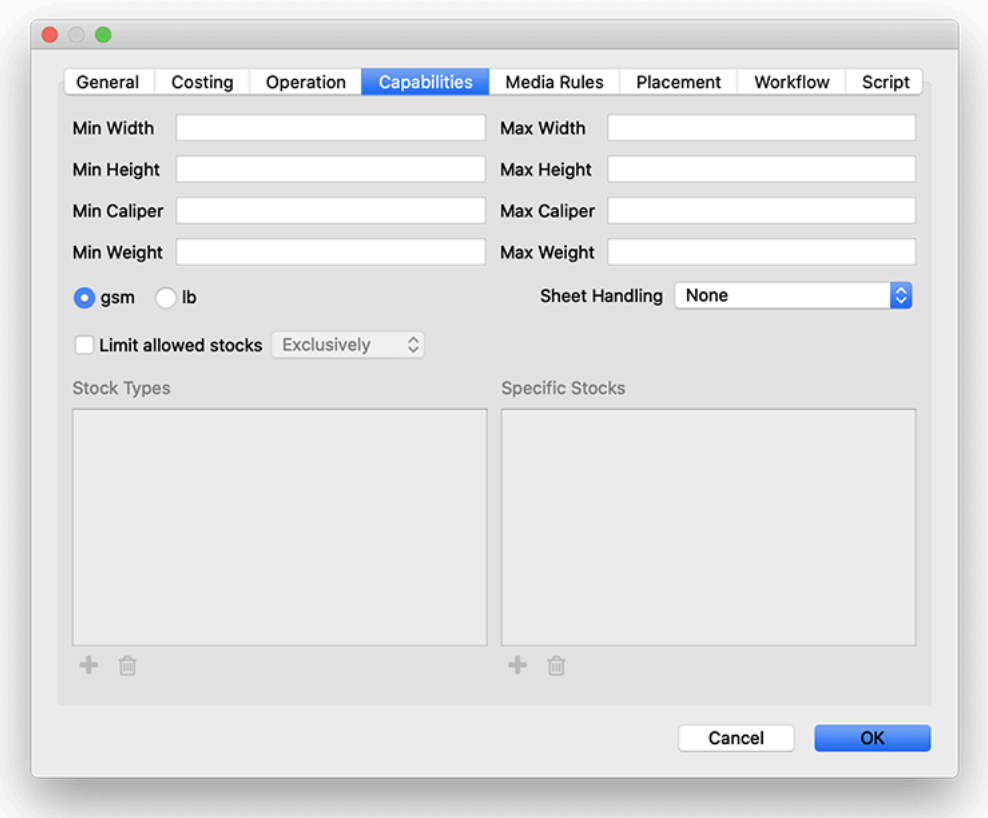
Field	Description
Rate	Cost to operate this press, per time unit specified
Setup Time	How long it takes to setup the device, per time unit specified
Setup Layouts	How many layouts (sheets) the device requires for make-ready
Setup / Color Time	Per-color make ready time
Setup / Color Layouts	How many layouts (sheets) per color are required for make-ready
Minimum Cost Per Layout	Minimum cost required per layout
Minimum Run Length	Minimum run length allowed for layouts
Running Waste	Percentage of project assumed to be waste. Phoenix will compensate for this value.

Operation Properties



Field	Description
Modes	Some devices can run in a specific mode, such as high quality print mode, or efficiency modes. The Modes option allows you to choose the operating costs and speeds for each mode. Modes are described in more detail under the Estimating section of the *Preferences* on page 395 page.
Ink Cost	Define how inks are costed. Choose between click count or ink coverage per area and percent coverage
Speed Type	Define whether the press runs at a fixed speed, or a stepped speed
Speed Units	Choose the units and time for the press speed
Value	Set the speed value

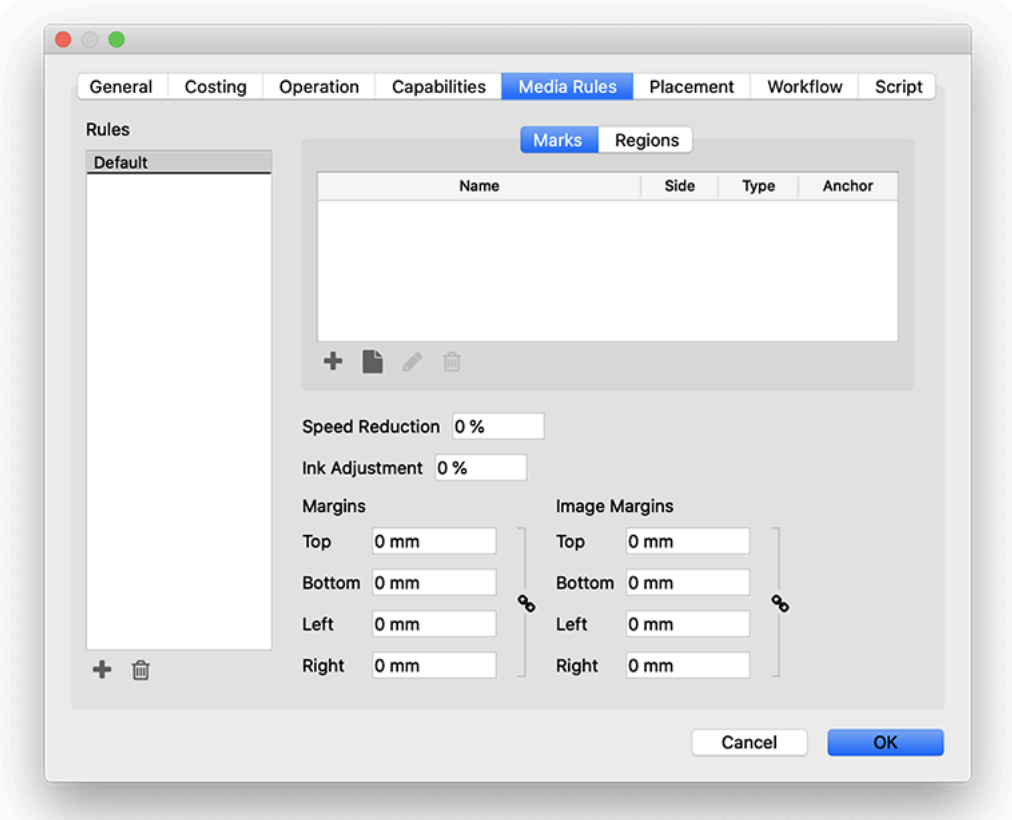
Capabilities Properties



Field	Description
Width	Set the min and max stock width for the press
Height	Set the min and max stock height for the press
Caliper	Set the min and max stock caliper for the press
Weight	Set the min and max stock weight for the press
Units	Choose which weight to use for the stock weight
Sheet Handling	Set how the press handles sheets, either Long Edge Horizontal, Long Edge Vertical, or None
Limit allowed Stocks	Enable if the press should limit which stocks can be run on this press, either Exclusively or Inclusively
Stock Types	Define entire types of stocks to be excluded or included from this press
Specific Stocks	Define specific stocks to be excluded or included from this press

Media Rules Properties

Media Rules allows you to define press settings based on the stock used. The rules column on the left side of the window allows you to select a stock (or the default), and then define the settings for that stock. To set the parameters for your press and media, first add or select the desired stock on the left side, and then define the settings for that stock.



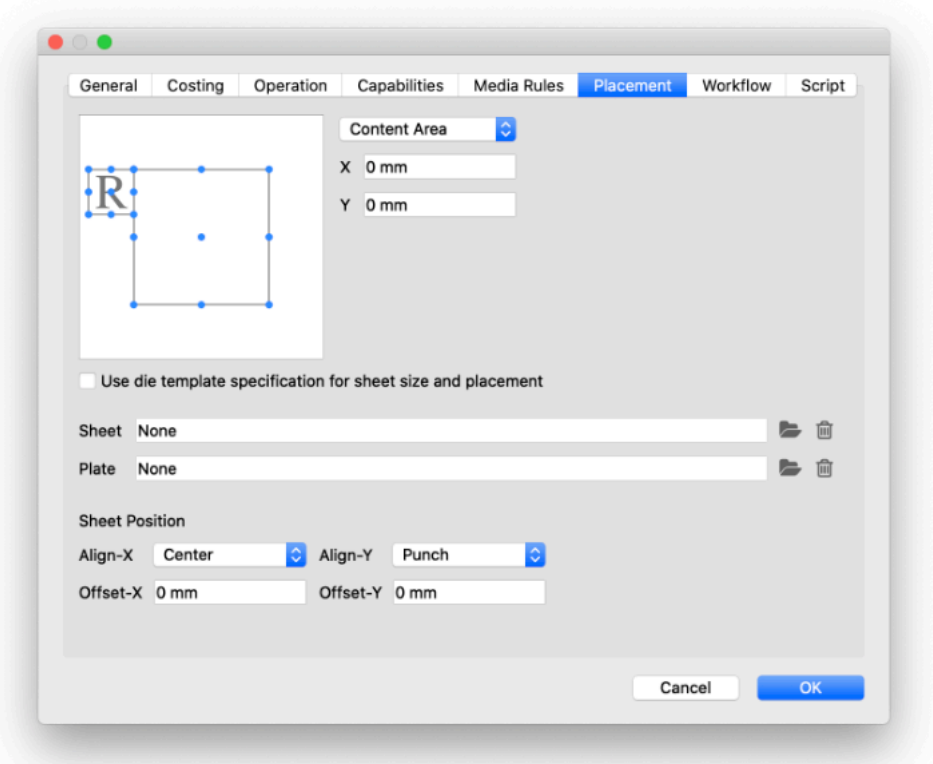
Field	Description
Rules	Add or remove a media rule based on the stocks in your stocks library
Marks	Define marks to be used on this press when the selected stock is used. Once a mark is selected, you can choose which side(s) of the layout it should be applied to - Front, Back, or Both.
Regions	Define regions on the stock where items won't be placed. Regions are defined by **Direction** (Vertical or Horizontal), **Position** (Left, Right, or Center), **Offset**, **Size**, and when they are **Applied** (Always or only for Perfecting layouts).

Field	Description
	These regions can be shown in a layout by enabling the option "Show Regions"
Speed Reduction	Define any possible speed reduction for this media rule
Ink Adjustment	If the selected media requires an adjustment of ink, set it here. For example, a particular stock may require 25% more ink then a different stock based on it's ink absorbing qualities.
Margins	Define the margin where for the media. Margin is the area along the edge of the sheet or roll where no product dieline can be placed. Note that product bleed can extend into the margin, depending on the Image Margins defined.
Image Margins	Define the image margins. Image Margins are the area around the sheet or roll where no image can be printed, regardless of whether or not it is bleed. The Image Margin should always be less than or equal to the Margin value.

Placement Properties



Note: Only the relevant parameters will be available for any given press type. There may be certain parameters that appear in screenshots that do not appear for every press type.

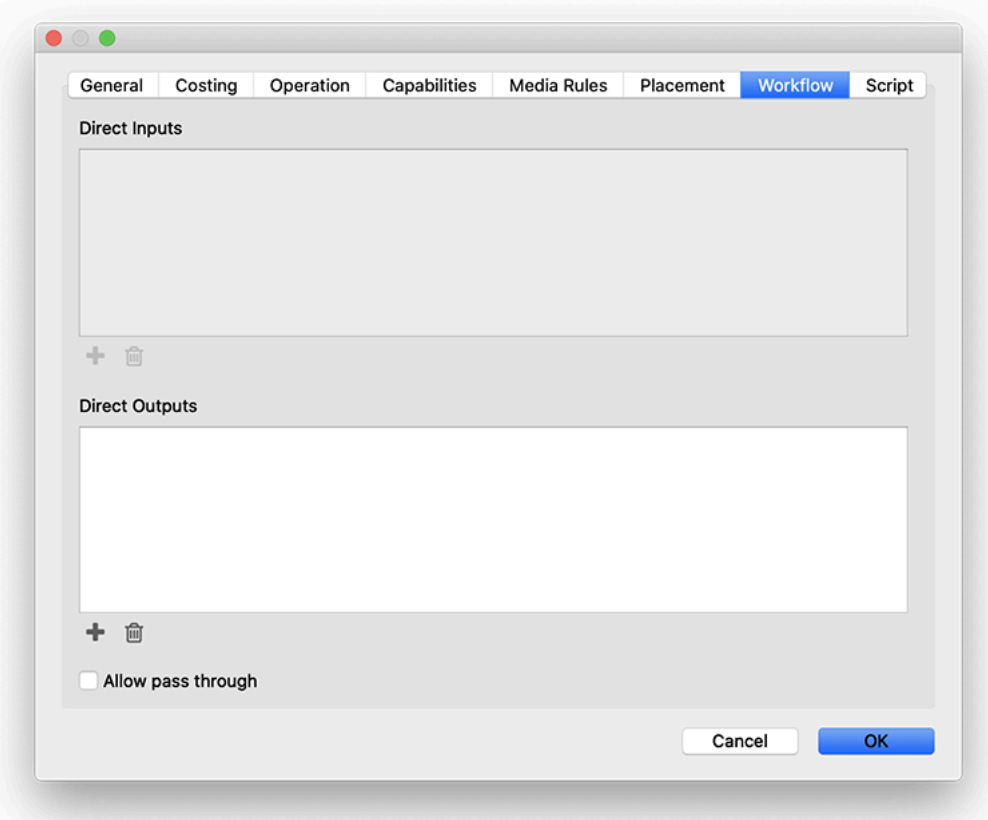


Field	Description
9-Point Selector	The 9-Point Selector is an easy way to visually define placement. The smaller box with the "R" represents the corners and center of the bounds of the sheet, while the outer box represents the corners and bounds of the context area. Click and drag the smaller box to set one of the anchor points of the sheet to an anchor point on the context area. This anchor point is where the sheet will be placed relative to the context area.
Context	Dropdown selection for where the placement is based off of - the Plate, the Sheet, or Content Area (default)
X, Y	Define an x & y offset from the selected location
Use die template specification for sheet size and placement	Option to use the sheet and placement saved in a die template to specify the location of the sheet (if available) instead of manually setting it. The template needs to have a sheet defined in it for this feature to work.
Sheet	Optionally select a default sheet for the press. This will automatically assign the selected sheet when the press is brought into a new layout.
Plate	Optionally select a default plate for the press. This will automatically assign the selected plate when the press is brought into a new layout.

Field	Description
Sheet Position	For offset presses, define the sheet alignment and offset

Workflow Properties

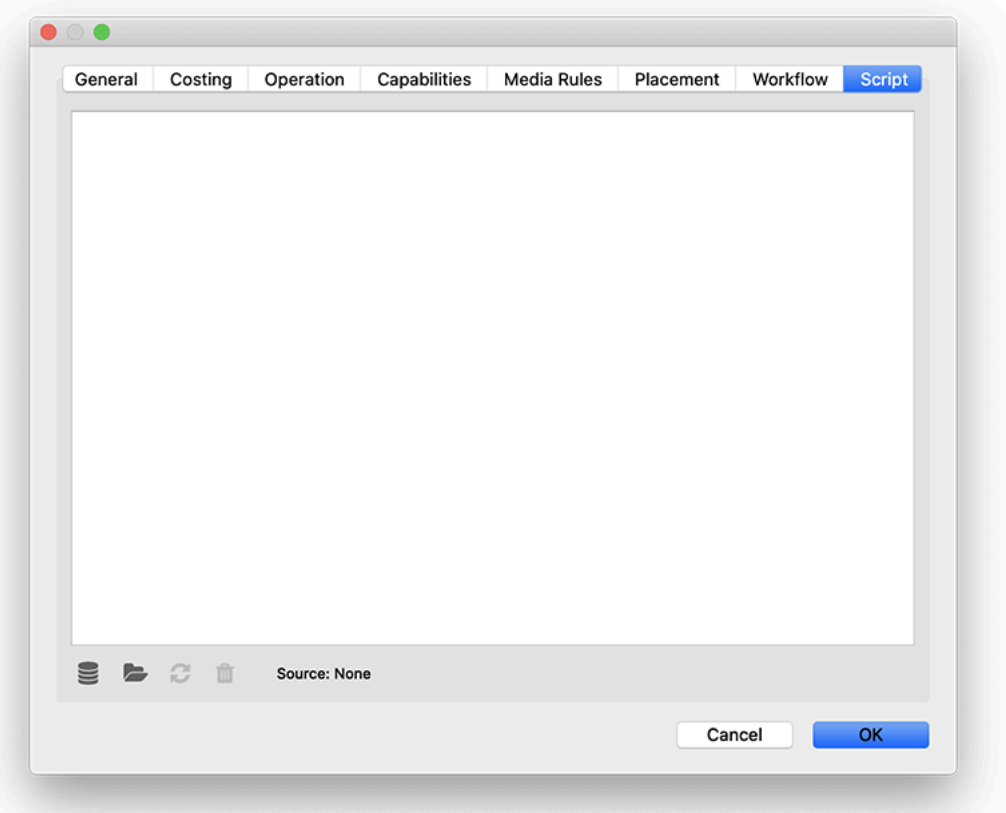
Workflow properties per device can be used to emulate your production workflow within Phoenix. Every process in the print production workflow requires input resources starting with the client's files or artwork and ending with the final bound, packaged and labeled print product. For example, before you can print, you need paper, ink and plates, and before you can send a document to a die cutter line, you need printed sheets and physical die (or the creation of a die).



ield	Description
Direct Inputs	Displays all 'Things' which have this particular 'Thing' defined as a 'Direct Output'. This field is *read-only*.
Direct Outputs	Specify a list of valid ouputs to be used after a product/component has finished this proccessing step. For example, a direct output for a 'Die Making Process' thing is a Flatbed Die Cutter thing. Defining specific Direct

ield	Description
Allow pass through	Outputs forces Phoenix to evaluate many routing options when printing/finishing a product. Allow passthrough means a thing can be part of a workflow but does not have to take part in it's cost/time/etc. *Example: Attaching a coater to a press inline. If allow passthrough is on then coater would be ignored if there wasn't any coating process on the products going through it*

Script Properties



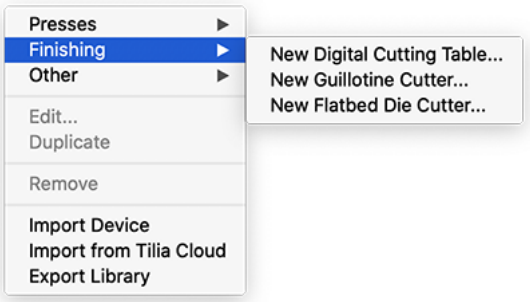
2.5.1.2. Finishing Devices

In Phoenix, a 'Finishing Device' is a physical object which performs activities on printed material after printing. This includes binding, the fastening of individual sheets together, die-cutting, and decorative processes such as die-stamping, embossing, foiling or laminating.

There are currently three different types of Finishing Devices available within Phoenix:

- Digital Cutting Table
- Guillotine Cutter
- Flatbed Die Cutter Cutter

To add a new finishing device, click the dropdown in the top left of the Things panel, and select the type of finishing device you want to add.



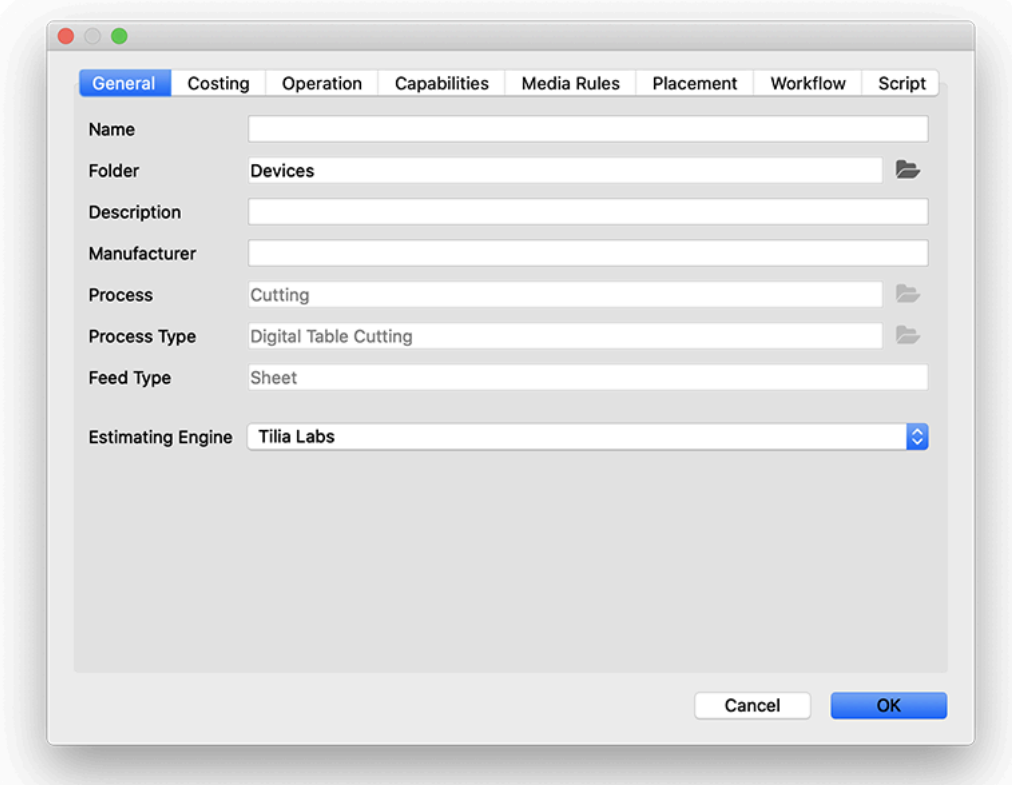
Once you select a finishing device, the Finishing Device Configuration window will appear. The settings vary slightly based on what device is selected.

Note: The finishing devices have many of the same settings as the presses, described above. Any configuration tabs or settings that are duplicated in finishing devices can be found in the Press section, above.

2.5.1.3. Digital Cutting Table

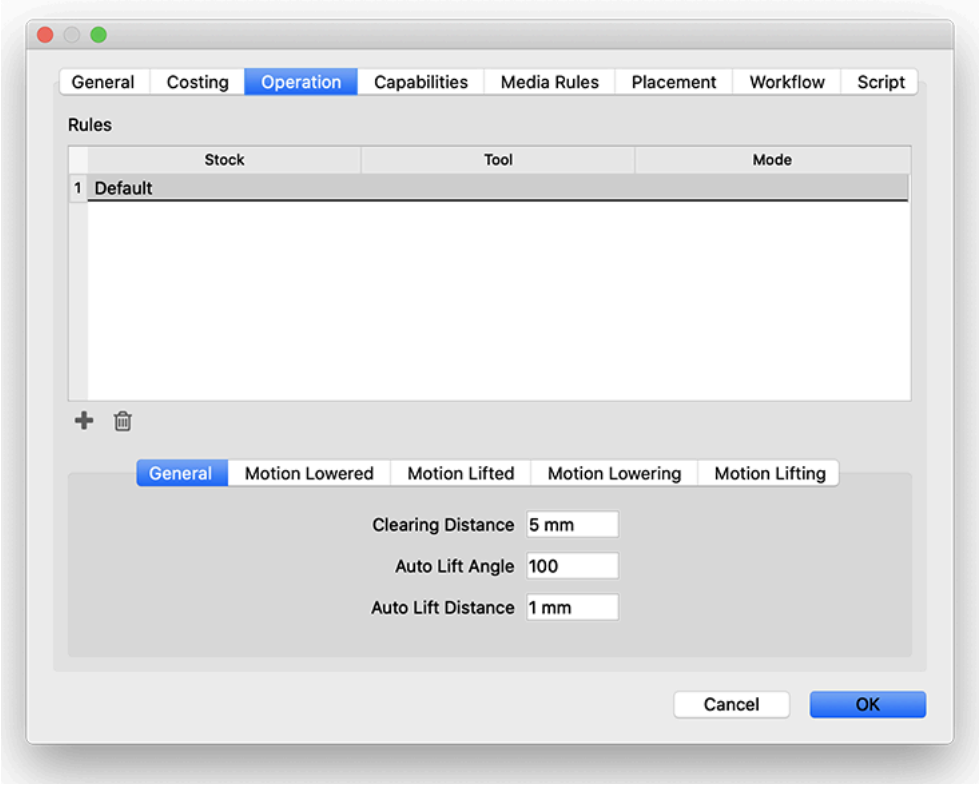
A digital cutting table is a CAD/CAM device such as a Zund or Kongsberg digital cutting table that uses a moving head to drive a tool across a substrate in multiple dimensions (typically x, y, and z). It has the following settings:

General



Field	Description
Estimating Engine	Select the estimating engine for costing. You can choose from Tilia Labs estimating engine, or Zund Cut Center. If using Zund Cut Center, you will also need to specify the hostname and port of the computer running Zund Cut Center. In addition, you can specify a timeout if no connection is established with Zund Cut Center.

Operation



General

Field	Description
Clearing Distance	The full lifting height of the tool when the traverse is moving between disconnected path segments.
Auto Lift Angle	For most CAD/CAM tables, you can set the angle for automatic corner lifting for a tool (typically around 40 degrees). If a direction change of more than the specified value is detected during the cutting process, the table will raise the tool, turn the tool into the cutting direction, and lower again to finish cutting.
Auto Lift Distance	This is the total amount of z-axis lift when the tool is lifting during the auto lift activity.

Motion Lowered

Field	Description
Velocity	The set XY velocity with tool down performing the tool operation
Acceleration	The set XY acceleration with tool down performing the tool operation

Motion Lifted

Field	Description
Velocity	The set XY velocity with tool up moving between path segments
Acceleration	The set XY acceleration with tool up moving between path segments

Motion Lowering

Field	Description
Velocity	The set Z-axis velocity while the tool is lowering
Acceleration	The set Z-axis acceleration while the tool is lowering

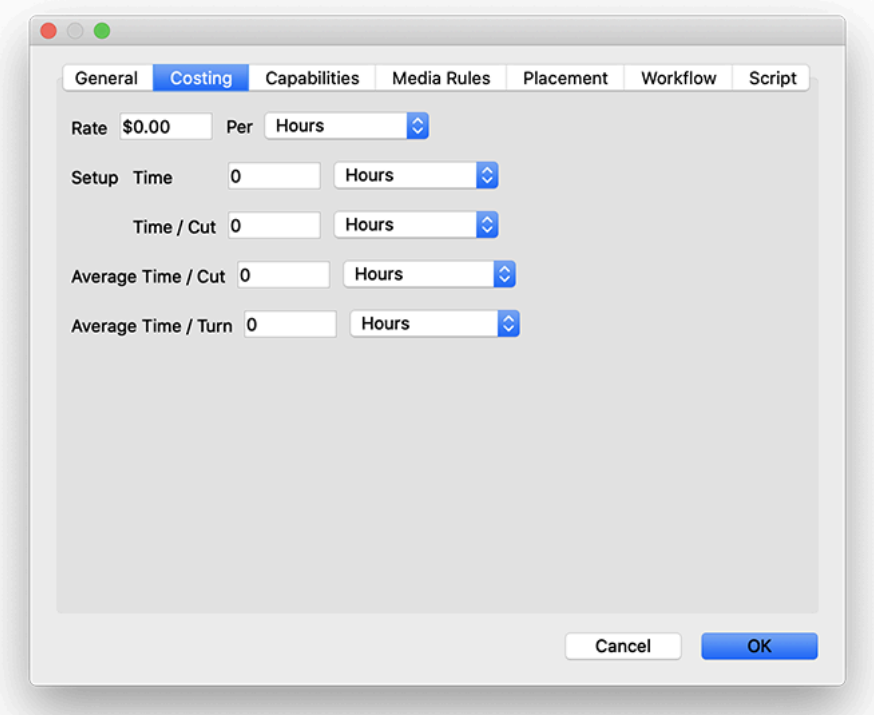
Motion Lifting

Field	Description
Velocity	The set Z-axis velocity while the tool is lifting
Acceleration	The set Z-axis acceleration while the tool is lifting

2.5.1.4. Guillotine Cutter

A guillotine cutter is used to make a single guillotine cut at a time.

Costing

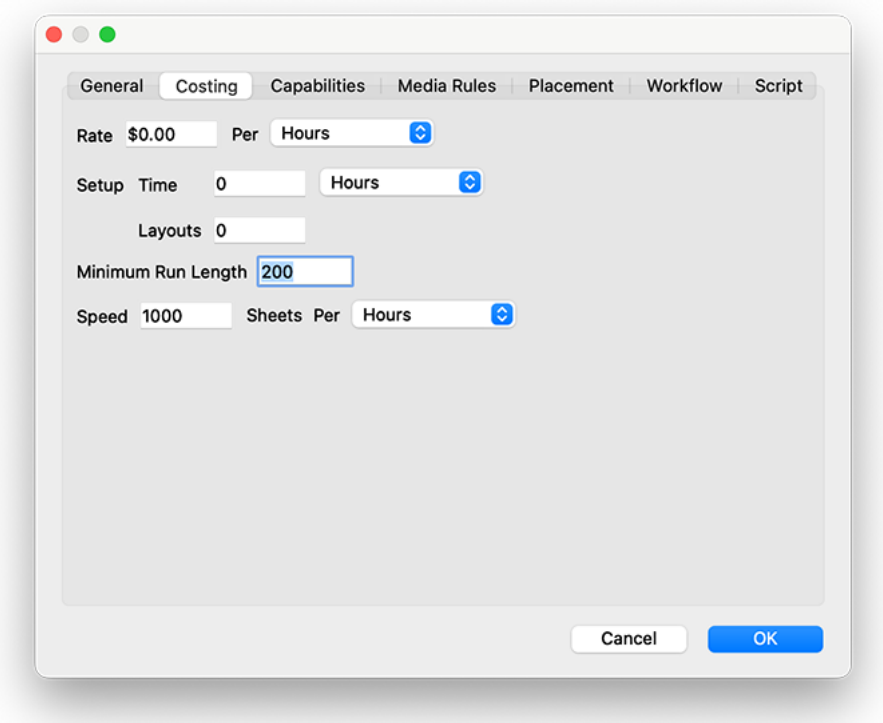


Field	Description
Setup Time	General setup time per layout
Setup Time / Cut	Setup time for each cut
Average Time / Cut	Average amount of time per cut through the stack of material
Average Time / Turn	Average amount of time to turn the stack of material

2.5.1.5. Flatbed Die Cutter

A Flatbed Die Cutter is used *(in conjuction with a die template)* to cut or perforate products of a desired shape out of material using a hydraulic flatbed press.

Costing



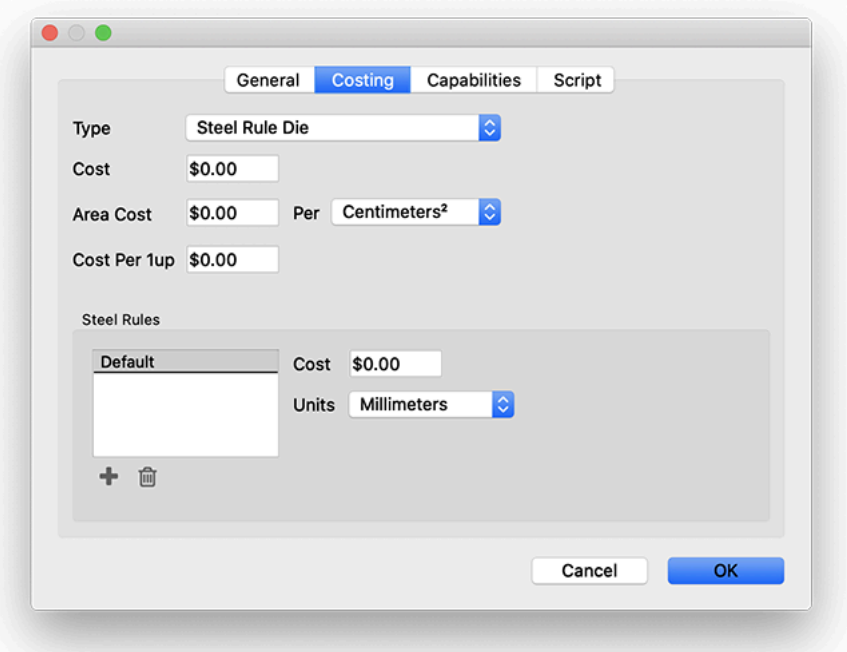
Field	Description
Minimum Run Length	Sets the minimum run length needed to use this Die Cutter
Speed	Speed of the die cutter
Speed Units	Speed units

Other Settings

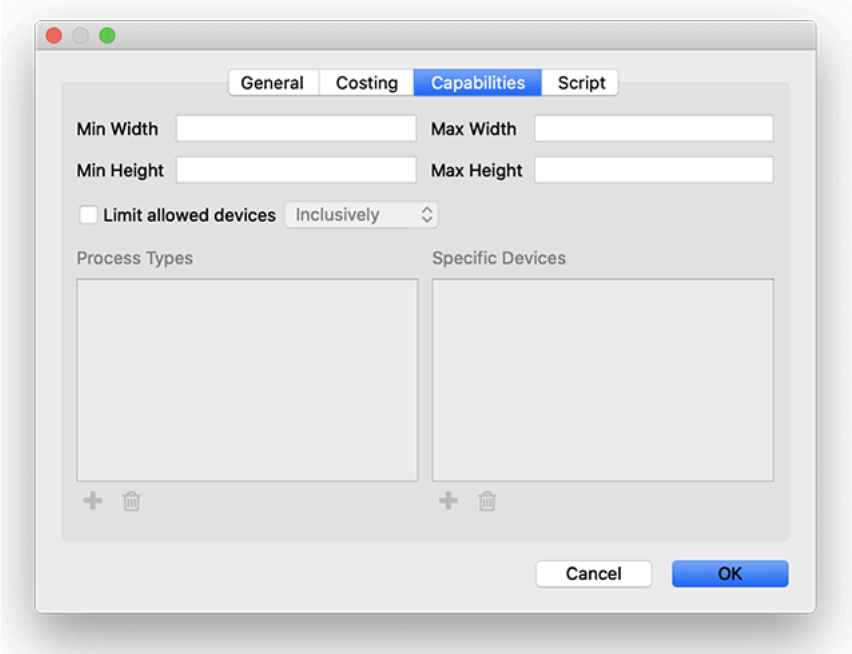
The remaining device configuration tabs are the same as the press tabs defined above

2.5.1.6. Die Making

The Die Making Process describes the production of tools for a die cutter (e.g., in a die maker shop).

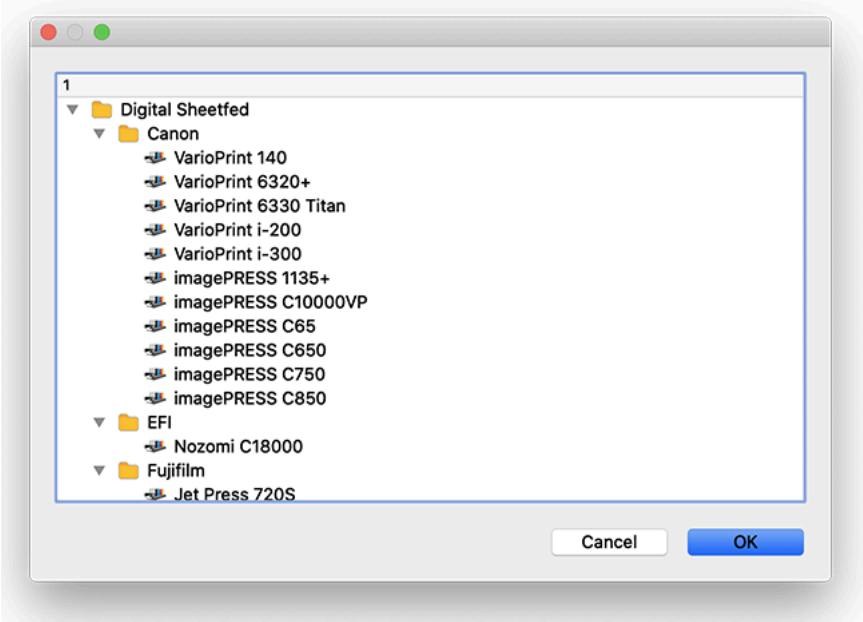


Field	Description
Type	Specify the type of die - Steel Rule, Solid, or Flexible
Cost	Define the cost of each die
Area Cost	If the die is costed by area, specify the cost here.
Cost Per 1up	If the die is costed per 1-up, specify that cost here.
Steel Rules	For Steel Rule dies, define a linear cost per tool type, or specify a default cost.



Field	Description
Width and Height	Specify the max and min width and height for dies created with this device
Limit Allowed Devices	Optionally limit what process types or devices can or cannot be used with this device. **Inclusively** means that only selected process types or devices below can be used with this device. **Exclusively** means that this device will not work with any selected process types or devices selected below

2.5.1.7. Importing Things from Tilia Cloud



You can import things that have been preconfigured via Tilia Cloud. Click the dropdown in the top left of the Things panel, and choose "Import from Tilia Cloud". This will bring up the dialog shown above, which allows you to search the Tilia Cloud library for hundreds of common devices.

This is a good place to start to add things to your library. Keep in mind that the things in Tilia Cloud have been configured to the manufacturer's specifications and do not include costs, so you may need to adjust the capabilities and parameters to suit your exact environment.

2.5.2. Stocks

Stocks represents the type of material that will be used for printing. This can be any type of material, such as gloss paper, matte paper, plastic, cardboard, and so on. Stock properties consist of name, an optional description and vendor, as well as stock type. Stocks also have a grade, as well as sheets and/or rolls.

Grades

A grade is a specific thickness and weight of a particular Stock. Grade properties consist of thickness in mm or mil, weight in gsm or lb, and cost. Each Grade also has a list of available sheets and/or rolls associated with it.

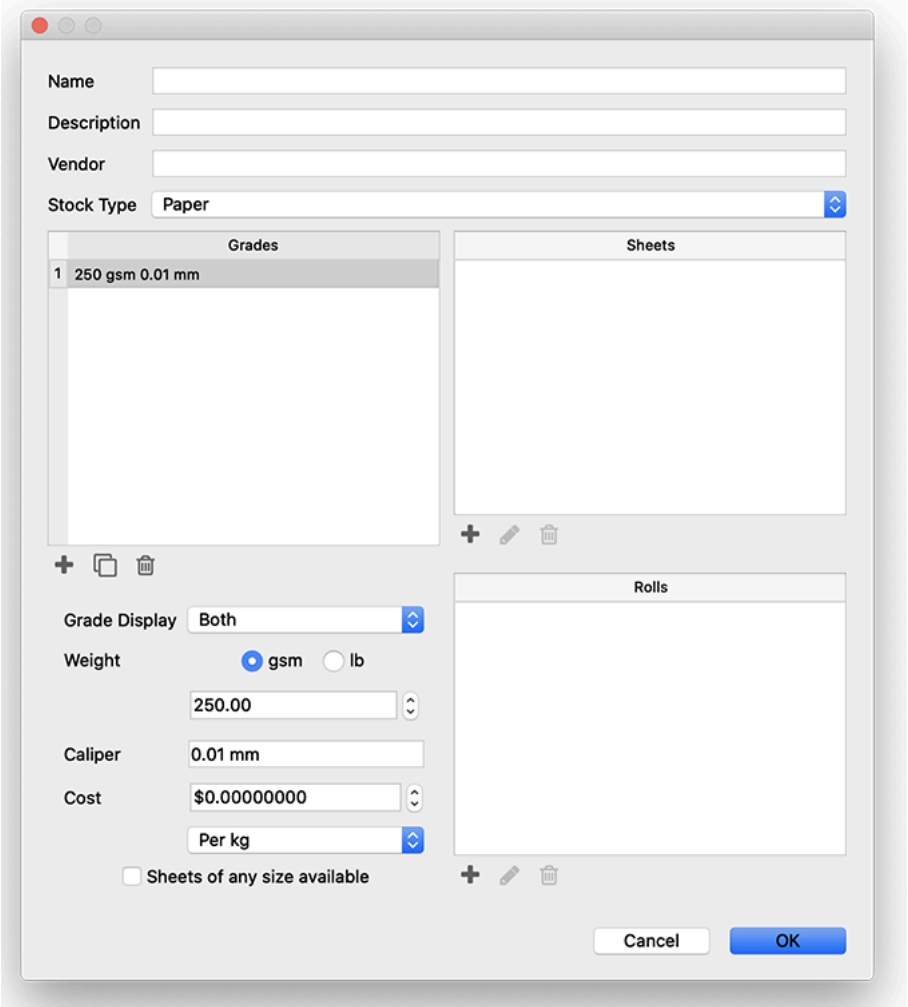
Sheets

Sheets are a piece of a Stock of a particular Grade at specified dimensions. Sheet properties consist of width, height, cost, and grain direction.

Adding Stocks

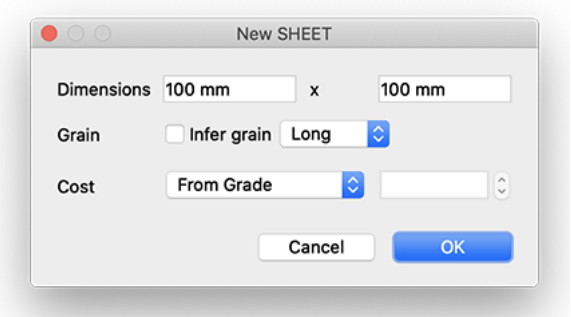
To add a stock to Phoenix, navigate to the Stocks panel, and click the dropdown in the top left. Choose New Stock...

The following dialog will appear, allowing you to configure the stock with the options below:



Field	Description
Name	Unique name of the stock
Description	Optional description of what the stock is
Vendor	Optional field for stock vendor name
Stock Type	Define the type of stock. This list is populated by the stock types configured in Preferences > Estimating > Stock Types and is described further in the *Preferences* on page 395 page.
Grades	List of grades of this particular stock. There is no limit to the number of grades, and grades can be added, duplicated, or removed by clicking the icons below
Grade Display	Whether grade is defined by weight, caliper, or both
Weight	Weight of the selected grade of the stock
Caliper	Caliper of the selected grade of the stock

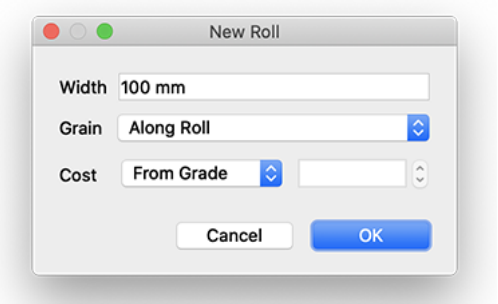
Field	Description
Cost	Define a cost at the grade level for all sheets or rolls of this grade
Sheets of any size available	When enabled, Phoenix will not be restricted to a particular sheet size, but can use any sheet size from this grade and stock. This option is useful if you sheet your own stock, as Phoenix's Imposition AI tool will create a sheet for the resulting layout that fits the size of the press.
Sheets	Define a sheet size for the selected grade. See below for New Sheet options.
Rolls	Define a roll size for the selected grade. See below for New Sheet options.



Field	Description
Dimensions	Define the height and width of the sheet
Grain	Optionally infer the grain direction from the dimensions, or specify a specific grain direction
Cost	Assign costing at a sheet level

Rolls

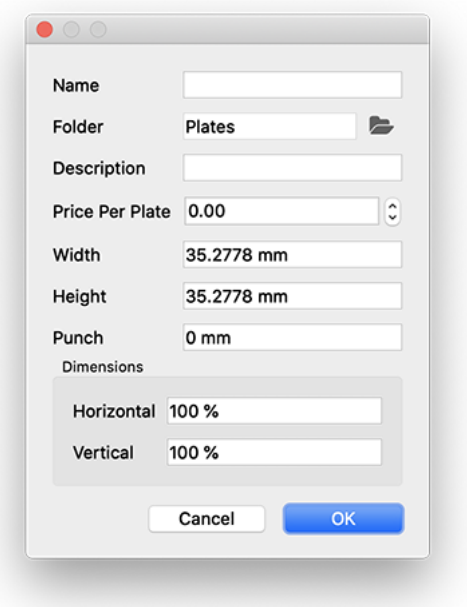
Rolls represent actual rolls of a Stock of a particular Grade at a defined width. Rolls have the properties of roll Width, Grain, and Cost.



Field	Description
Width	Define the width of the roll
Grain	Specify the grain direction of the roll
Cost	Assign costing of the roll, either from the grade, per weight, or per area

2.5.3. Plates

Plates are a direct representation of the plate that is used on press, whether Offset or Flexo. Plate properties consist of cost, width and height, punch height, and horizontal and vertical distortion. To create a plate, navigate to the Plates panel, click the dropdown in the top left, and select New Plate...



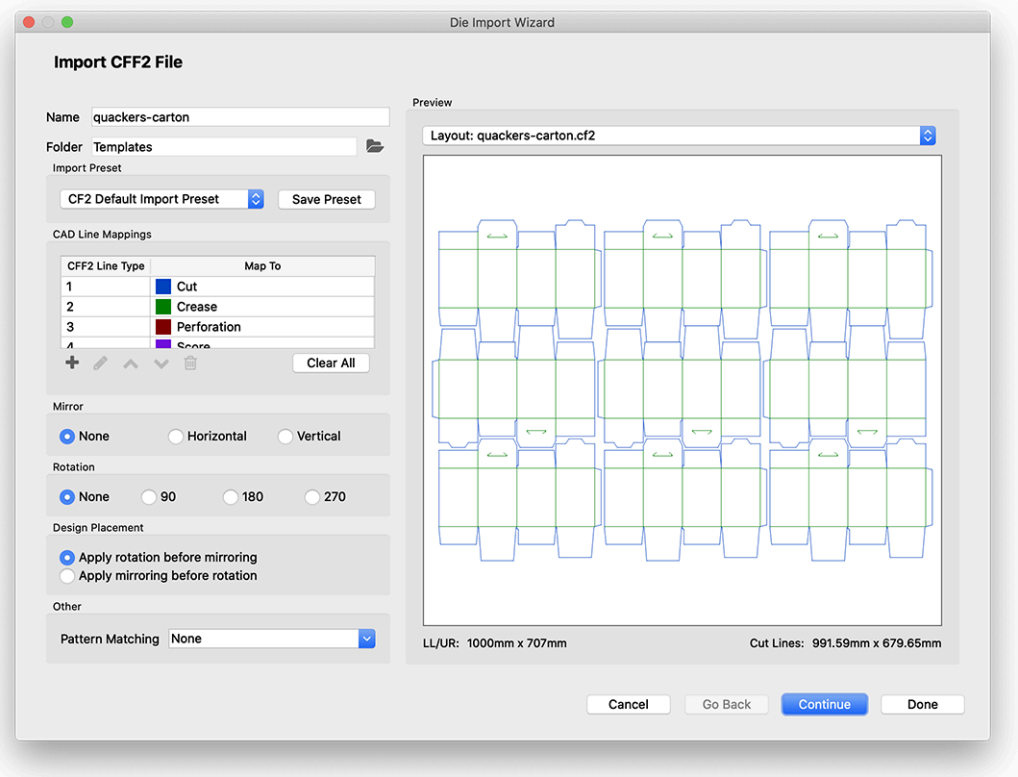
Field	Description
Description	Optional description for the plate
Price Per Plate	Cost per plate
Dimensions	Plate dimensions
Punch	Punch Height
Dimensions	Plate distortion in horizontal and vertical dimensions

2.5.4. Templates

Templates are used to specify a pre-defined position for one or many product when being imposed on a sheet. In many cases, templates are physical steel rule dies used in finishing.

Phoenix uses templates to intellignetly 'snap' artwork to die templates by using shape-detection algorithms, taking the guess-work out of impositioning and eliminting human errors when imposing to existing tooling. Phoenix ensures graphics snap to the dieline (automatically handling front & back artwork) and even notifies the end-user when the artwork does not match the dieline perfectly.

Templates can be built manually, or imported *(requires CAD module)* from industry standard CAD file formats *(ARD, MFG, PDF, AI, CF2, DXF, DDES, etc...)*. This allows you to store existing tooling direclty inside of Phoenix to be used and detected automatically during the imposition process.



Field	Description
Name	Name given to the imported template which will be displayed in the 'Templates' library.
Folder	Templates Library folder which the imported template will be stored. Default is 'Templates' folder which stores the imported template in the Root of the Templates library.
Import Preset	CF2 import preset to be used during the import. The Import Preset specifies CFF2 line type mappings.
CAD Line Mappings*	Editable list of mappings to map CFF2 line types to Phoenix Tool Types.
Mirror	During template importing, you can Mirror the imported geometry Horizontally or Vertically. This is useful for

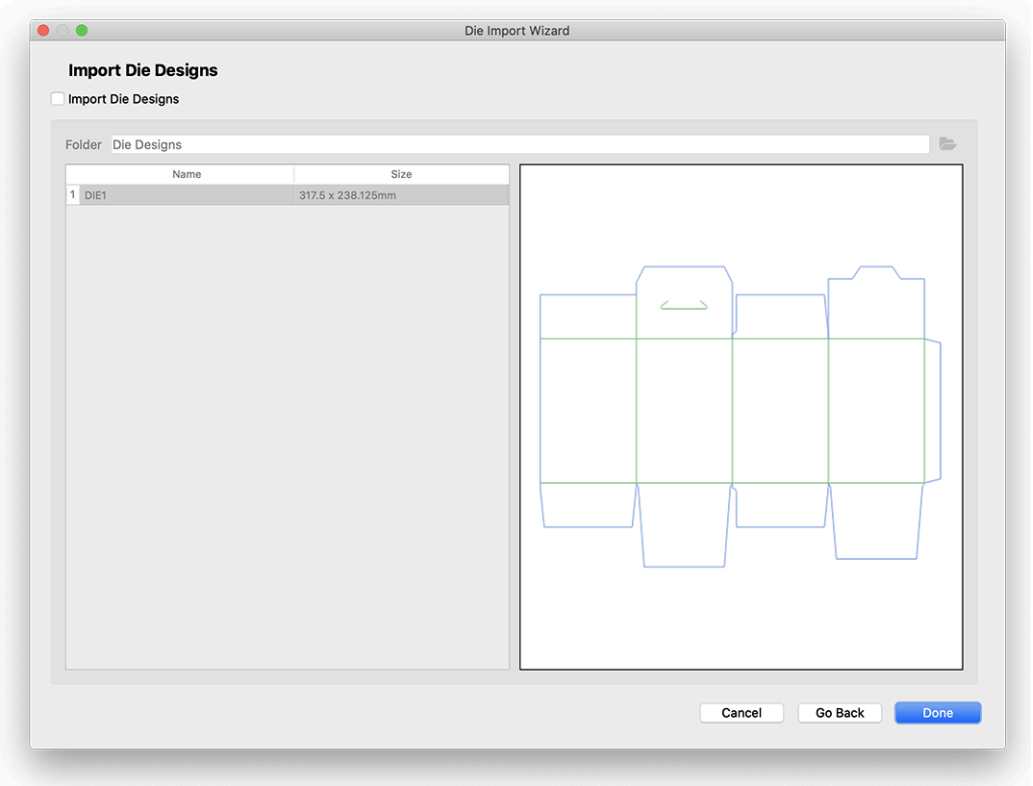
Field	Description
	scenarios when you want to create inside or outside layouts without needing to create a new CAD file.
Rotation	Rotation allows the import wizard to rotate the imported geometry 90, 180, or 270 degrees if required for your imposition needs.
Design Placement	When mirroring and rotating during import, use 'Design Placement' to specify the order of operations. 'Apply rotation before mirroring' or 'Apply mirroring before rotation'
Pattern Matching**	**None:** Do not run any special pattern matching processes during import **Merge Similar 1-ups:** Find 1-ups that are defined separately in the CAD file but are identical and treat them as the same during import. **Advanced Pattern Matching:** Searches all paths that are not clearly defined in a 1-up die to find common elements and infer 1-up dies from them. Before 6.1, this algorithm was used only with PDF die import where there are no clearly defined 1-ups. This option is useful when all paths in the CAD file are lumped together instead of being properly defined as stepped up dies. **Advanced Shape Detection:** Shape detection will run pattern matching first on any non-die paths, and then do an additional step of finding die candidates from closed paths. This step can be significantly more time consuming but has the ability to find single instances of 1-ups in the CAD layout that cannot be found using Advanced Pattern Matching. **Fix Common Knife Cuts** For CAD files with common knife cut path segments, some or all dies can be defined with the common section omitted, instead relying on neighboring dies or lines defined in the main section of the CAD format to define common cuts. Commonly, this can result in holes in the imported die. The Fix Common Knife Cuts option will auto-detect common knife cut segments in CAD files and ensure that that all missing common segments are included in the imported dies so they can be processed correctly.
Preview	The Preview window displays a preview of the imported die template. At the top of the Preview Section, click on the dropdown and select the 1-up Design to make it easier to change line mappings of the die.

*You can also right-click on lines in the 'Preview' window to map CFF2 line types interactively.

**Note: all five options are available for all CAD formats except for in the case of PDF where advanced pattern matching is always needed to infer the CAD structure since the PDF

specification does not define 1-up dies, which means only Advanced Pattern Matching and Advanced Shape Detection options are available during PDF die import

Import Die Designs



Field	Description
Import Die Designs	If checked, you can optionally import the 1-up designs to the Phoenix 'Die Designs Library' that were identified inside the die template.
Folder	Die Designs Library folder where the imported 1-up die design will be stored. Default is 'Die Designs' folder which stores the imported 1-up die design in the Root of the Die Designs library

Use Grain Direction From MFG/ARD

New in version 23.3, Phoenix can detect the grain direction within ArtiosCAD files. To use this grain direction, enable the preference **Use grain direction from cad data when available** within **Preferences** > **Product**.

After enabling this, any products created from or using a Die Design that had grain direction in the cad file will have that grain direction set.

Import Die Template Shortcuts

Templates can be imported normally by using the File menu and selecting "Import Die Template..." to use the default import preset for the given CAD format defined in **Preferences** > **Die Import**.

They can also be imported and placed into the current layout in a single action by selecting "Place Die Template..." instead, or by simply dragging and dropping a CAD file format (CFF2, DXF, DFS, etc...) on the new job canvas.

You can also import die layouts using the interactive Die Import Wizard to interactively define and confirm line mappings, choose a different import preset or define a new preset. To do this normally, select the "Import using Die Import Wizard" and "Place using Die Import Wizard" options from the File menu.

Import actions are also accessible from the action menu in the Templates panel (small triangle in the upper left corner).

Place Die Template Shortcut

Shortcut: Drag and Drop CAD File

Description: Dropping a die layout CAD file directly into Phoenix while in Layout View will import the layout as a die template using the default import preset for the given CAD format and place it in the current layout being viewed. If no default import preset is defined for the CAD format the Die Import Wizard is launched.

Place Using Die Import Wizard Shortcut

Shortcut: Control + Drag and Drop CAD File

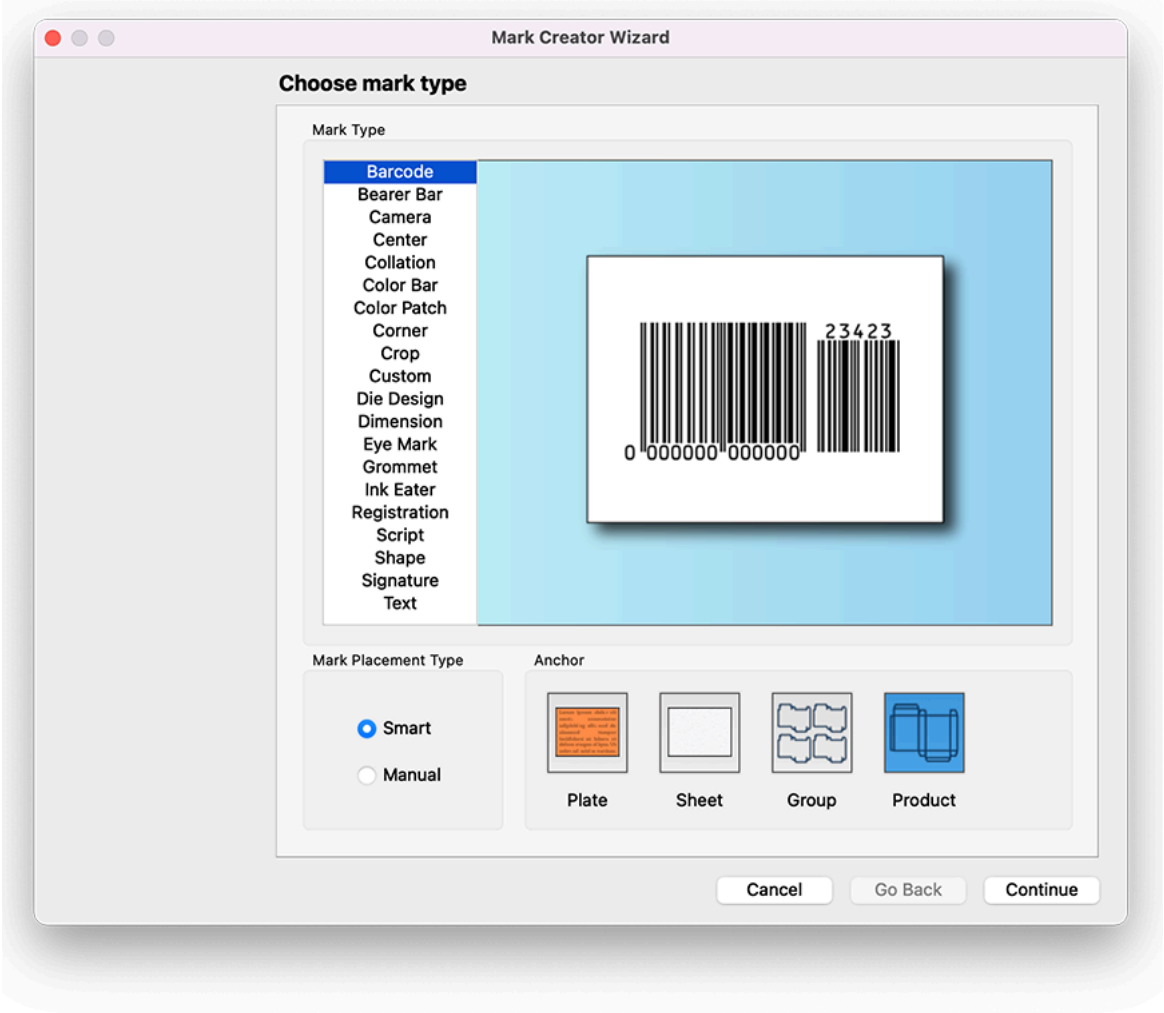
Description: To force the Die Import Wizard to be used to import and place the CAD file, hold down the Control key while dropping the file into Phoenix.

2.5.5. Marks

There are 18 different types of marks available within Phoenix, plus an optional Script Mark available with the Scripting module that allows you to create any mark you can think of.

To create a new mark (or modify an existing one), navigate to the Marks panel, and select "**New Mark...**" from the dropdown in the top left of the panel.

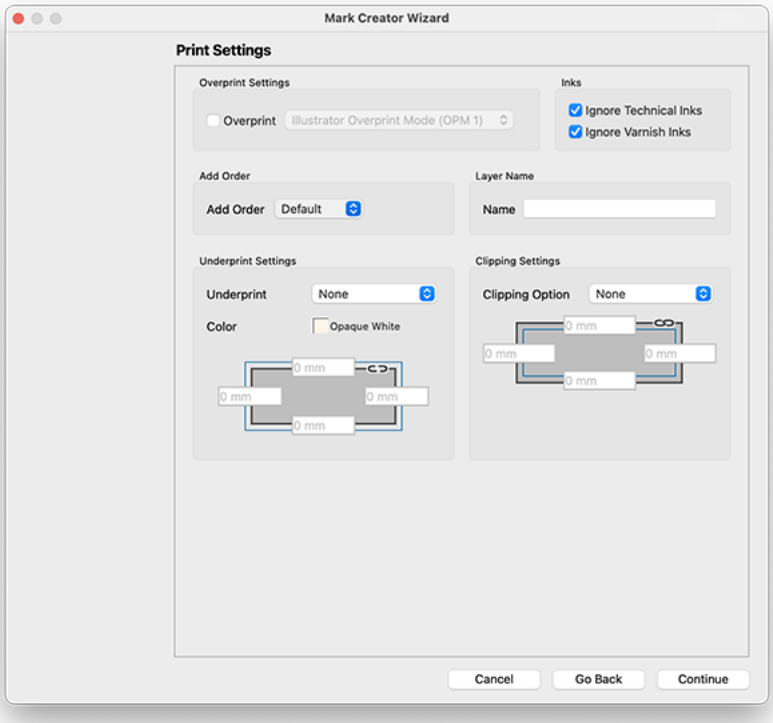
This will open the Mark Creator Wizard, which will allow you to select the type of mark, as well as how it will be placed. The screens in the Mark Creator Wizard will vary based on the options selected. After the settings are chosen for each screen, use the navigation buttons at the bottom right of the window to either Continue, Go Back, Cancel, or complete the wizard by clicking "Done."



Field	Description
Mark Type	Select your mark type. As you click on each type, the preview will change to reflect the mark you have selected
Placement Type	Choose whether to place the mark manually, or using Smart placement. Smart placement will attach the mark to an anchor, as selected below
Anchor	If Smart placement is selected, choose to anchor the mark to the Plate, the Sheet, a Group, or an individual Product. Exact placement will be determined in the final step of the Mark Creator Wizard.

Print Settings

Every mark has the same print settings options. Here, you can define how the object will print, including overprint, whether to ignore ink types, the layer name, underprint, and clipping

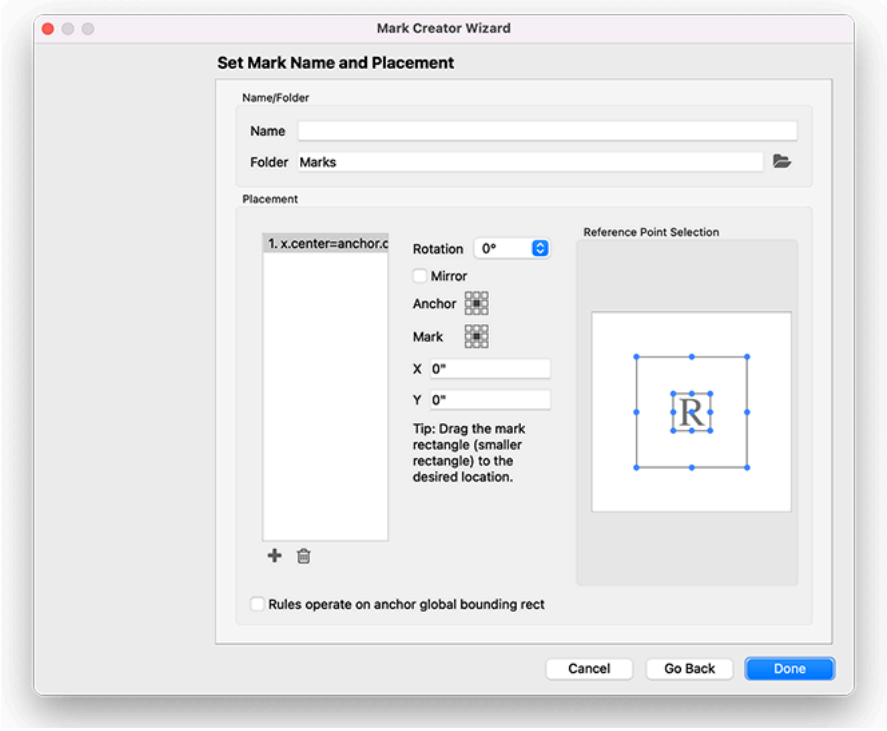


Field	Description
Overprint Settings	Option to enable overprint for the mark, and if so, which overprint **Mode** to use.
Inks	• **Ignore Technical Inks**: Option to ignore technical inks in the **Color** of the mark • **Ignore Varnish Inks**: Option to ignore varnish inks in the **Color** of the mark
Add Order	This field allows you to control the order of the mark in the layout: • **Add First**: Places the mark below all other items in the layout. • **Default**: No specific order is applied. • **Add Last**: Places the mark on top (useful, for example, for color bars). **Note:** • For camera marks, Fotoba marks, and waste dividers, this option is not editable; it's set to **Add Last** because these marks must always be placed on top so the device sensor can detect them.

Field	Description
	• The selected option is applied when *adding* the mark and when running Imposition AI. • The actual order of the mark can later be changed via the context menu in the Items panel (**Bring to Front**, **Bring Forward**, **Send Backward**, **Send to Back**).
Layer Name	This field allows you to specify which output layer the mark is placed on. If a value is set here, a layer will be created with the layer name specified. If no value is set, no layer is created for the mark, and it is placed with the rest of the layout artwork.
Double-sided	Option available in some mark types to mirror the mark to the back side if the item is double-sided
Underprint	Option to add underprint, in the specified color, to the mark.
Clipping Option	Option available in some mark types to clip the mark to the anchor bounds. You can specify a margin inside the bounds to clip the mark so that it doesn't extend past the bounds.

Mark Placement

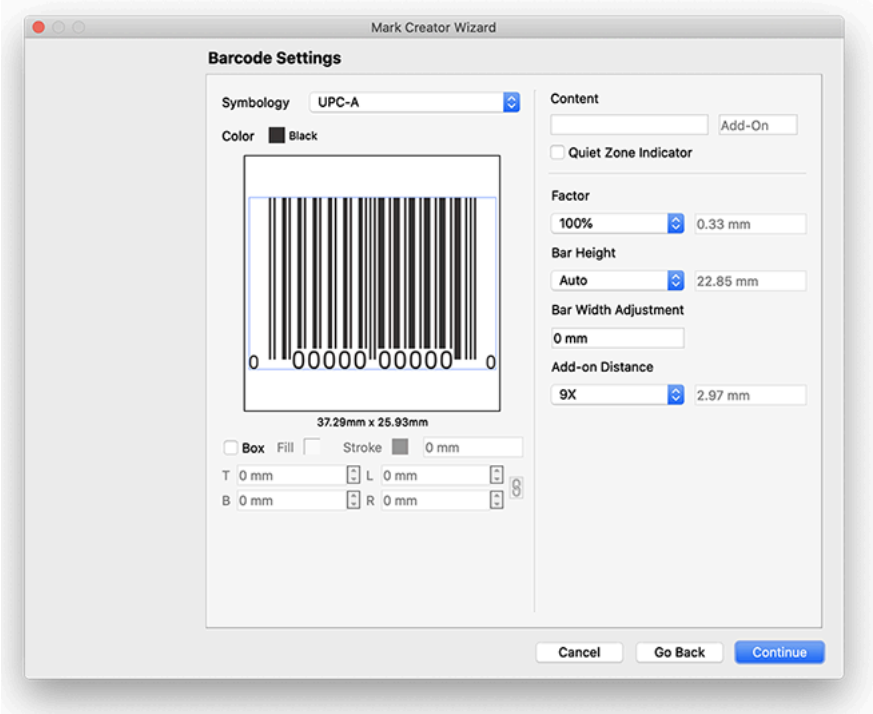
When Smart Mark Placement Type is chosen, the Mark Placement screen will be available. This screen allows you to define how the mark will be placed relative to the anchor.



Field	Description
Name	Give the mark a unique name
Folder	Optionally, select a folder within the Marks panel for organization
Placement Instance	By default, one instance of the mark is created. You can add additional instances with unique placement for each by clicking the Add button at the bottom, or remove instances, by selecting the instance you want to remove, and clicking the remove button.
Rotation	Rotate the selected mark instance in 90° increments
Mirror	Mirror mark horizontally. Useful for backside printing on transparent materials
Anchor	Select from the 9-point grid where the mark should be placed relative to the anchor. This grid represents the anchor. For instance, if you want the center of the mark to be placed on the center of the anchor, select the middle of this 9-point grid and the middle of the Mark 9-point grid. If you want the center of the mark to be anchored to the bottom left of the anchor, select the bottom left of this 9-point grid and the middle of the Mark 9-point grid.
Mark	Select from the 9-point grid where the mark should be placed relative to the anchor. This grid represents the mark. For instance, if you want the top right of the mark to be placed on the top left of the anchor (so that the top of the mark is aligned to the top of the anchor, and the mark sits to the left of the anchor), select the top right of this 9-point grid and the top left of the anchor 9-point grid. If you want the bottom left of the mark to be anchored to the bottom left of the anchor, select the bottom left of this 9-point grid and the bottom left of the Mark 9-point grid.
X and Y	Define how the mark should be transformed horizontally and vertically from the anchor point. A positive X value moves the mark to the right, and a positive Y value moves the mark up.
Reference Point Selection	This graphic provides an alternate representation of the Anchor and Mark selections. As you make changes to the Anchor, Mark, or the Reference Point Selection, the others will update to reflect the change.
Rules operate on anchor global bounding rect	Define position and rotation based on the global bounding rectangle of the anchor item.

2.5.5.1. Barcode

Barcode marks allow you create one of 14 common barcode types. The barcode parameters will vary based on the symbology chosen, but many of the parameters are common to all barcode types.

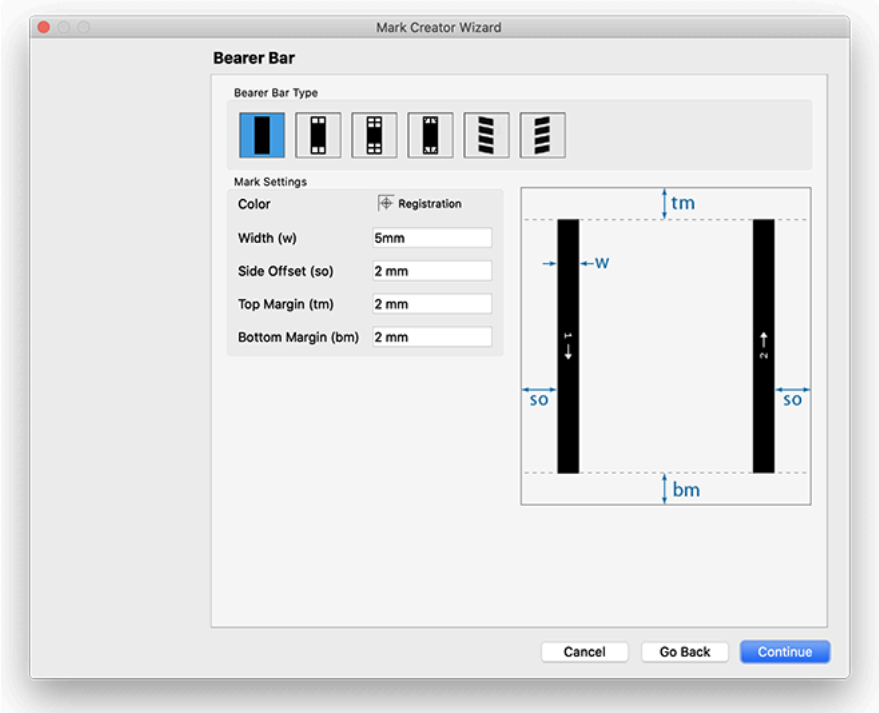


Field	Description
Symbology	The type of barcode desired. Supported Barcode types are Aztec, Codabar, Code 39, Code 128, Data Matrix, EAN-8, EAN-13, Interleaved 2 of 5, One-track Pharmacode, Two-track Pharmacode, POSTNET, QR Code, UPC-A, and UPC-E
Color	Define the Color of the barcode
Box	Option to create a box around the barcode. You can define the fill and stroke colors, stroke size, as well as extra margin around the **T**op, **B**ottom, **L**eft, and **R**ight of the amrk.
Content	The data to be encoded in the barcode. This field is dynamic keyword enabled, meaning that you can have the content automatically populated with data from the project. To use a dynamic keyword, enter **<** in the content field, and either type or click the dynamic keyword you want to use. For more on keywords, check out *Dynamic Keywords*. For applicable barcode types, an Add-On content field is available.
Quiet Zone Indicator	A quiet zone adds a margin around the outside of the mark to make scanning easier.
Factor	Scales the barcode by the specified factor
Bar Height	Defines the height of each bar

Field	Description
Bar Width Adjustment	Adjust the width of the bar to account for the printing process
Add-on Distance	If Add-On content is sepcified, this field defines how far the add on is away from the primary barcode content.

2.5.5.2. Bearer Bar

Bearer Bars are two solid bars added to either side of a layout that run the length of the layout, generally for flexo printing.

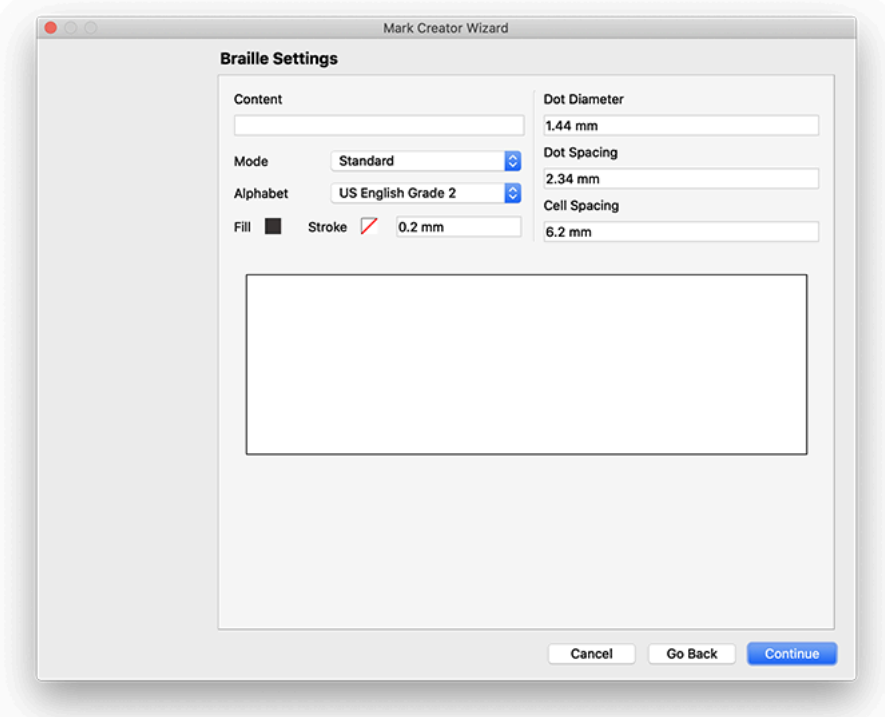


Field	Description
Bearer Bar Type	Select the type of bar you prefer. As you select each option, the preview will update to show you how they will appear. The graphic representatin includes callouts with arrows and letters that correspond to each setting below.
Color	Define the **Color**of the bar. By default the **Color**is registration.
Width	Set the width of each bar.
Side Offset	The offset distance from the outer vertical edge (left and right) of the layout to where the bar starts.

Field	Description
Top Margin	The margin distance from the top of the layout to where the bar starts.
Bottom Margin	The margin distance from the bottom of the layout to where the bar starts.
Thickness	For certain Bearer Bar Types, thickness refers to the stroke width of the lines that appear in the bearer bar.
Repeats	For certain Bearer Bar Types, the number of repeated sections in each bar
Step Height	For certain Bearer Bar Types, the step distance between bearer bar patches
Patch Height	For certain Bearer Bar Types, the height of each bearer bar patch

2.5.5.3. Braille

With the optional Braille module, this marks allows you to dynamically create braille.

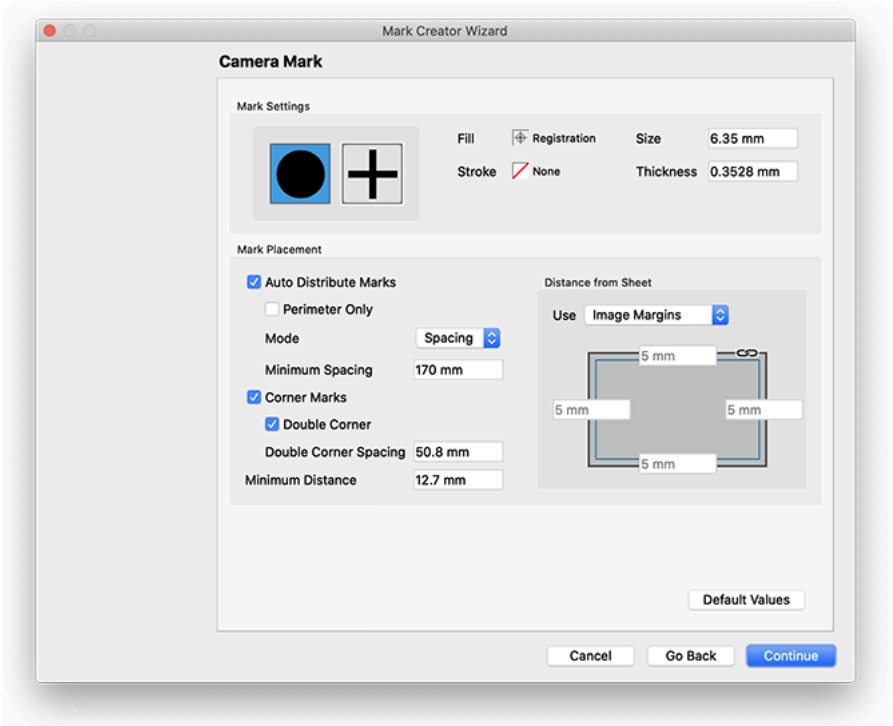


Field	Description
Content	The data to be represented with brailled. This field is dynamic keyword enabled, meaning

Field	Description
	that you can have the content automatically populated with data from the project. To use a dynamic keyword, enter < in the content field, and either type or click the dynamic keyword you want to use. For more on keywords, check out *Dynamic Keyword System* on page 250.
Mode	Choose between Standard braille or ADA Compliant braille.
Alphabet	Select which braille alphabet to use
Color	Define the **Color** of the braille mark
Dot Diameter	Set the diameter of each braille dot
Dot Spacing	Set the spacing between dots within a cell
Cell Spacing	Set the spacing between each cel

2.5.5.4. Camera

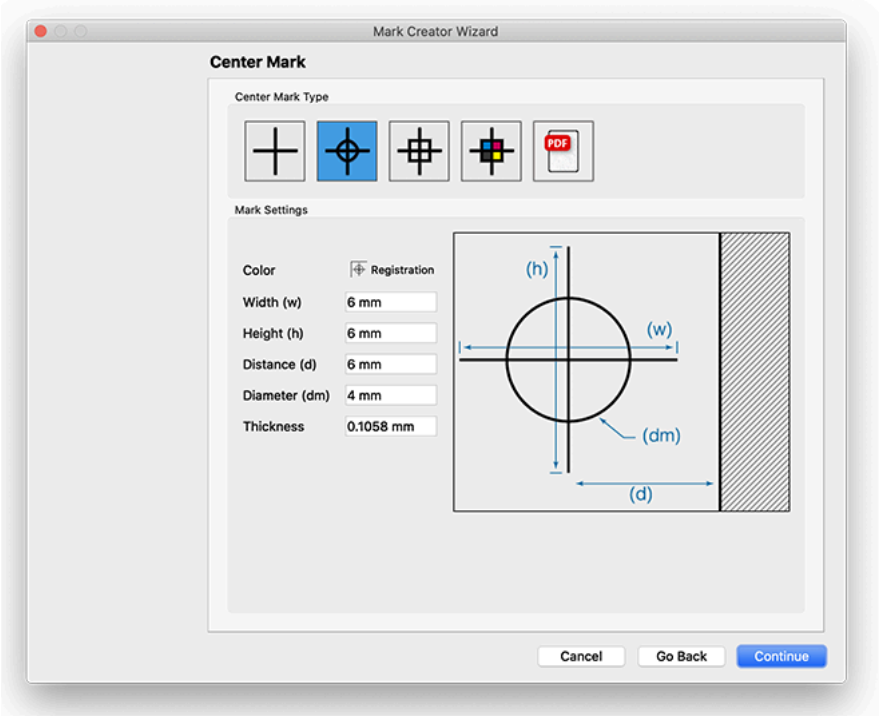
Camera marks are designed for items that need to be cut out on a table cutter equipped with a camera. These marks enable a camera on the table to align with the printed piece and ensure the machine is making accurate cuts.



Field	Description
Mark Shape	Choose between a circle or cross
Color	Define the fill and stroke of the mark
Size	Set the **Size**of the mark and thickness of stroke, if applicable
Auto Distribute Marks	Automatically place marks along the length of the layout
Perimeter Only	If auto distributing marks, only place them along the outside of the layout
Mode	Choose between Quantity, where a specific number of marks are distributed, or spacing, which sets a minimum spacing between marks and lets Phoenix determine the quantity and placement location.
Corner Marks	Sets marks to be placed in the corners of the layout.
Double Corner	Optionally sets the lower right corner to place two marks. This allows for a registration corner for the table.
Double Corner Spacing	Sets the spacing between the two marks in the corner
Minimum Distance	Sets the minimum distance between two marks.
Distancefrom Sheet	Sets the minimum distance from the edge of the material. A value of 0 will place marks on the edge of the material.

2.5.5.5. Center

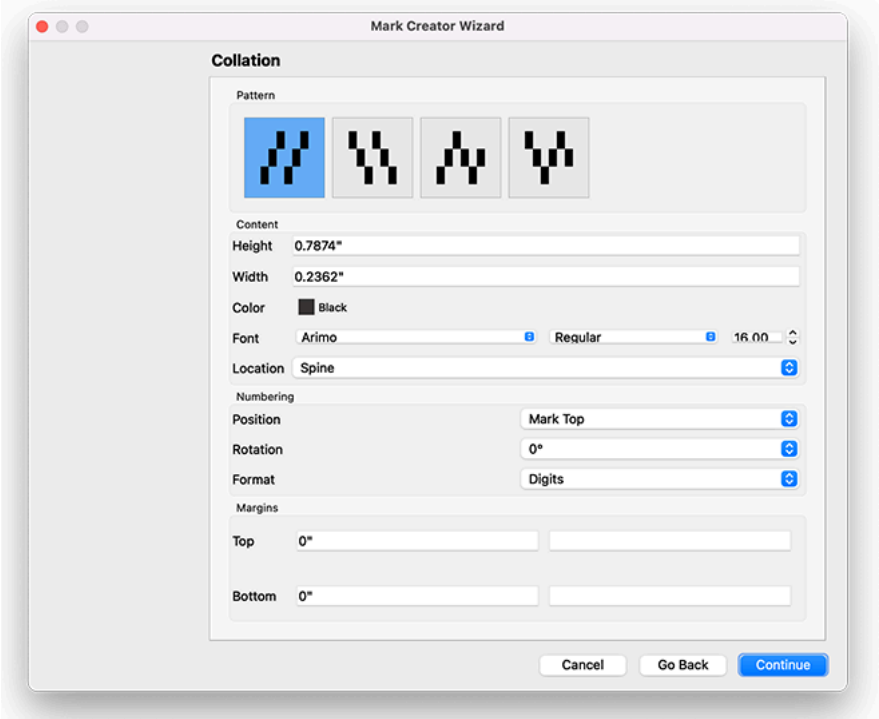
Center marks place a center registation mark on the layout.



Field	Description
Center Mark Type	Choose from the predefined mark types, or select a custom mark from a PDF
Color	Sets the **Color**of the mark
Dimensions	Set the width and height of the mark, which correspond to the dimensions in the graphic
Distance	Sets the offset distance for the mark from the edge of the sheet
Diameter	For marks with a circle, defines the diameter of the circle
Thickness	Sets the stroke thickness

2.5.5.6. Collation

Collation marks place a mark for delineating collation patterns across collated signatures in bookwork. Collation marks are highly configurable with options controlling mark dimensions, color, text numbering position, and font. A location settings allows you to place collation marks in the spine, face, jog, and non-jog folded edges to handle perfect bound, section stitch (Smyth sewn), and saddle stitch binding methods. In addition, text can optionally be placed in user-defined top or bottom margins of the folded edges with full dynamic keyword support.

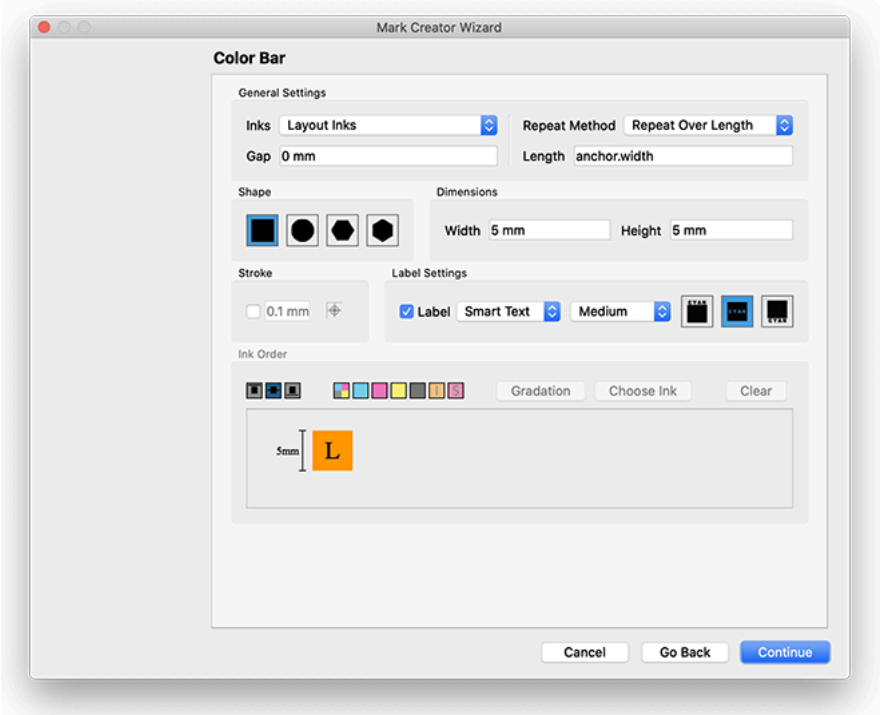


Field	Description
Pattern	Choose the pattern: Zig Zag Up, Zig Zag Down, Snake Up, or Snake Down
Size	Set the width and height of the mark
Color	Set the color of the collation mark
Font	If using numbering, set the font to be used
Location	Define where the number should be placed
Position	Sets the rotaiton of the numbering
Rotation	Sets number rotation
Format	Define the format of the numbering
Margins	Set top and bottom margins. In addition, optionally add static or dynamic keyword text to be placed in the margin.

2.5.5.7. Color Bar

The Color Bar marks allows you to create a fully customizable Color Bar. To create the bar, first choose the general settings, shape, dimensions, optional stroke, and label. If you want to create a custom bar, choose the "Choose Inks" option in the Inks dropdown of the General Settings. Then, in the Ink Order section, click and drag the ink swatches into the box below to create the Color Bar configuration. The swatches, left to right, are a CMYK shortcut, then cyan, magenta, yellow,

black, inks by index, and finally spot inks by index. You can also create custom gradations, as well as choose inks from your ink library.

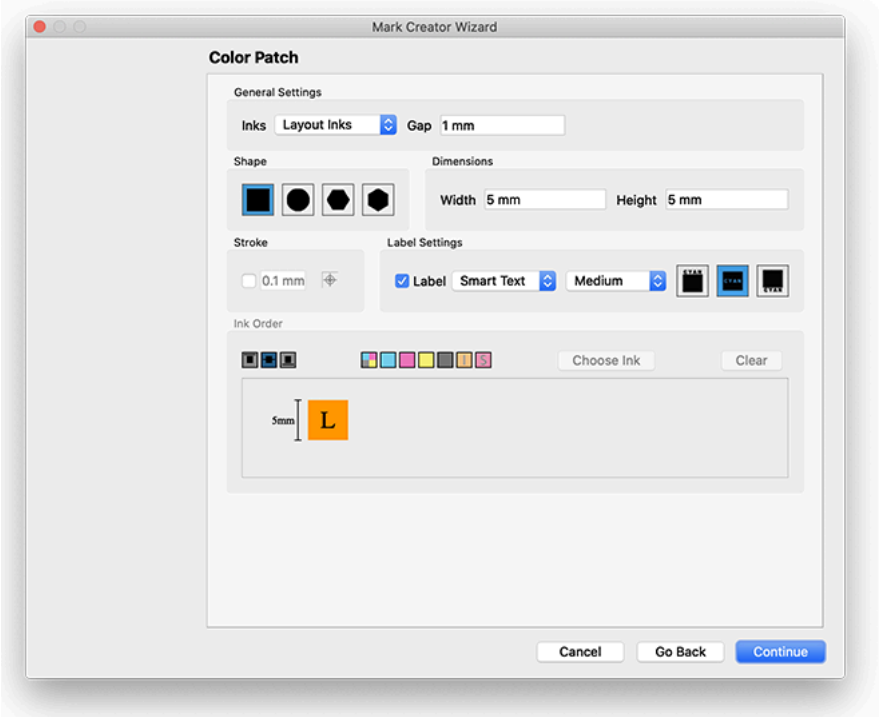


Field	Description
Inks	Choose Layout Inks, Item Inks, or manually Choose Inks
Gap	Sets the gap between ink swatches
Repeat Method	Define how the Color Bar should be repeated
Length or Number of Repeats	Specifies either a length relative to the anchor item, or the number of times the bar is repeated
Shape	Choose the swatch shape
Dimensions	Defines the **Size**of the swatch
Stroke	Optionally add a stroke, define the thickness, and **Color**
Label	Optionally add a label to each swatch, choose what kind of label, and positioning
Ink Order	If using Choose Inks, this lets you set the ink order by dragging and dropping the inks into the box below to create a custom swatch

Field	Description
	order. You can drag the colors in, and then double click on a swatch to customize it

2.5.5.8. Color Patch

Color Patch marks are very similar to Color Bars, but do not repeat.

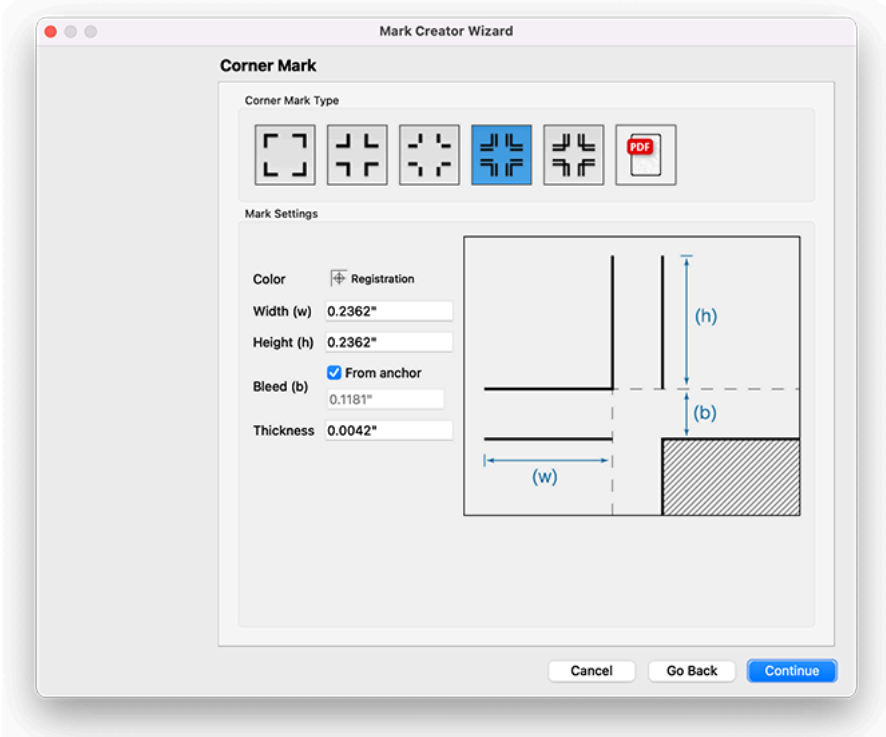


Field	Description
Inks	Choose Layout Inks, Item Inks, or manually Choose Inks
Gap	Sets the gap between ink swatches
Shape	Choose the swatch shape
Dimensions	Defines the Size of the swatch
Stroke	Optionally add a stroke, define the thickness, and Color
Label	Optionally add a label to each swatch, choose what kind of label, and positioning
Ink Order	If using Choose Inks, this lets you set the ink order by dragging and dropping the inks into the box below to create a custom swatch

Field	Description
	order. You can drag the colors in, and then double click on a swatch to customize it

2.5.5.9. Corner

Corner marks add marks to the corners of the item they are anchored to, whether plate, sheet, group, or product.

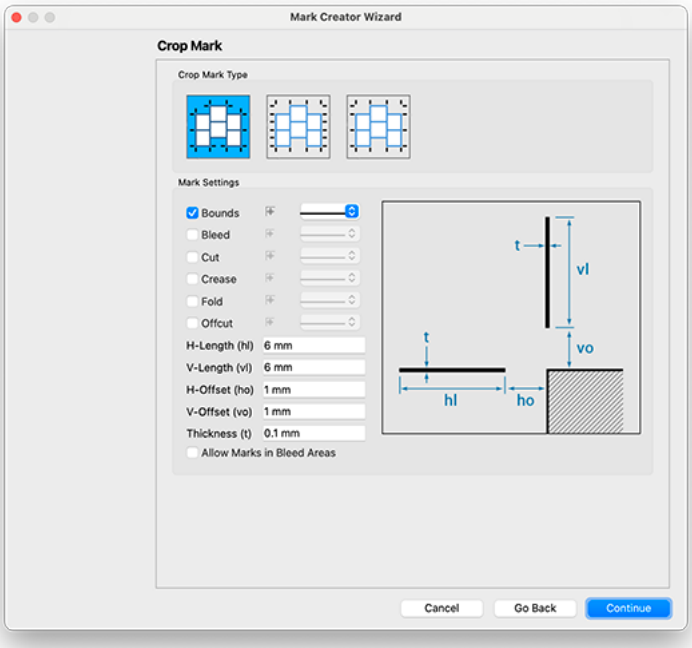


Field	Description
Mark Type	Select the type of corner mark to be used, or upload a PDF to use a custom corner mark
Color	Define the **Color**of the corner mark
Dimensions	Set the dimensions of the mark. The graphic on the right side of the mark creator wizard displays a representation of the mark to easily allow you to correlate what each dimension affects in the mark
Bleed	The distance to offset the corner mark to account for any potential bleed. Can use the bleed of the item the mark is anchored to by checking the **From anchor** button.

Field	Description
Thickness	The stroke thickness of the corner mark

2.5.5.10. Crop

Crop marks add tick marks around a sheet or group to easily allow for a cutter to separate items in a group or on a sheet. Crop marks can only be placed with Smart Placement and attached to either a sheet or a group.

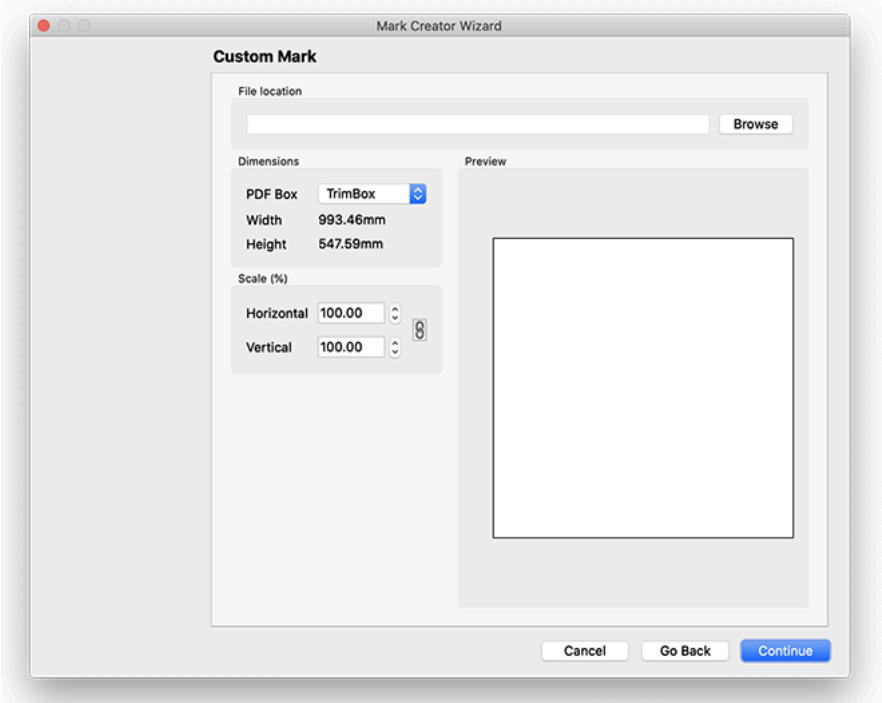


Field	Description
Mark Type	Select the type of crop mark to be used. The differences here revolve around where the ticks are placed, either around the bounds of each product, the bounds of a rectangle formed by all the products, or marks for every cut, even for products not on the outside of the group or sheet.
Bounds	Select if you want to create a mark for the bounds of the group or sheet, along with the **Color**of the crop mark and line style
Bleed	Select if you want to create a mark for the bleed of products in the group or sheet, along with the **Color**of the crop mark and line style

Field	Description
Cut	Select if you want to create a mark for the cut lines of products in the group or sheet, along with the **Color**of the crop mark and line style
Crease	Select if you want to create a mark for the crease lines of products in the group or sheet, along with the **Color**of the crop mark and line style
Fold	Select if you want to create a mark for the folds of products in the group or sheet, along with the **Color**of the crop mark and line style
Offcut	Select this option, if you want to place the mark on the offcut lines. This enables visual presentation of the offcut lines and facilitates accurate alignment during cutting.
Length	Specify the length of each tick mark
Offset	Specify the offset of each tick mark
Thickness	Specify the stroke thickness
Allow Marks in Bleed Areas	Optionally allow crop marks to extend into product bleed

2.5.5.11. Custom

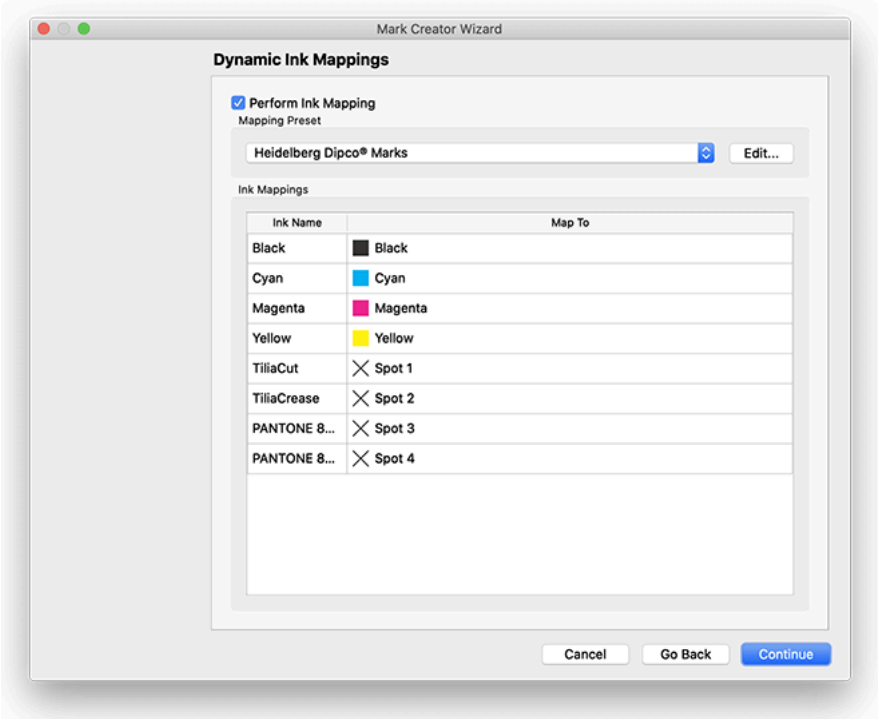
Custom marks allow you to create marks from an existing PDF file.



Field	Description
File Location	Choose the where the PDF is located that you want to use for this mark.
PDF Box	Select which PDF box to use for the dimensions of the mark.
Scale	Optionally scale the mark horizontally or vertically

2.5.5.12. Custom Mark Ink Mapping

When using a custom mark, Phoenix can dynamically remap inks in the PDF to an ink of your choosing.

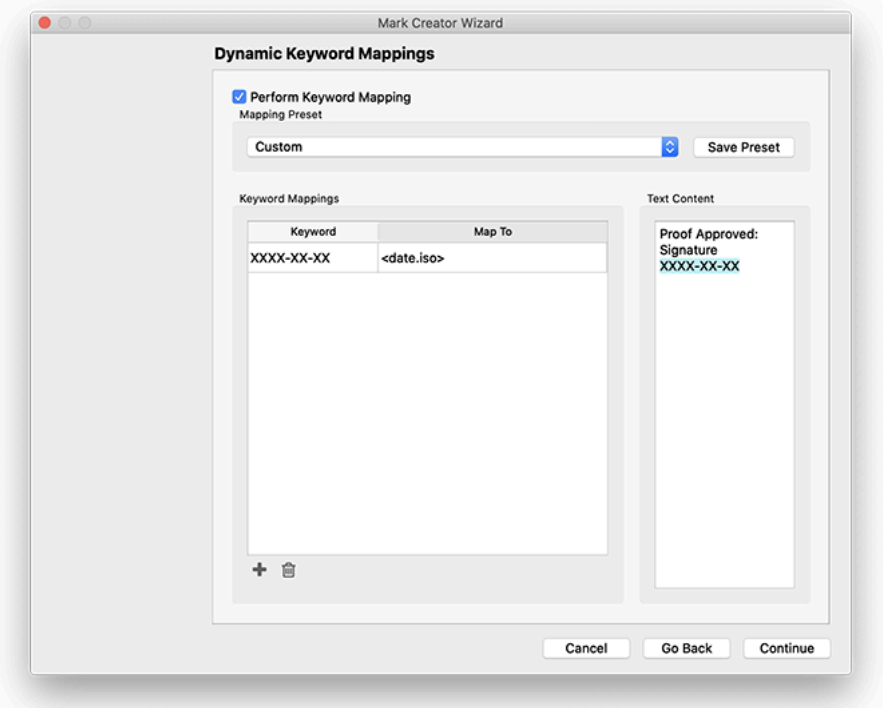


Field	Description
Perform Ink Mapping	Choose this option to enable the ink mapping
Mapping Preset	Choose a preset, or click edit to create or modify an existing preset
Ink Name	Ink Name lists the names of inks in the input PDF to be remapped
Map To	Map To lists the corresponding ink that the Ink Name of the input PDF needs to be mapped to

Note: The Ink Mappings will only appear if the pdf used has an ink name that matches what's in the ink mapping. So, for instance, if the ink mapping is only for the ink "Reflex Blue" but the custom mark pdf doesn't contain "Reflex Blue", the mapping won't appear in the available mappings dropdown.

2.5.5.13. Custom Mark Keyword Mapping

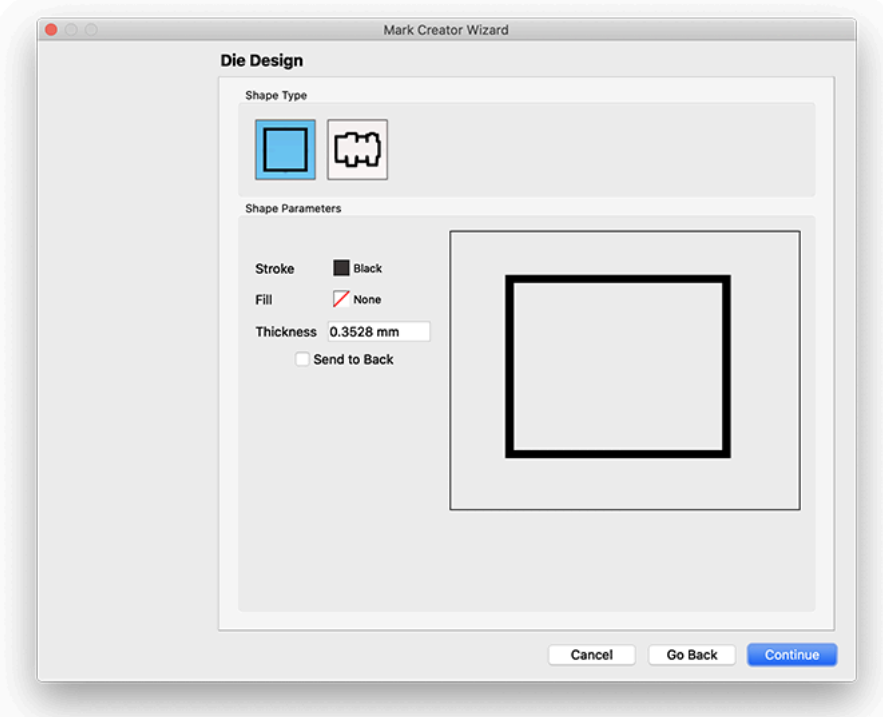
When using a custom mark that contains text, Phoenix can automatically remap text or parts of text from the input PDF using keywords.



Field	Description
Perform Keyword Mapping	Choose this option to enable the keyword mapping
Mapping Preset	Choose a preset, or click edit to create or modify an existing preset
Keyword	Define the keyword that appears in the input PDF that needs to be mapped to something else
Map To	Choose what the keyword should be remapped to in the mark
Text Content	The Text Content field displays the text in the input PDF and highlights any keywords that have been added as a mapping in the Keyword Mappings section

2.5.5.14. Die Design

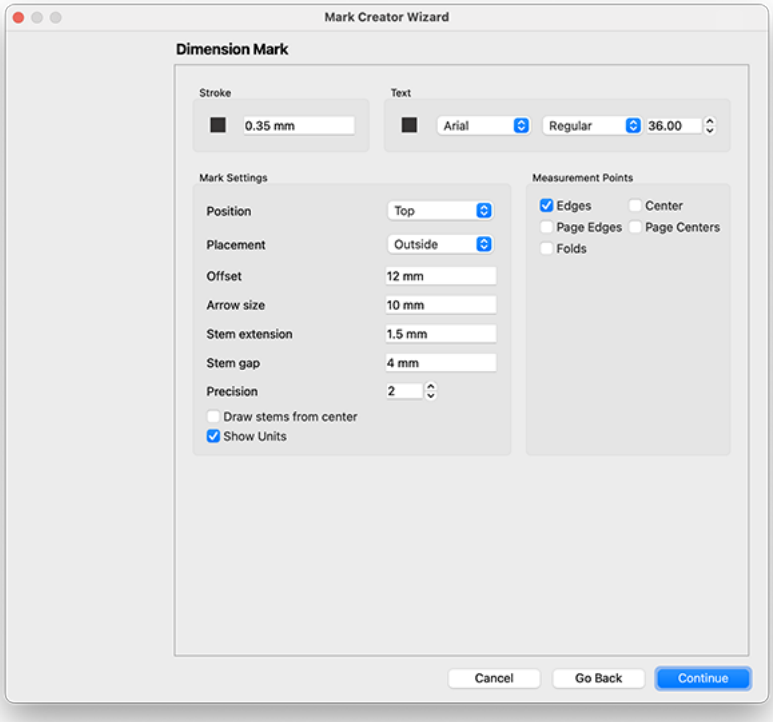
The Die Design mark creates a mark in the shape of the product.



Field	Description
Shape Type	Choose from a rectangular shape or die shape
Color	Select the **Color**of the shape stroke and fill
Thickness	If using a stroke, set the stroke thickness
Send to Back	Optionally send the shape behind the product

2.5.5.15. Dimension

Dimension marks add dimensions to the object they are anchored to. Dimension marks also include options for folded and bound signatures!

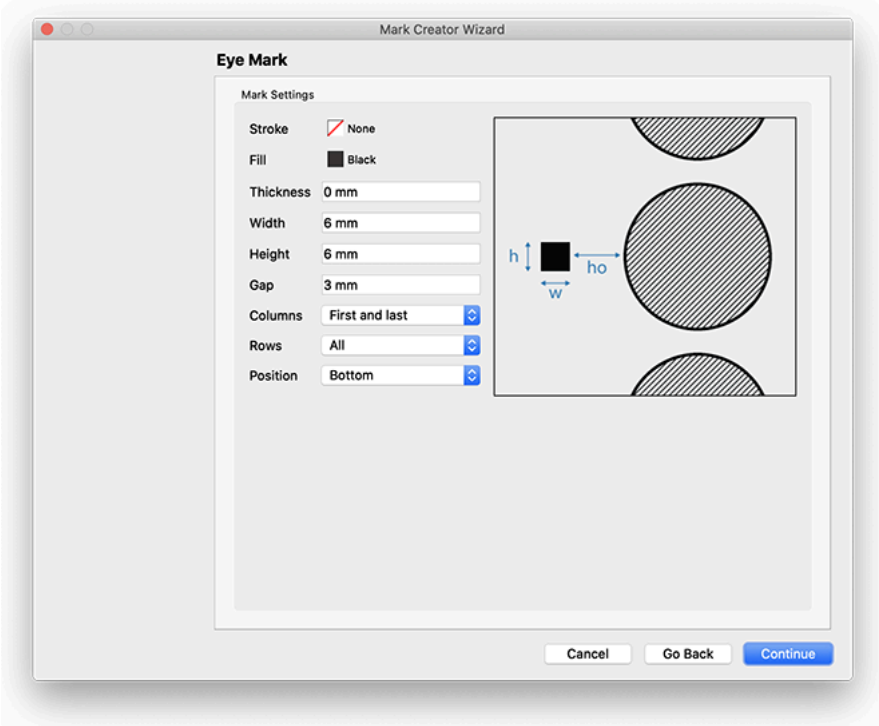


Field	Description
Stroke	Define the stroke **Color** and thickness for the dimension lines
Text	Choose the dimension text typeface, style, and font size
Position	Choose where you want the mark to go, top, bottom, left, or right
Placement	Select whether the value should go outside or inside of the dimension lines
Offset	Set the offset distance for the dimension mark
Arrow Size	Set the **Size** of the dimension line arrow point
Stem extension	Set how far the stem should extend from the product
Stem gap	Define the gap **Size** between the stem and the product
Precision	Define the number of digits shown after the decimal separator. This can be a value between 2 (default) and 8.
Draw stems from center	Optionally choose to draw stems from the center

Field	Description
Show Units	Optionally choose to have dimension units displayed in the mark
Measurement Points	Set where the dimensions should be based on. Choose the edge or center of the product, or for folded products choose Page Edges, Page Centers, or Folds.

2.5.5.16. Eye Mark

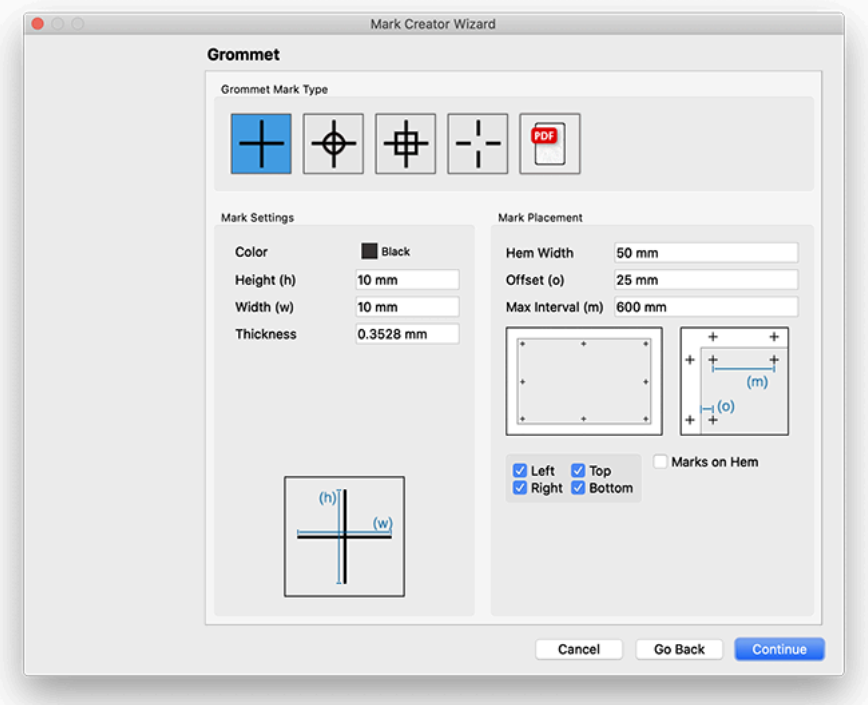
Eye marks are rectangular marks typically used in packaging used to indicate the position of each product in a layout to a camera mounted on a finishing device.



Field	Description
Color	Select the **Color**of the shape stroke and fill
Thickness	If using a stroke, set the stroke thickness
Dimensions	Set the dimensions of the mark. The graphic on the right side of the mark creator wizard displays a representation of the mark to easily allow you to correlate what each dimension affects in the mark

Field	Description
Gap	Set the distance of the gap between the product and the eye mark
Columns	Select which columns the eye mark should appear on
Rows	Select which rows the eye mark should appear on
Position	Set the position of the eye mark to be at the bottom, center, or top of each product

2.5.5.17. Grommet

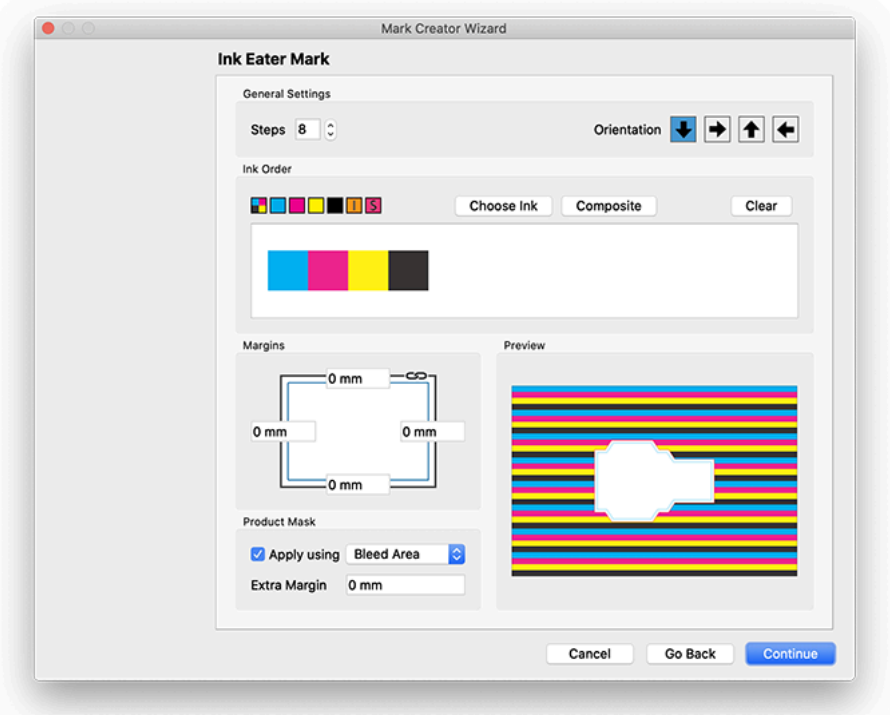


Field	Description
Mark Type	Select the type of grommet mark to be used, or upload a PDF to use a custom grommet mark
Color	Select the **Color**of the grommet mark
Dimensions	Set the dimensions of the mark. The graphic below this setting displays a representation of the mark to easily allow you to correlate what each dimension affects in the mark
Thickness	Set the stroke thickness

Field	Description
Hem Width	Set the width of the hem
Offset	Set the offset of each mark from the edge of the product
Max Interval	Set the maximum interval between grommet marks. Phoenix will automatically distribute Grommet marks at the corners and evenly along each edge, up to this maximum distance
Location	Optionally choose to remove marks from one or more sides by unchecking the corresponding side
Marks on Hem	Optionally place marks inside the product on the hem.

2.5.5.18. Ink Eater

Ink Eater marks are used in offset printing to place additional ink in what would otherwise be a non-printing area in order to help ensure consistent ink consumption across the plate.

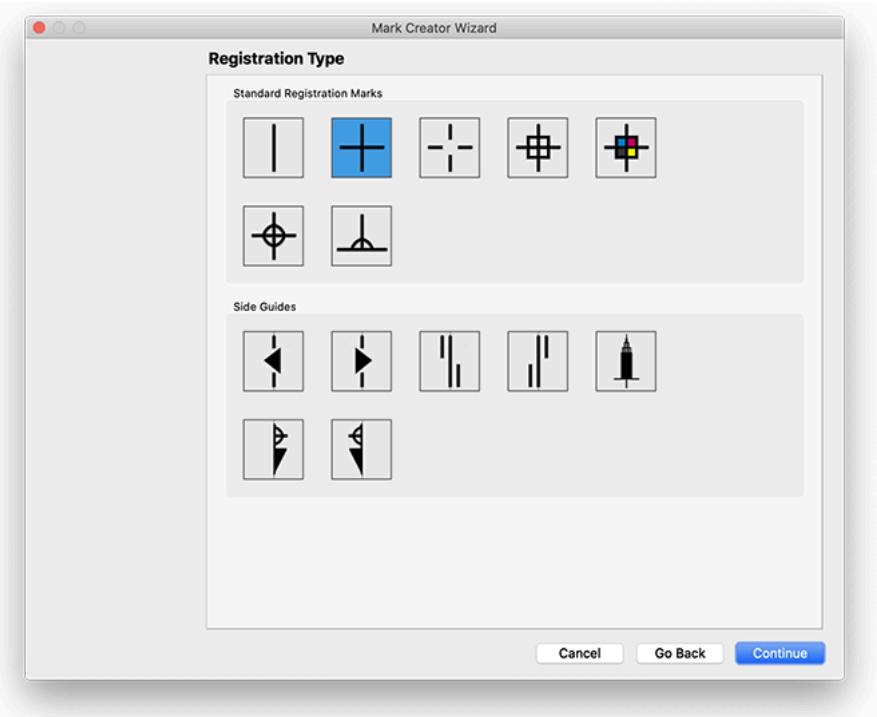


Field	Description
Steps	Defines the number of repeats of the ink order specified below

Field	Description
Orientation	Sets the direction that the ink eaters appear, vertically or horizontally, as well as the order the ink order appears
Ink Order	The ink order defines how the inks appear. You can add inks by clicking and dragging from the swatches into the box below, or click either the Choose Ink or Composite button. You can also click and drag to rearrange swatches, or double click on a swatch to edit it.
Margins	Define the margin around the sheet where ink eaters should not appear
Apply using	Choose to mask out the product, and which product area to use
Extra Margin	Give an extra margin around the product where ink eaters should not appear

2.5.5.19. Registration

Registration marks are used to ensure the print inks are in register. This includes registration marks as well as side guides.

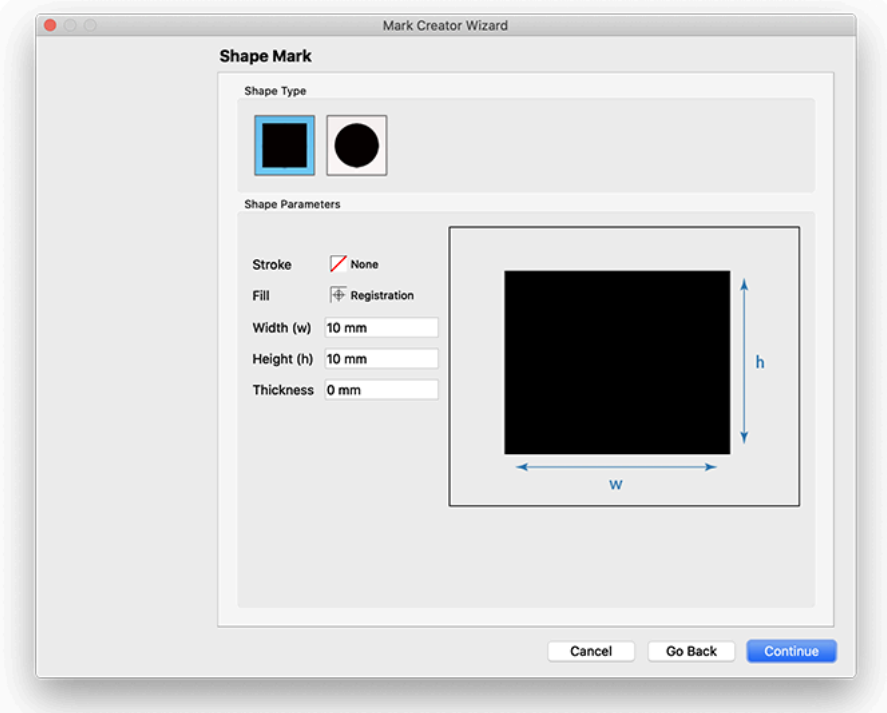


Field	Description
Standard Registration Marks	Select the style of registration mark to use
Side Guides	Select the style of side guide to use

The next page in the wizard displays the sizing for the registration mark

Field	Description
Dimensions	Set the dimensions of the mark. The graphic on the right side of the mark creator wizard displays a representation of the mark to easily allow you to correlate what each dimension affects in the mark

2.5.5.20. Shape

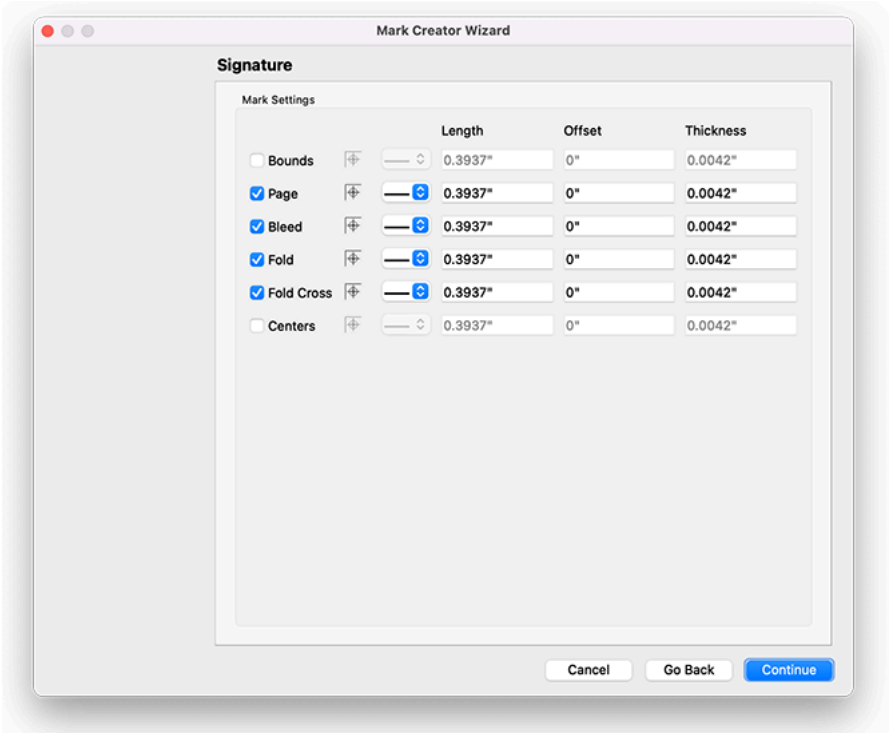


Field	Description
Shape Type	Choose between a rectangle or ellipse shape mark
Color	Select the **Color**of the shape stroke and fill
Dimensions	Set the dimensions of the mark. The graphic on the right side of the mark creator wizard displays a representation of the mark to easily

Field	Description
	allow you to correlate what each dimension affects in the mark
Thickness	If using a stroke, set the stroke thickness

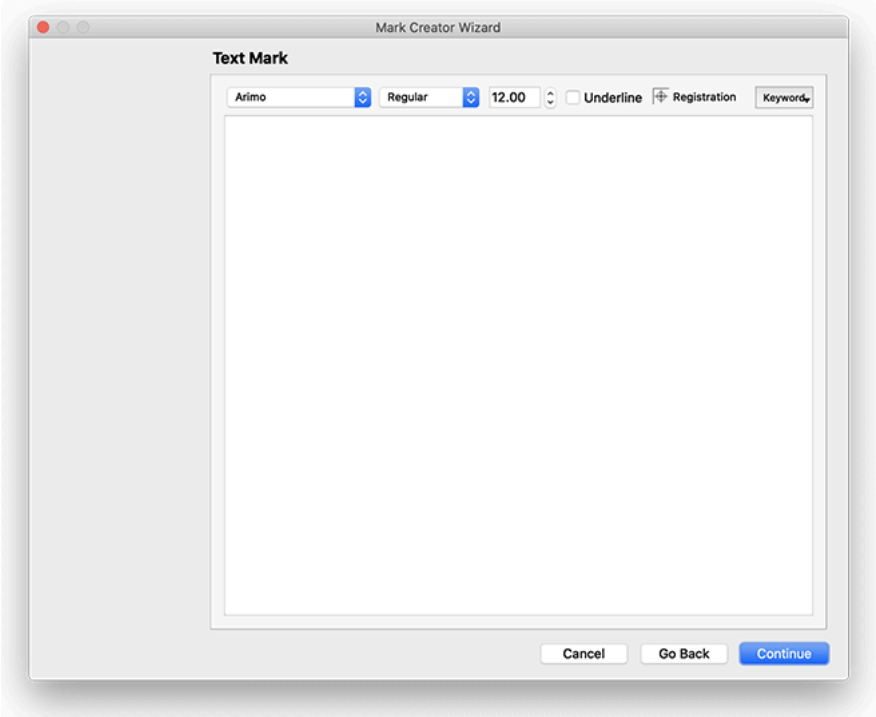
2.5.5.21. Signature

Signature marks have been added for folded and bound signatures with options delimiting signature bounds, page edges, page centers, bleeds, folds, and fold crosses. Line color, length, offset, and thickness can be customized for each delimiter type.



2.5.5.22. Text

Text marks allow you to add static and dynamic text to a layout.

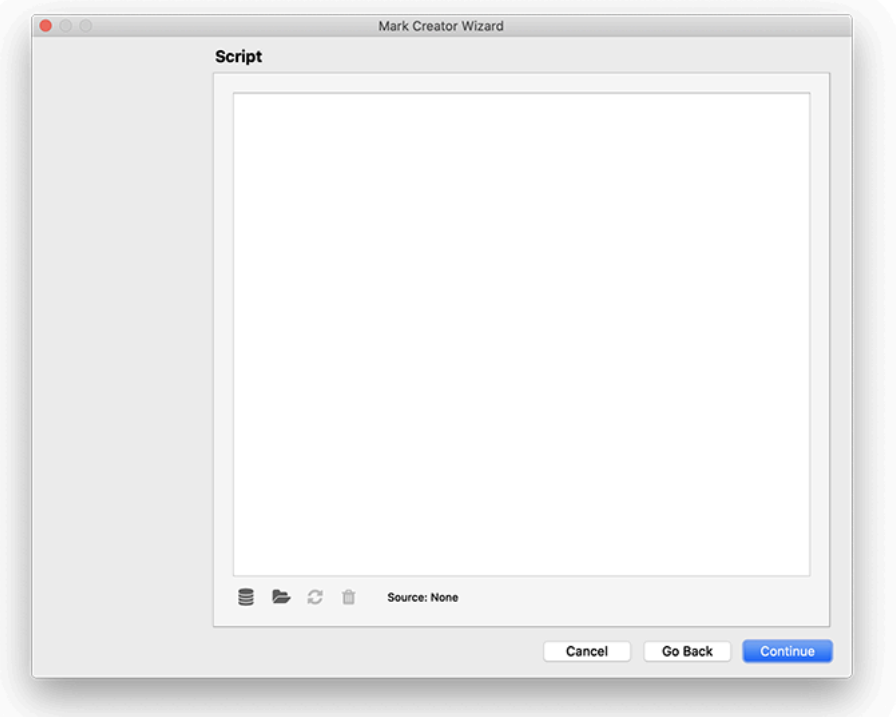


Field	Description
Font	Choose the typeface, style, and font **Size**
Underline	Optionally add an underline to the text
Color	Select the **Color**of the text
Keywords	Add dynamic keywords to the text content
Text Box	Add the text to be used in the mark here

Note: Dynamic keywords will only appear if attached to the relevant item. For example, if the mark is using manual placement, product keywords are not available. If the text mark is anchored to a product, however, product keywords are available in the dropdown

2.5.5.23. Script

The optional Scripting module allows you to create custom marks using javascript, which open up the full power of Phoenix's drawing tools to allow you to create any mark you can think of. The settings are fairly straightforward, since the mark itself is completely driven from the script. The main section of the window is where you can write your script. You can also load a script from a library or load one from an external file.



Field	Description
Select from library	Choose a saved script from your library
Load from file	Load a script in from a .js file on your disk
Reload from source	Updates a mark that has previously been loaded from disk and has since been modified.
Clear	Removes any mark currently loaded

2.5.5.24. Assigning Product Group Marks Shortcut

By default, dropping a Group or Product Mark from the Marks Panel into Layout View will apply that mark to all Group or Products in the current side of the layout respectively. You can assign a Group or Product Mark to a specific Repeat item or specific Product by holding down the Control key.

Dropping Group or Product Marks into Layout View applies that mark globally to the project. This means that mark will be in all current and future Groups/Products unless removed or hidden explicitly within them. By using the Control key shortcut you can apply the smart mark to the specific Repeat the cursor is under when releasing the mouse button in the case of Group Smart Marks or, in the case of Product Smart Marks, you can apply the mark to the product that a

product item belongs too under the cursor. The mark will appear only in instances of the given product in the project.

2.5.5.25. Mark Inspection Mode

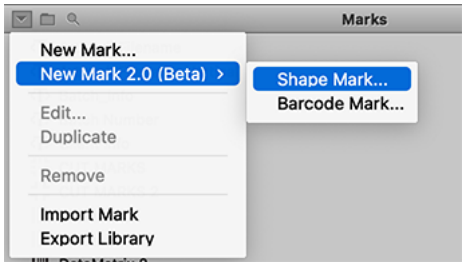
To highlight all the marks in Layout View, navigate to the Tools menu and select **Mark Inspection**, or use the keyboard shortcut **Control** + **Shift** + **M**. Mark Inspection Mode provides a clear way to verify mark placement.

You can adjust the visibility of the Products in the Layout as well as the Marks by adjusting the sliders in the Mark Inpsection toolbar at the top of the window. You can also change the highlight **Color** of the Marks by clicking the swatch next to the "Marks" text in the Mark Inspection toolbar.

2.5.6. Marks 2.0

Phoenix 23.3 introduces the future of marks in Phoenix - what we're dubbing "Marks 2.0"

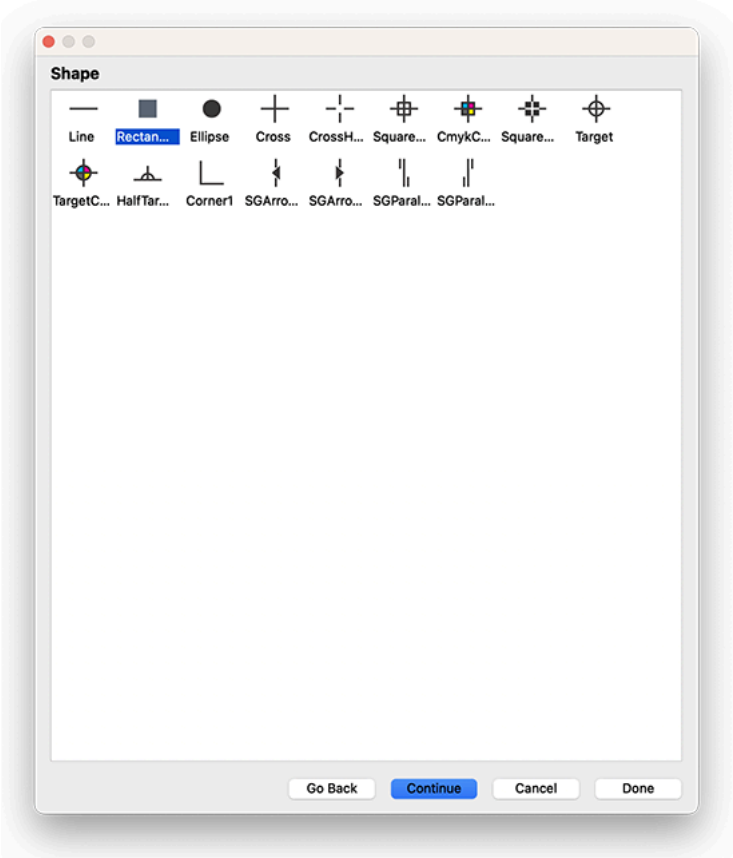
To create a new mark of this type (or modify an existing one), navigate to the Marks panel, and select **New Mark...** from the dropdown in the top left of the panel.



This will open the Mark Creator Wizard, which will allow you to define the mark settings. The screens in the Mark Creator Wizard will vary based on the options selected. After the settings are chosen for each screen, use the navigation buttons at the bottom right of the window to either Continue, Go Back, Cancel, or complete the wizard by clicking "Done."

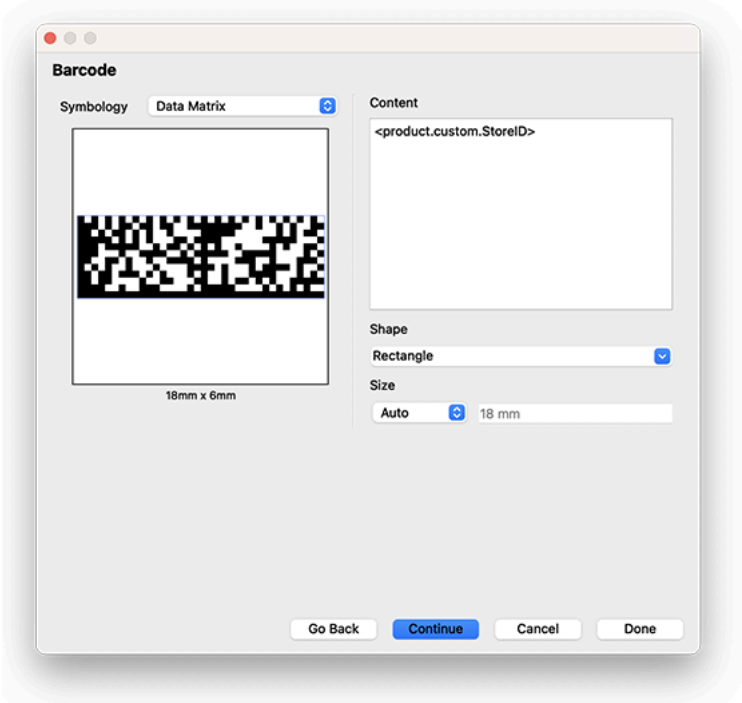
The two types of Marks 2.0 marks to start are Shape and Barcode. Both Marks will allow you to set some general settings such as the Name (required), the folder, and a brief description of the mark.

2.5.6.1. Shape mark



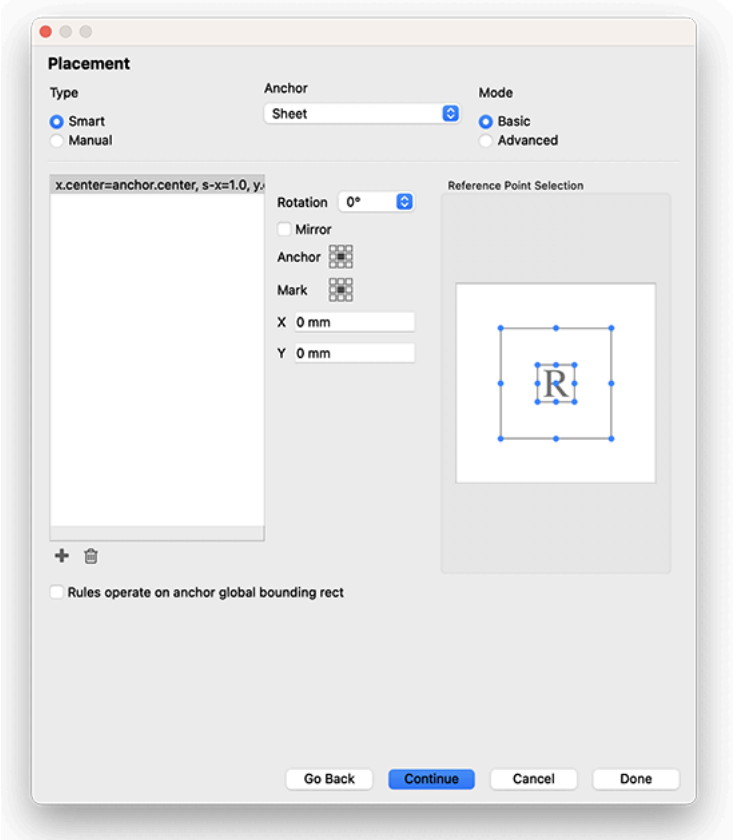
The Shape mark allows you to choose from a list of different shapes. You can use a combination of shape marks to create many diverse marks.

2.5.6.2. Barcode Mark



The Barcode mark allows you to define the type of barcode and content, much like the traditional barcode mark you've known and loved. Based on the barcode symbology, you can define additional parameters like shape, size, and bar width adjustment.

2.5.6.3. Placement



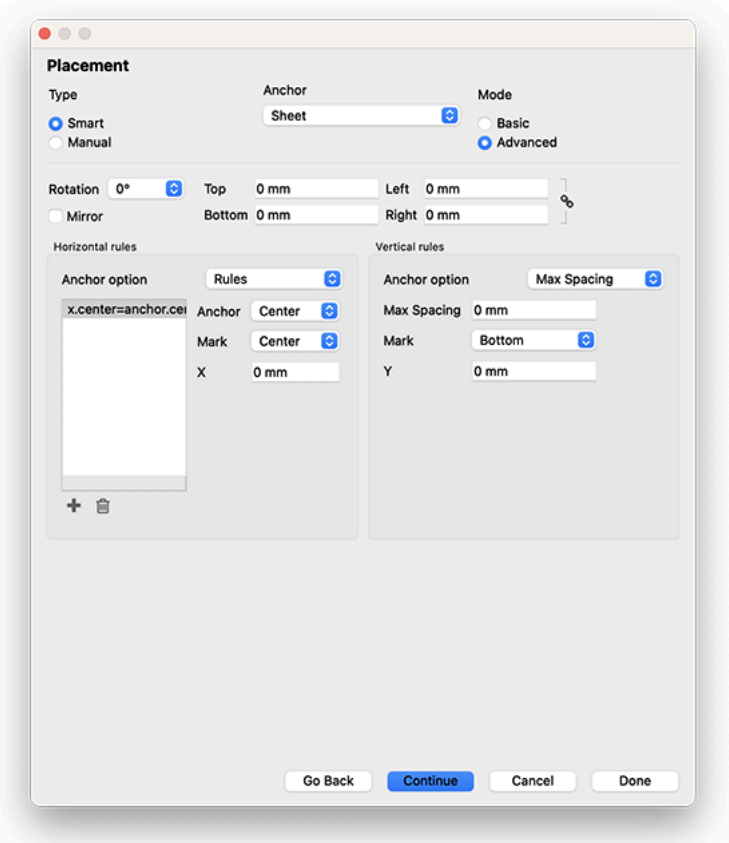
The placement window allows you to define where the mark should be, well, placed! At the top you can define whether this mark is Smart or Manual. Manual marks must be placed by clicking and dragging the mark to the desired location. Smart placement allows you to specify logic for mark placement using the other settings on this window.

For Smart placement, use the Anchor dropdown to choose between the different anchors:

- Plate
- Plate punch
- Sheet
- Content Margins
- Image Margins
- Gripper
- Group
- Die Template
- Step & Repeat
- Component
- Flat
- Signature
- Bound Signature
- Folded Signature
- Tile
- Page

- Offcut
- Bleed
- Spacing

Finally you can choose the mode. Basic mode brings up the classic 9-dot grid for placement that you may be familiar with in our traditional marks. Advanced mode gives you new functionality:



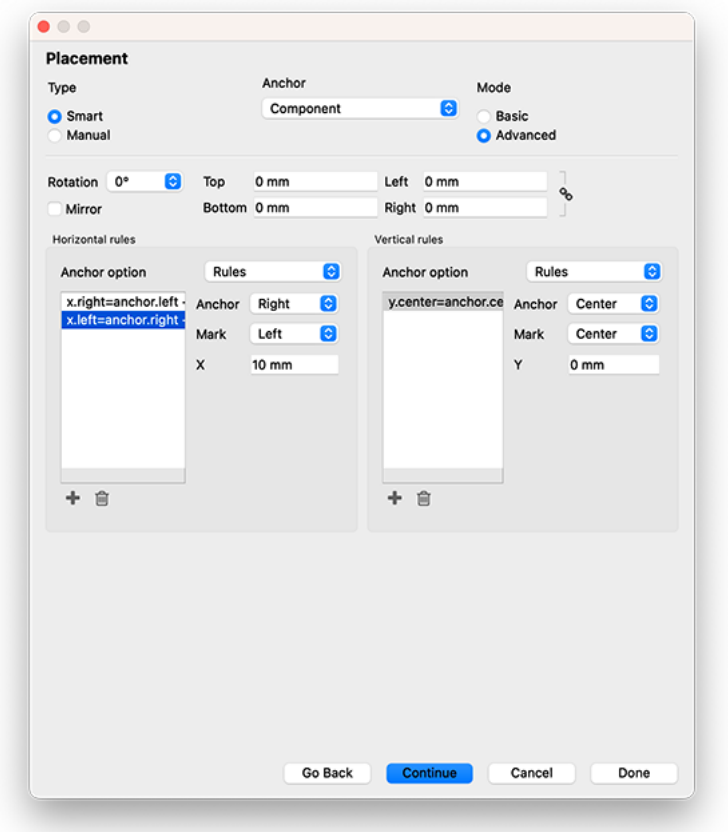
You can see in the above screenshot that now there are additional options for mirroring and padding, and most importantly the placement is defined with separate Horizontal and Vertical rules.

For each axis, you can choose an Anchor option. These are detailed below:

Rules

The Rules option allows you to define one or more rules for placement based on the bounds of the mark and the anchor. For horizontal rules, you can choose between left, center and right for both anchor and mark, as well as a horizontal offset with the "X" field. You can also add additional rules to combine multiple rules.

For example, if you wanted the mark to be placed on the left and right of a product on the outside with a 10mm offset, you would first define the anchor as the Component (this encompasses all product types). Then, add a horizontal rule with Anchor = Left, Mark = Right. This will place the right side of the mark on the left side of the product. Then specify X = -10mm to offset it. Then add another horizontal rule, with Anchor = Right, Mark = Left. This places the left side of the mark on the right side of the product, and then adding X = 10mm will add the 10mm offset.



Note that if you choose Rules as your Anchor option, you must have at least one rule. Otherwise the mark is not fully defined and won't work.

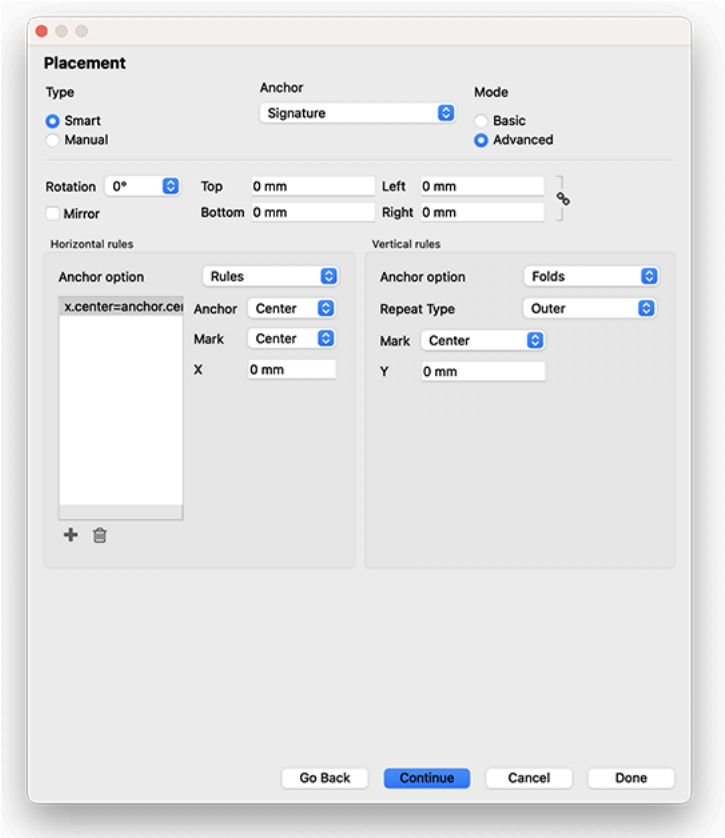
Max Spacing

Max Spacing allows you to specify that the mark be distributed automatically along the given axis, based on the maximum spacing allowed before another instance is placed. Specify the Maximum spacing, the side of the mark you want to base the spacing on, and any offset.

Quantity

Quantity will distribute the number of mark instances that you define. Specify the quantity, the side of the mark to base it on, and any offset.

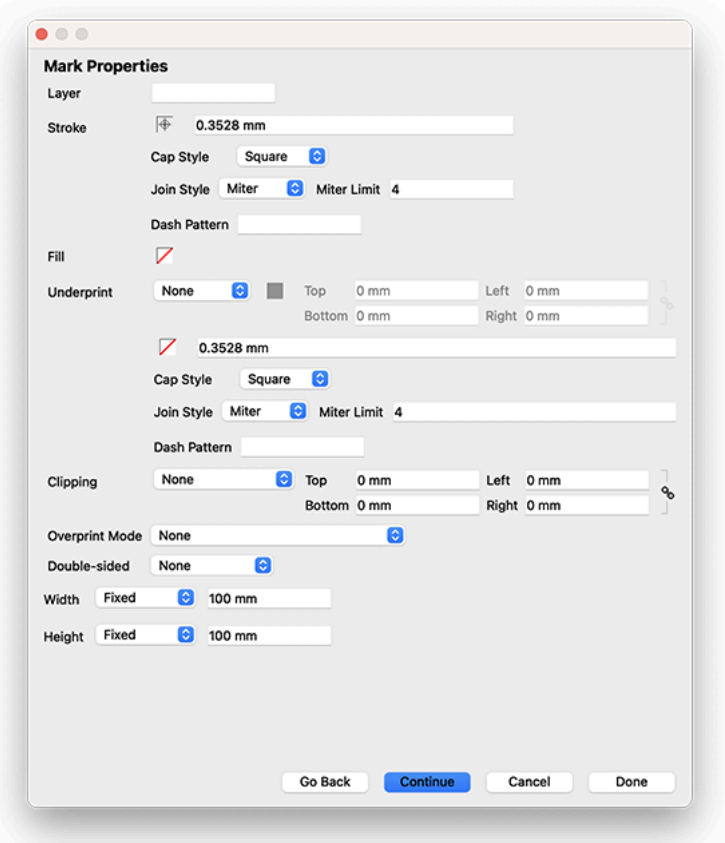
Folds



This option only appears if the Anchor is set to a product signature. This allows you to place a mark relative to a fold. You can specify how often it repeats based on the folds:

- **All**: Places the mark on all folds in the specified axis
- **Range**: Places the mark on a user defined range of folds in the specified axis (comma-separated)
- **Outer**: Places marks only on the outer folds
- **Inner**: Places marks only on the inner folds
- **First**: Places marks only on the first fold
- **Last**: Places marks only on the last fold
- **Odd**: Places marks only on the odd folds
- **Even**: Places marks only on the even folds

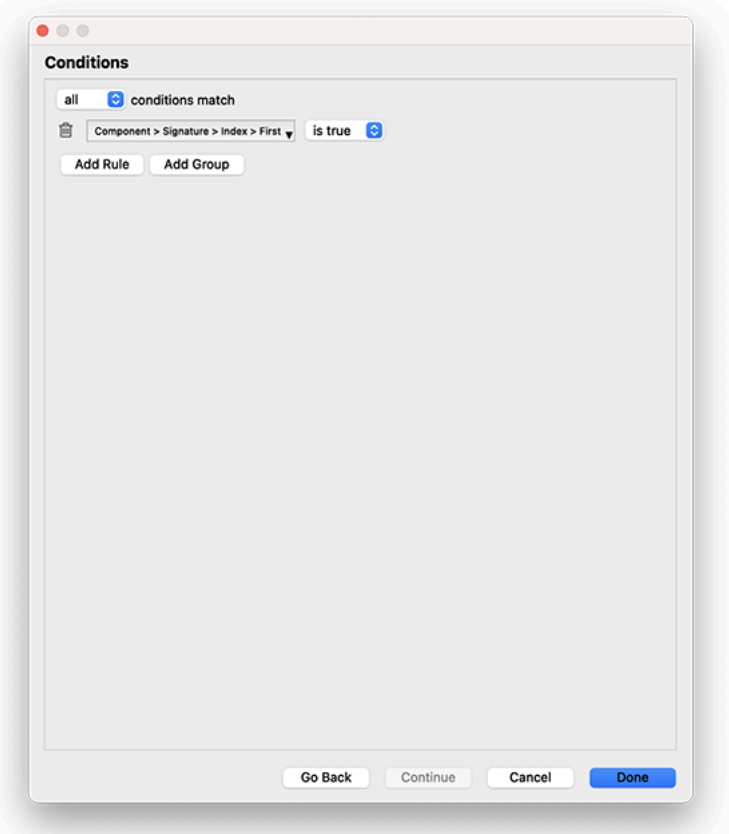
2.5.6.4. Properties



Field	Description
Layer	This field allows you to specify which output layer the mark is placed on. If a value is set here, a layer will be created with the layer name specified. If no value is set, no layer is created for the mark, and it is placed with the rest of the layout artwork.
Stroke	Choose the stroke color, define the thickness, set a cap and join style, as well as the dash pattern
Fill	Select the fill **Color**
Underprint	Option to add underprint, in the specified color, to the mark. You can define the margin to be added on the four sides of the mark, as well as set a stroke for the underprint
Clipping Option	Option to clip the mark to the anchor bounds, shape, or bleed, as well as the mark bounds.
Overprint Mode	Option to enable overprint for the mark, and if so, which overprint **Mode** to use.

Field	Description
Double-sided	Optionally mirror the mark to the back side if the item is double-sided, and if so, whether to mirror the mark, or copy the placement rules to the back side
Width and Height	Define the size of the mark. You can set this as a fixed value, or make it dynamic based on the item size, either as an adjustment or a percentag

2.5.6.5. Conditions



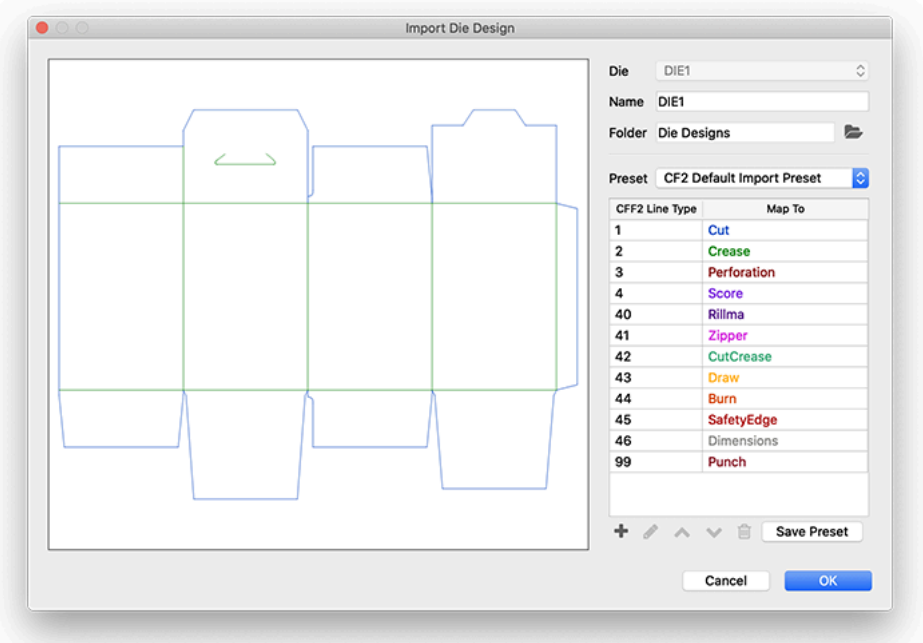
The Conditions allow you to specify when the mark should be applied. You can add any number of conditions using ANY or ALL logic and groups therein to add custom logic. For instance, in the example above, the mark will **only** be applied to the first signature of a bound product.

Subsequent signatures of that bound product will not have the mark, nor will any other type of product.

2.5.7. Die Design

A die design is a one-up die shape for a die. Die Designs can be imported from a structural CFF2 or DXF file, as well as an ArtiosCAD ARD or MFG file. The Die Designs library allows you to store commonly used Die Designs and use them in projects by assigning die designs to products.

To import die designs into the die designs library, navigate to the Die Designs panel, click the dropdown in the top left, and choose Import Die Design... Phoenix will prompt you to select the die design file to import, and once selected will open the Import Die Design wizard, shown below.



Field	Description
Die	Name of the imported die
Name	Set the desired name for the die in Phoenix. Defaults to the name of the imported die
Folder	Define where the die should be stored in your Die Designs library
Preset	Choose the Import Preset setting for the chosen filetype
Mappings	If not using a preset, or if you need to modify the mappings, you can use this mapping tool to set the mapping for the die design. Add, edit, reorder, or remove mappings for your filetype. In the example above, the CFF2 Line Type

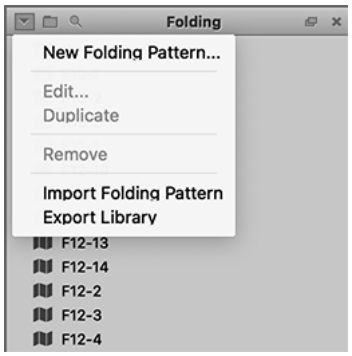
Field	Description
	numbers are being mapped to Tool Types in Phoenix

Use Grain Direction From MFG/ARD

New in version 23.3, Phoenix can detect the grain direction within ArtiosCAD files. To use this grain direction, enable the preference "**Use grain direction from cad data when available**" within Preferences > Product.

After enabling this, any products created from or using a Die Design that had grain direction in the cad file will have that grain direction set.

2.5.8. Folding Pattern



The Folding Patterns library stores all of the possible folding patterns for bound and folded products. You can double click on any folding pattern to see it in detail, or create a new one from the dropdown > New Folding Pattern.

In the Folding Pattern Creation window, you can interactively create a folding pattern.

First, enter in the number of columns and rows in the signature. This will update the preview of the signature in the window. You can then hover your mouse over any of the fold lines to fold the signature however you need to. As you move your cursor, you can see a preview of the fold, and can move your mouse to indicate whether the fold should be up or down. Once you've decided on all of the folds, you can click OK to save it, or click on the **Front** and **Back** tabs to preview the signatures with the page numbers.

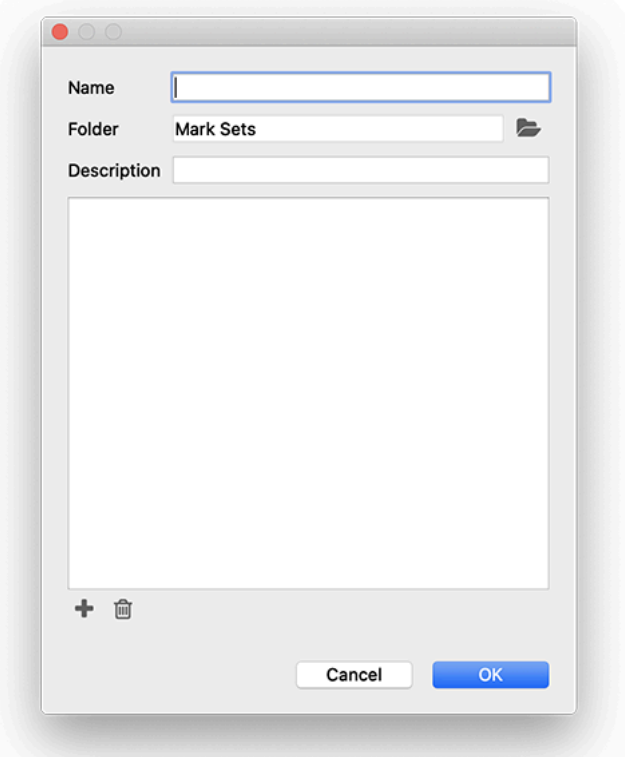
You can edit the page numbers to allow for custom pagination if you need to, simply click and change the page number. This will be saved to the Folding Pattern when you click OK.

2.5.9. Mark Sets

Mark Sets provide an easy way to group many existing marks together. This way, you can simply select one mark set that includes many separate marks instead of having to manually add marks. Think of it as a shortcut for reusing groups of marks that are commonly used together.

To view mark sets, or create new ones, make sure the Mark Sets panel is visible from the **Window** menu. From here, you can click the dropdown in the top left of the panel to access the Mark Sets panel options.

Click "New Mark Set..." to create a new set, and the following window will appear. You can assign this mark set a unique name, place it within a folder for organizational purposes, and optionally give it a description.

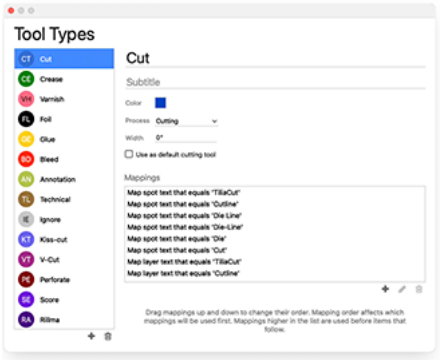


Field	Description
Name	Name of the mark set
Folder	Folder within the Mark Sets panel for this set to be located
Description	Optional description of this mark set
Add Mark	Click the + button at the bottom to add new marks to this set

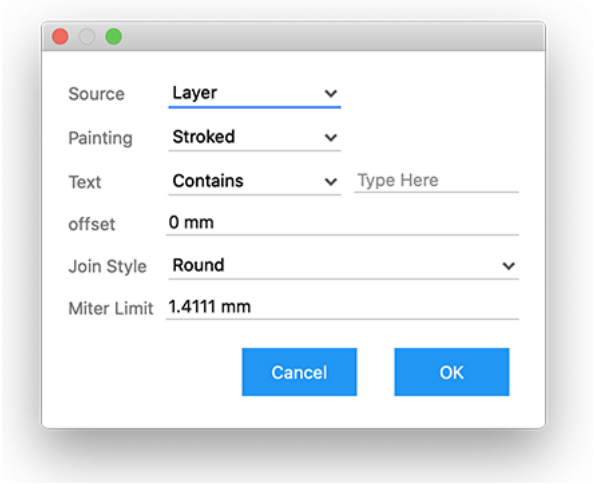
2.5.10. Tool Types

Tool Types represent the various tooling used by your Things to perform processes such as varnish, emboss, deboss, coating, glueing, braille, cut, score, crease, etc. Each tool type defines tool properties as well as a list of mappings from artwork spot colors (fills and/or strokes) or PDF layer names to automatically map inks in your artwork to the correct tool type.

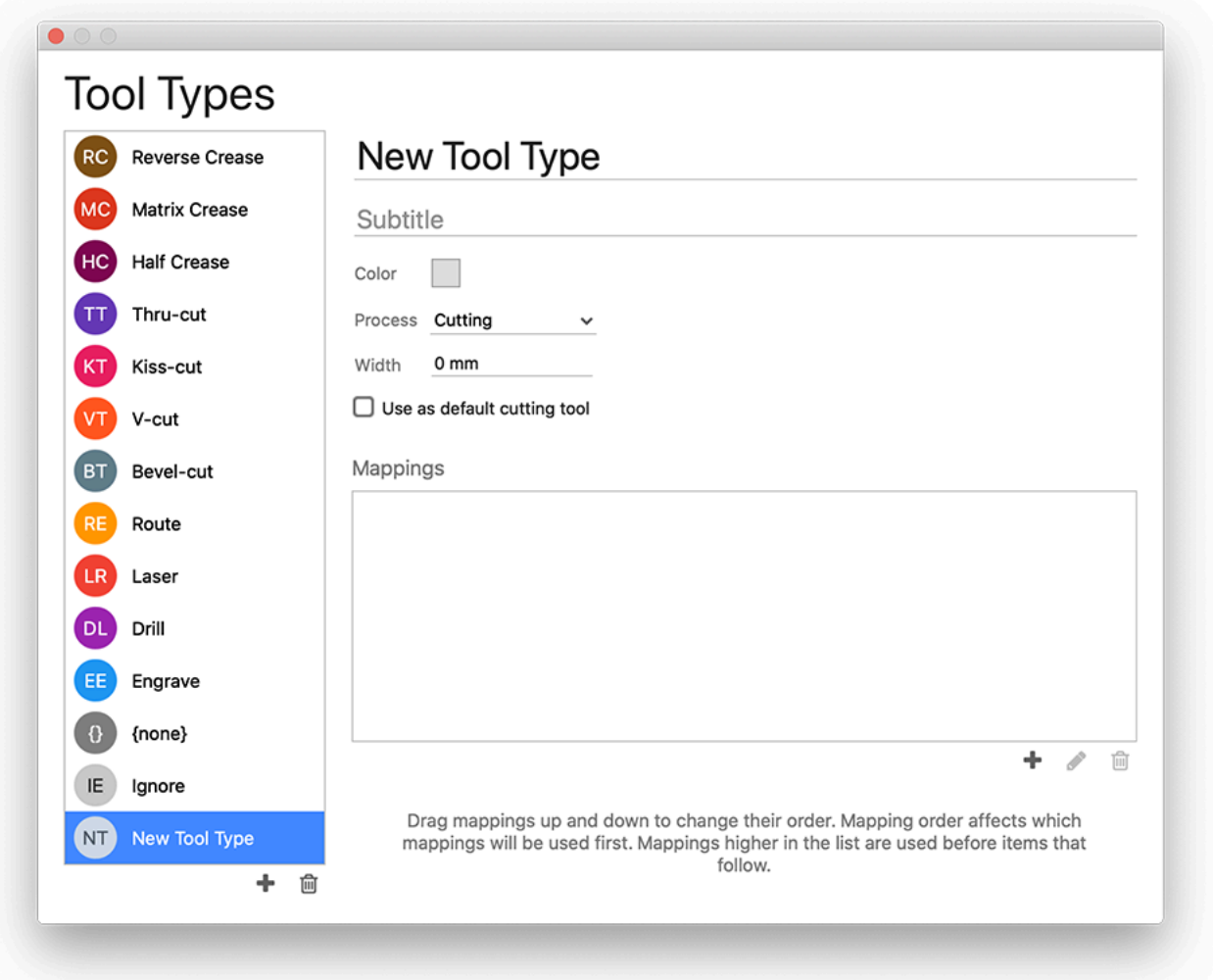
To add, edit, and remove tool types from your library, go to the Libraries menu and select 'Tool Types...'. This will open the Tool Types dialog that displays a list of all current tool types and their properties.



Field	Description
Name	Name of the tool type
Subtitle	Optional description of the tool type
Color	Representative color of the tool type. This is the color that will be used for the tool type on output
Process	Define the process this tool type falls under
Width	Define the width of the cutting tool
Use as default cutting tool	Set a tool type to be the default cut tool
Mappings	Define how objects should be mapped to this tool, as configured in the window described below. Phoenix will then use these mappings to assign a tool type to matching inks or layers in product artwork.



Field	Description
Source	Select whether the mapping source should come from a layer or a spot color
Painting	Select whether the object is stroked, filled, both filled and stroked, or either filled or stroked
Text	Define the name of the layer or spot ink to be mapped
offset	Optionally define the offset the tooling should have from the mapped artwork tooling line
Join Style	For artwork mappings where two lines join together, choose how should the intersection be joined
Miter Limit	If using a miter, define the maximum distance of the miter before it is truncated

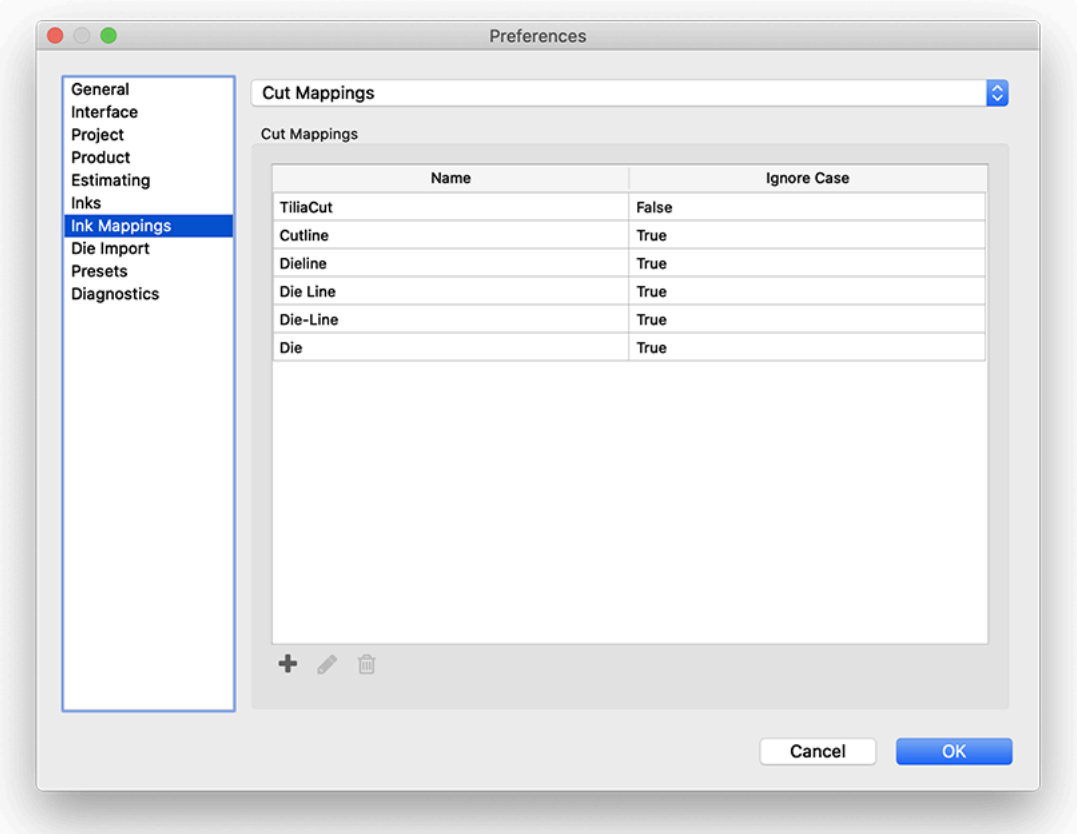


You can create a new tool type by clicking the add button (+) and then configure it as described above.

2.5.11. Ink Mappings

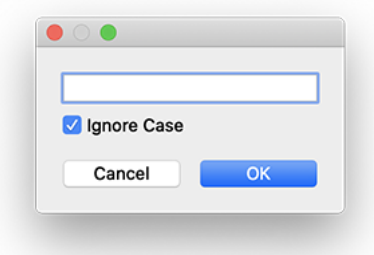
Ink Mappings allow you to define mappings for how a given ink in product artwork should be mapped to the various ink types - Bleed, Cut, Crease, Foil, Glue, Technical, and Varnish.

To add an ink mapping, or modify an existing one, first select the ink type from the dropdown at the top of the window. Then click the + button to add a mapping, or select an existing mapping and click the Edit or Remove buttons.



Field	Description
Ink Type	Dropdown to select the list of mappings for a given ink type
Name	The name of the ink in the artwork to map to the selected ink type
Ignore Case	Choose false to make the ink mapping case sensitive, or true to ignore the case of the ink name when performing ink mappings

When creating a new ink mapping, or editing an existing one, the following dialog appears, allowing you to configure the mapping:



Field	Description
Name	Ink name in the artwork to map
Ignore Case	Toggle on to ignore case, or off to make the mapping case-sensitive

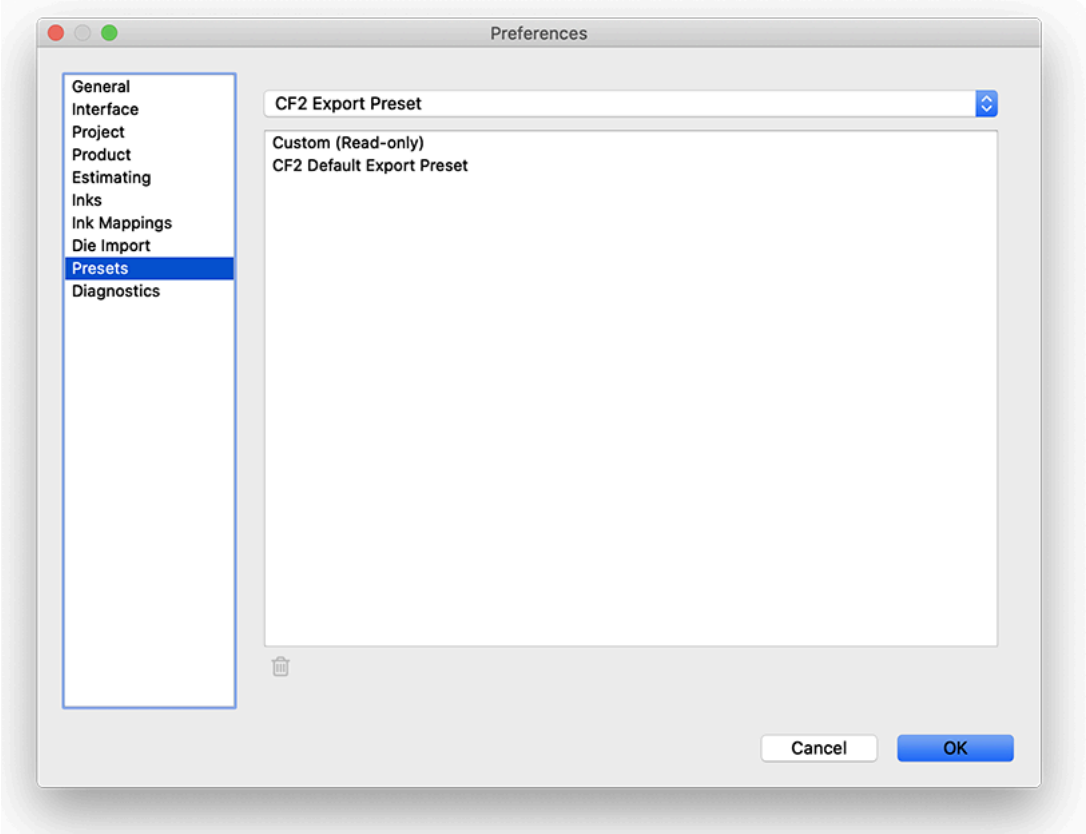
2.5.12. Presets

Phoenix allows you to create presets for the following items in the configuration to store commonly use settings:

- CF2 Export
- CF2 Import
- Cover Sheet Export
- Cutting JDF Export
- DDES2 Import
- DDES3 Import
- DXF Export
- DXF Import
- Dynamic Ink Mapping
- Dynamic Keyword Mapping
- HP JDF Export
- Imposition AI Profile
- JDF
- JSON Job Report
- Number Style
- PDF Die Export
- PDF Job Report
- PDF
- Product CSV Import
- Step & Repeat
- Stock CSV Import
- Structural PDF Import
- Tiling Report
- Vector Export
- XML Job Report
- ZCC Export

Each of these presets are created in their respective locations within Phoenix. For instance, the PDF Die Export Preset can be created or modified in the File > Export for Cutting > PDF... window. Once the dialog is open, make the desired changes, and click **Save Preset** at the top of the window.

To see a list of your current presets, and to remove presets, navigate to the Preferences window and select "Presets" from the left side of the Preferences window.



Field	Description
Preset Selection	This dropdown shows the various types of presets available
Remove	After selecting a preset in the list, you can remove them by clicking this trash icon

2.6. Working with Phoenix

Phoenix is designed from the ground up to be easy to use, yet powerful and feature rich. There are many different windows and menu options, which are explained in detail below.

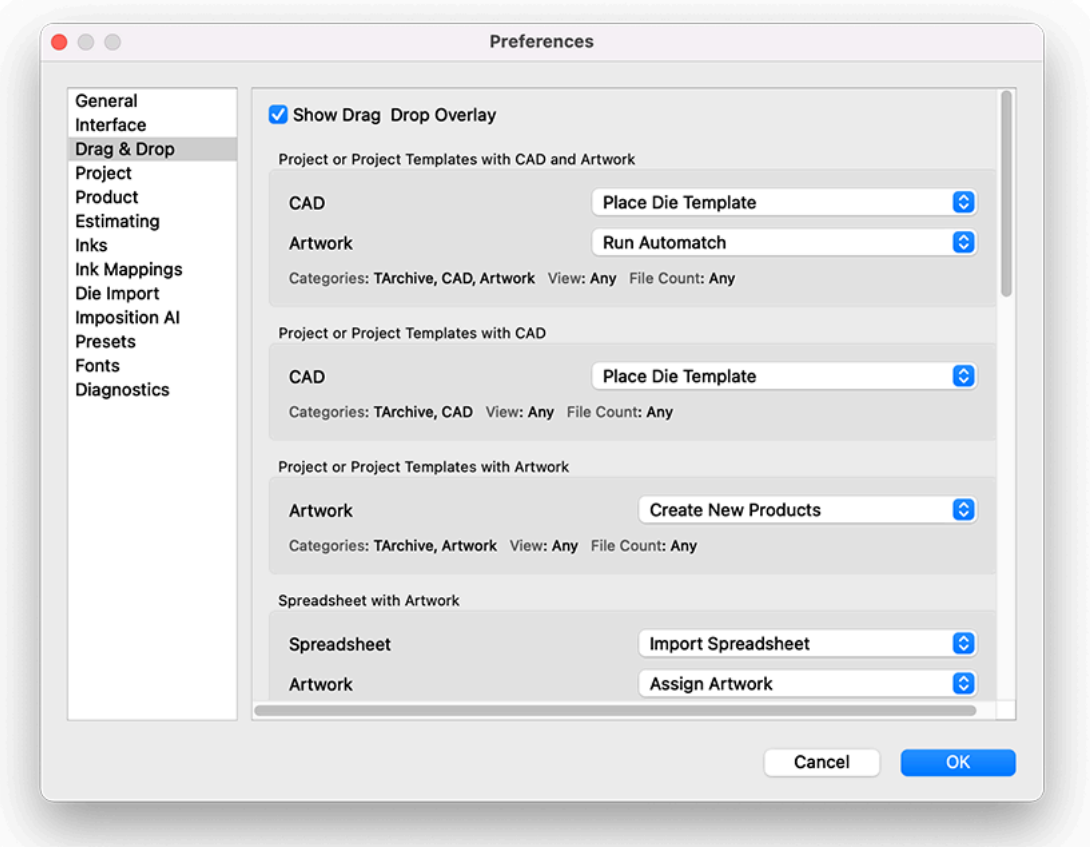
2.6.1. Main Window

The main window of Phoenix consists of the Project window, various Panels surrounding the Artboard, and Toolbars. In addition, there are menu options that provide further options for what is displayed and what can be done with the current project.

2.6.1.1. Drag and Drop

Drag and drop behavior in Phoenix has been greatly enhanced in 8.0 with a novel, patent pending approach that results in significant productivity boosts for several common use cases. Now, when dragging files into Phoenix, an overlay is displayed explaining the default behavior and in many cases giving alternative actions to perform by dragging the file(s) into clearly designated regions within the overlay.

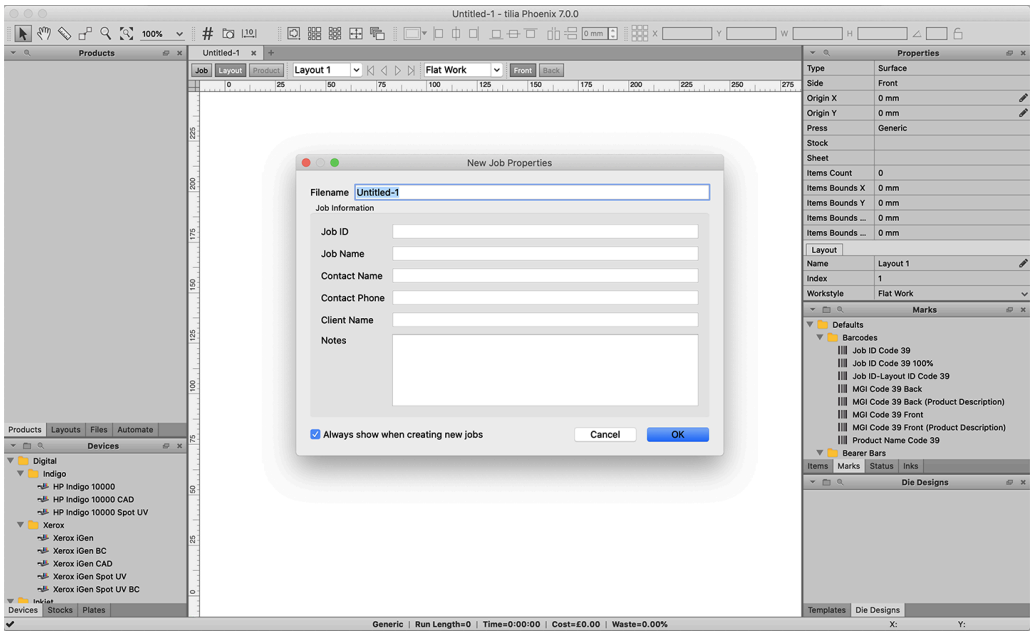
Furthermore, multiple actions are now performed when two or more file types are dragged into Phoenix at a time to automate common tasks like placing a die template and snapping artwork files into it or importing a spreadsheet and assigning artwork files to products by filename. The default actions performed for various drag and drop scenarios involving one or more file types can be customized in Preferences → Drag and Drop.



2.6.2. Projects

Phoenix uses the concept of Projects. A project in Phoenix can contain multiple products, or artwork files. Projects also contain layouts, which are imposed products on a particular sheet or roll. A Phoenix project also refers to a file saved in the native Phoenix format, .phx, which saves the entire project, including any layout(s), product(s), mark(s), and so on.

To create a project, navigate to the **File** menu and select **New Project**. A project will open, and depending on your preferences, a **New Project Properties** window will appear.



Here you can set various project properties that will be saved along with the project and can be used in **Dynamic Keywords** later. Once the New Project Properties window is closed, or if it's set to not display in **Preferences**, you'll see the main project window.

2.6.2.1. Project Views

There are multiple ways to view at a project. The views are Project, Layout, and Product, and are shown just below the project tab at the top of the Artboard. The views are briefly described below, and more detail for each view is provided later in the user guide.

Project View

The Project View provides an overview of the project, almost like a digital project ticket. There's a summary section that shows the total run length, cost, waste, sheet usage, press time, and percent of overage or under for the project. In addition, it shows a layout-by-layout breakdown of the press and sheet used for that layout, along with the layout run length, cost, waste, sheet usage, press time, and overage or under.

Layout View

The Layout View shows a selected layout on the arboard and allows you to modify it. Each layout is interactive, so if anything needs to be moved or changed, you can simply click on it and drag it to another location, replace it, or remove it. You can drag products from the Products panel into a layout to manually make a layout, or view a layout that has been created via Imposition AI.

Product View

The Product View shows a single product on an artboard and allows you to edit the product and set product parameters.

2.6.3. Panels

Each of the panels surrounding the artboard has a different purpose, but they all have a similar setup. Panels are used to show all of the Things available to Phoenix, such as Devices, Plates, Stocks, as well as resources like Marks, Templates, and Die Designs. Panels also are used to display information about the open project, such as Products, Layouts, Items in the project, Inks, and Properties.

2.6.3.1. Working with Panels

Each panel can be closed or opened by navigating to the Window dropdown and clicking on the panel name. You can also close panels by clicking on the X in the top right of each panel, and pop out a panel into it's own window by clicking the button in the header of the panel.

Alternatively, you can right-click on any panel header to bring up a contextual menu from which panels can be opened and closed.

Panels can be rearranged and repositioned through a simple drag and drop interface to make customizing your workspace easy.

New in Phoenix 7.0, panels are also searchable by clicking the magnifying glass icon in the header. This makes it incredibly easy to find items that are in large libraries.

Also new in Phoenix 7.0 is the ability to import and export individual libraries as opposed to only being able to import and export all Phoenix libraries. Phoenix libraries can be exported and shared by clicking the dropdown in the top left corner, and selecting the **Export Library** option. This can then be imported into Phoenix using the **Import** option from the same dropdown menu. Individual library items can also be exported by right clicking on the item and selecting **Export**.

2.6.3.2. Copying Library Items

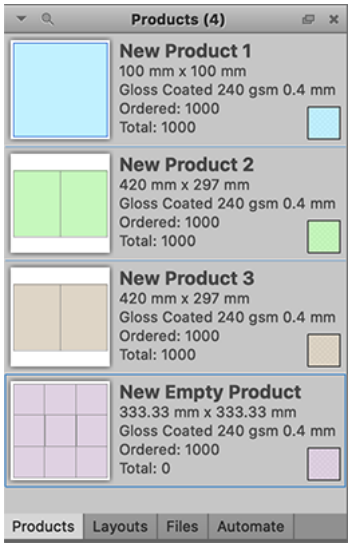
If you would like to make a copy of a library item (Press, Plate, Mark, Mark Set) you can right click on the item and select "Duplicate". This makes a copy of the item in the same folder as the original. Now if you want to move the copy to a different folder you can drag and drop the new item into the folder.

Pressing Control while dragging and dropping the original item will keep that item in place while making a copy of the item. If you want to make a copy in the same folder make sure to keep the cursor position within that folder. You can also move the cursor into a different folder to make the copy directly into that destination folder.

2.6.3.3. Products

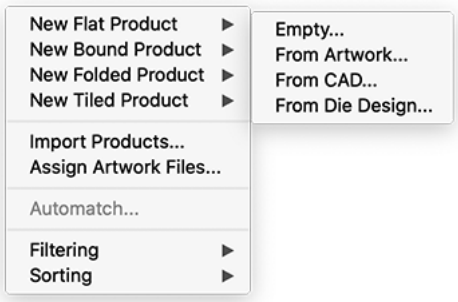
The Products panel shows all the products currently in the project. Each product has a thumbnail on the left side, the name of the product, the product size, stock, ordered quantity, and total

quantity placed in the project. Products also have a color assigned that represents the product die shape if the artwork is hidden in the Items view and also displayed in reports (if Show Artwork is disabled) and Imposition AI summary previews



The Products panel is useful for selecting products to manually create layouts by dragging and dropping from the Products panel into a Layout.

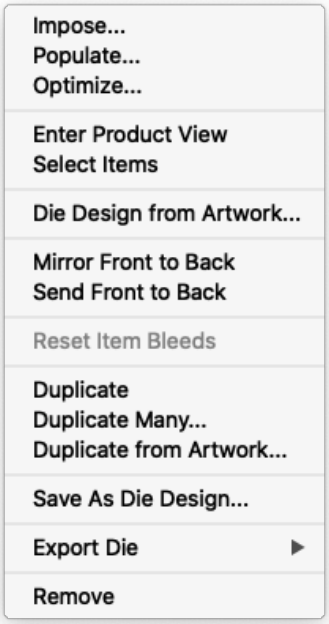
Create New Products



To create a new product, click the dropdown in the top left of the panel, find the product type you wish to create, and then select the artwork source. For more in depth info on products, check out *Projects* on page 170.

Contextual Menu

If you right click on a product, you have some additional options from the contextual menu.



Option	Description
Impose, Populate, Optimize	Quickly run Imposition AI on the product
Enter Product View	Open this product in the Product View
Select Items	Selects all instances of this item in the current layout
Die Design from Artwork	Opens the Tool Mapping window to create a die design from layers or inks in the artwork
Mirror Front to Back	Mirrors the artwork on the front of the product to the back
Send Front to Back	Copies the artwork from the front of the artwork to the back
Reset Item Bleeds	Resets the item bleed to the default value specified in Preferences
Duplicate	Create a copy of the product
Duplicate Many	Create multiple copies of the product
Duplicate from Artwork	Create a copy of the product with different artwork
Save As Die Design	Saves the die shape of the product to the Die Design library
Export Die	Exports the die shape as a CFF2, DXF, or PDF
Remove	Removes the product from the project

Filter and Sort

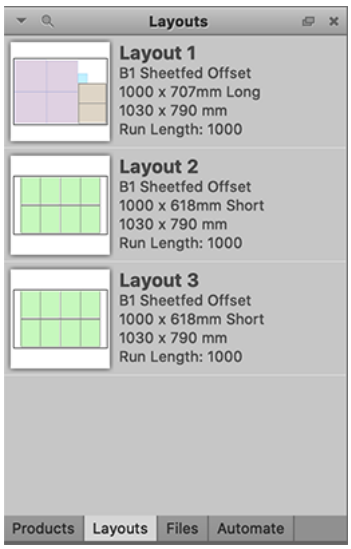
The Products panel allows for filtering and sorting to make it easier to view specific products. You can filter and sort through the dropdown menu in the top left of the panel.

2.6.3.4. Layouts

The layouts panel shows all layouts currently in the project. Each layout has a thumnail with the product colors to show a representation of the layout, along with the stock, size, and run length displayed. You can add new (empty) layouts from the dropdown in the top left of the panel.

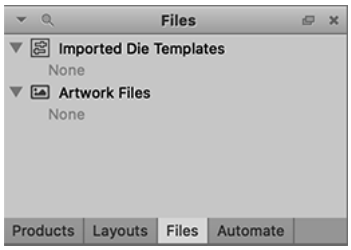
In addition, there are a few important options available by right-clicking an existing layout. First, you can enter the Layout view for that particular layout (you can also enter the layout view by simply double-clicking a layout in the list).

Next, you can save the layout (including product die designs and their positions) as a template for reuse. You can also export the layout, either with die information as a CFF2, DXF, PDF, ZCC, or Cutting JDF file, or export vector separations of the layout. Finally, you can remove a layout from a project.



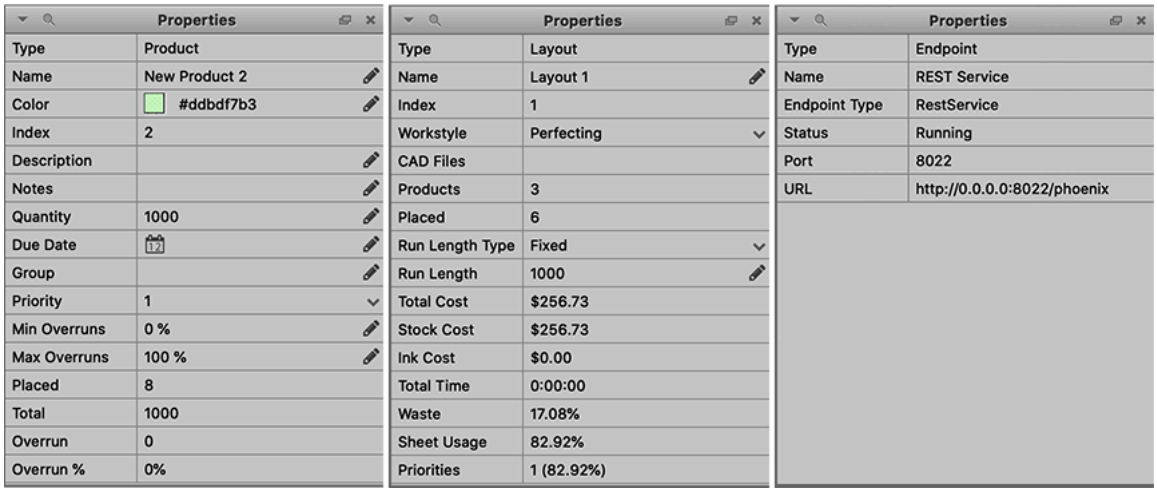
2.6.3.5. Files

The Files panel displays a list of all external files used in the project, separated by imported die templates and artwork files. You can import die templates through this panel using the dropdown menu option.



2.6.3.6. Properties

The Properties panel is one of the most important panels in all of Phoenix. It dynamically shows the properties of the currently selected item. Some properties may be editable, and these are notated with the pencil icon ( ). You can double click these fields to edit the property of the selected item. Each item in Phoenix has unique properties.

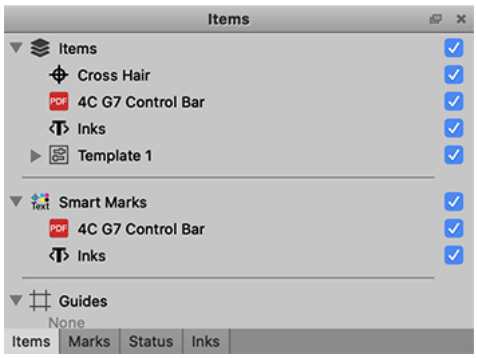


Custom Properties

You can add custom properties to Projects, Layouts, Layout Surfaces, Product Parts, Product Components, and Library Items, which can be referenced later in keywords and through the optional Scripting module. To add a custom property from the Properties panel, click the dropdown in the top left of the panel and choose **Add Property**.

2.6.3.7. Items

The Items panel displays all items in the current layout. This includes all marks, templates, and products. The items can be rearranged through drag and drop to re-order the items, or through the context menu. You can toggle the visibilty of an item by clicking the checkbox to the right of each item.



2.6.3.8. Inks

The Inks panel displays the inks in the current layout or product. For each ink, a swatch is displayed, followed by the ink index, the name of the ink, and the ink type.

The ink order can be changed through dragging and dropping an ink, or by right-clicking on an ink, selecting "Change Ink Order" and specifying the desired ink index for that ink. In addition, the ink type can be quickly changed by right clicking on the current ink type and selecting the desired ink type. Otherwise, the ink types are pulled from the Phoenix Preferences.

New in version 8.0, Phoenix has a **Separations View** which can be enabled by toggling off one or more Inks. Simply click on the Swatch next to the Ink name, which will automatically switches the current view to Output Preview mode for more accurate rendering of the currently visible inks. Note that current ink visibility is purely a display feature and does not affect the way layouts are exported in any way. In the screenshot below, the *Dieline* and *TiliaVarnish* inks have been disabled, as can be seen by the Swatch not being filled.

Starting in Phoenix 8.0, any ink in product components and in layouts can be removed at any time. Inks are removed directly from the Inks Panel or from the product page color properties list in the Properties Panel. This allows users to remove inks that should not have been included in imported artwork or inks that were detected incorrectly during the import process.

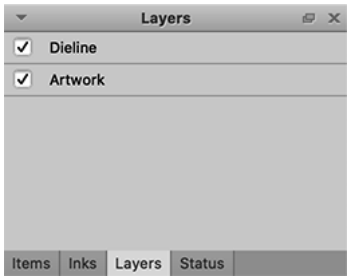
An ink can be added from the ink library by clicking the drop-down in the top left of the panel. You can also reset the ink order in that same menu by clicking "Reset Ordering." Finally, if there are any inks listed in the Inks panel that are unused, you can select "Remove Zero Coverage Inks" to remove them from the Inks panel.



2.6.3.9. Layers

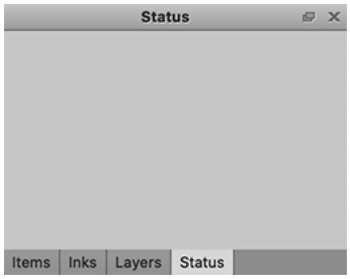
The Layers panel displays the PDF layers in artwork files in either the product view or layout view. You can turn the visibility on/off by clicking the checkbox next to the layer, which will then affect output from Phoenix.

New in version 8.0, the Layers panel is now active in Project View, showing all layers across every layer in the current project. Each individual layer can be turned on or off in Project View which turns them on and off in all layouts where this layer is present.



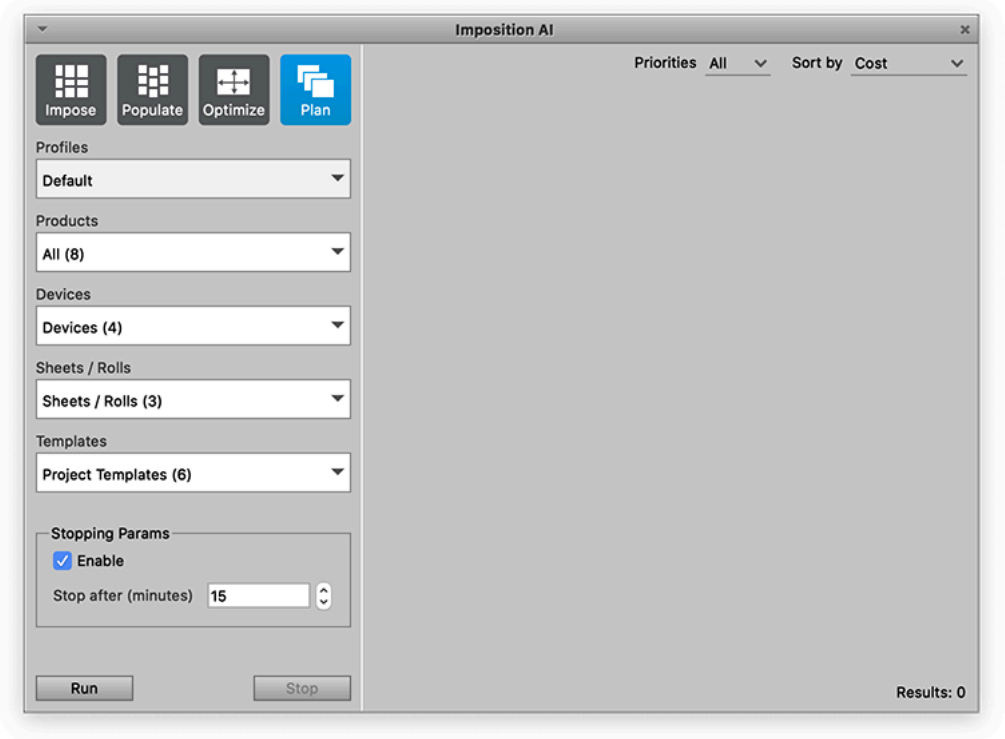
2.6.3.10. Status

The Status panel shows various warnings and errors that may occur in a project.



2.6.3.11. Imposition AI

The Imposition AI panel allows you to run the four Imposition AI tools, specify exactly how you want Imposition AI to run, and what criteria should be evaluated when run.



For the Plan and Optimize tools, you can choose the profile to be run, the products to evaluate, which devices you want to use, what sheets or rolls should be considered, and what templates Imposition AI can attempt to use. The Impose and Populate tools don't have the Devices and Sheets/Rolls options, as they only look to find results with the current device and stock in the project. In addition, Populate doesn't have an option for Templates.

The other option for running Imposition AI is the Stopping Parameters. The Stopping Parameters simply allow you to specify if Imposition AI should stop searching for results after a preset amount of time. In some cases, Phoenix could continue searching for results, but in most cases, it should finish searching in a reasonable amount of time.

Finally, the Imposition AI panel allows you to sort results. By default, the results are sorted by cost, but you can change this to sort based on time, waste, sheet usage, run length, or layout count. When using Plan mode, you can also enable the **Priorities** option, which restricts Imposition AI to only plan products that have a priority value within a certain range.

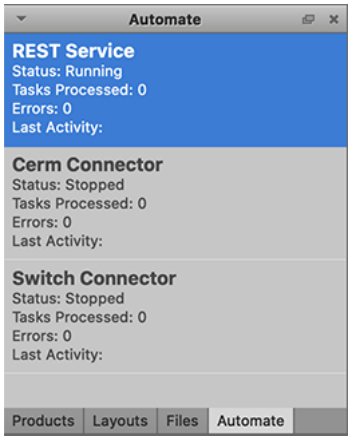
While running Imposition AI, a status message will appear to update you on the status until results are found. If Imposition AI is run with a Zund Cutting Device configured to connect to Zund Cut Center Server, Imposition AI will report the status of the connection until it is connected.

For more detailed information on Imposition AI Profiles and Modes, please see the dedicated page to *Imposition AI* on page 201.

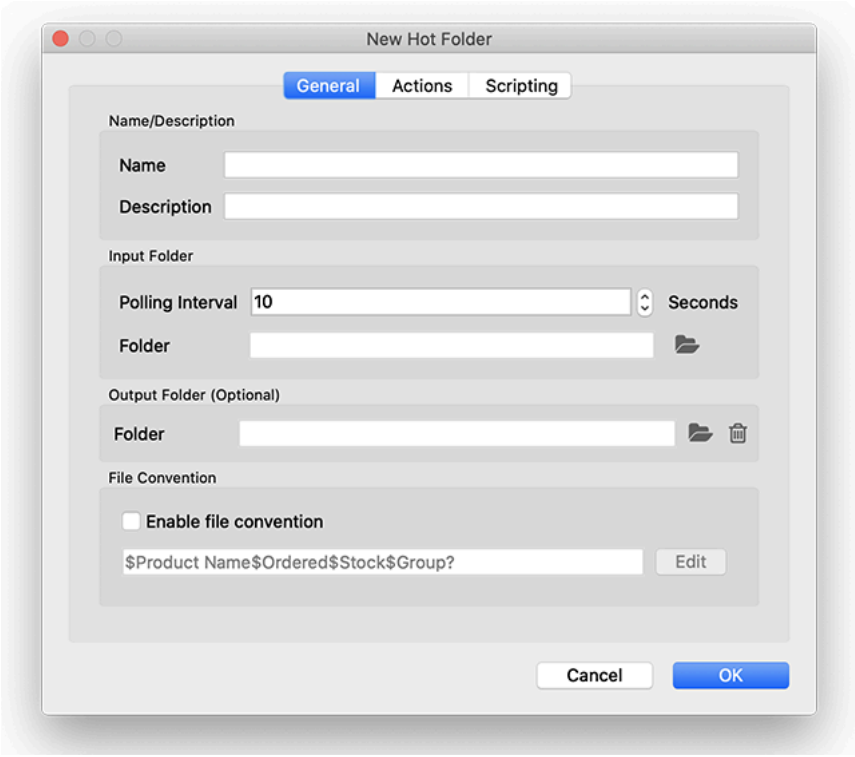
2.6.3.12. Automate

The Automate panel is where Phoenix automation can be configured and managed. The Automation module is an optional part of Phoenix and is spelled out in detail in the **Automation Guide**. See *https://www.esko.com/en/support/product?id=Phoenix*.

To use the panel, first add an automation type through the drop-down menu. You can choose from Hot Folder, REST service, Switch connector, or CERM connector. Once added, you can right-click the service to configure it.



For hot folders, you'll need to specify the details of the hot folder before you can add it. When you add a hot folder, the hot folder setup will pop up and allow you to set the following options:



Field	Description
Name/Description	Set the desired name and description of the hot folder
Polling Interval	Set how often should the hot folder check for new files
Folder	Choose the folder to be monitored where new files will be ingested for the hot folder.

Field	Description
(Output) Folder	Optionally set the output folder where successful files will be placed
File Convention	Optionally enable and define the *File name Conventions*

For the Actions tab, click the **Load...** button to select the actions .xml file that defines the actions to be completed by the hot folder.

On the Scripting tab, you can click the folder icon at the bottom to optionally load a script to run on input files in your hot folder.

For more information on Hot Folders, see the dedicated pages in the Automation guide. See *https://www.esko.com/en/support/product?id=Phoenix*

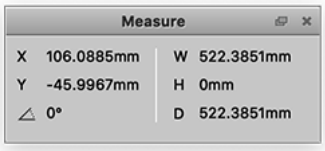
2.6.3.13. Commands

The Commands panel shows a reverse chronological history of the commands run in Phoenix.



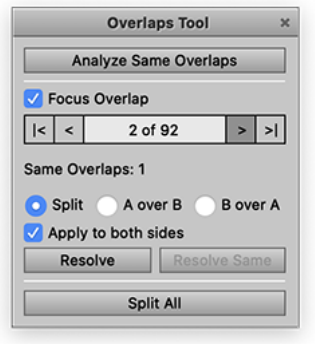
2.6.3.14. Measure

The Measure panel is used in conjunction with the Measure tool to display the X and Y coordinates of the cursor on the layout, along with the width, height, distance, and angle of the measured line.



2.6.3.15. Overlaps Tool

The Overlaps Tool panel is used to analyze the current layout for overlaps and control how overlaps should be handled.



The Analyze Same Overlaps button searches for overlaps that are the same across the layout to enable the Resolve Same button for handling all similar overlaps at once.

Focus Overlap enables Phoenix to automatically zoom to highlight and focus on the selected overlap. You can click through the various overlaps with the arrow buttons, and select how they should be handled from the following options:

- **Split** - splits the overlap down the middle between the two objects
- **A over B** - allows object A to overlap on top of object B
- **B over A** - allows object B to overlap on top of object A
- **Resolve** - applies the selected overlap decision
- **Resolve Same** - applies the selected overlap decision to all same overlaps
- **Split All** - Splits all overlaps in the project

2.6.4. Artboard

The Artboard is shown when in the Layout View or Product view and is where layouts or products can be previewed and manipulated.

2.6.4.1. Artboard Toolbar

The Artboard Toolbar is the toolbar shown just below the project tab in Phoenix.



The Artboard Toolbar allows you to change views of the project between the Project View, Layout View, and Product View. In addition, each view has additional tools available specific to that view as described in detail below.

2.6.4.2. Project View

The Project View provides an overview of the project, broken down into a project summary, layouts, and templates.

The Summary provides data about the entire job, including total run length, cost, and time, as well as figures for the average waste, sheet usage, and unders or overs.

The Layouts section provides a breakdown of each layout. This includes the devices and sheet used for the layout, total run length required, cost, waste, sheet usage, estimated time, and unders or overs.

Finally the templates section provides a list of templates used in the project, as well as what layouts they are used on, the source of the template, Die Making information, and any file path if using a referenced template.

2.6.4.3. Layout View

The Layout View displays a selected layout in the project. You can choose which layout is selected via the dropdown in the Artboard Toolbar, or by double clicking a layout in the Layouts panel. In addition, the Artboard Toolbar contains a dropdown for selecting the work style of the layout, and a toggle to display either the front or back of the current layout.

Work and Turn / Work and Tumble

New to Phoenix 8.0, you can change the work style of a layout to **Work and Turn** or **Work and Tumble**.

If you choose **Work and Turn**, the layout automatically changes to reflect the change, and you'll see a dividing line running vertically in the middle of the layout, while **Work and Tumble** will do the same thing but with a horizontal line showing the axis that is used to flip the sheet. Everything on one side of the line shows the front of the product, and the other side shows the back, reflecting the workstyle chosen. While working with the layout manually in this workstyle, any changes you make to positioning is reflected on the opposite side to keep the products in perfect register. You can build up and manually edit with the full set of artboard tools, such as the Step & Repeat tool and the Alignment and Geometry toolbars.

Editing Items in a Layout

Layouts in Phoenix are always editable - you can just click and drag to move items, or use any of the tools at any point. There are a few tips and tricks to make Phoenix even easier to use and get print ready files out quicker.

You can move any item by clicking and dragging, and can restrict the movement to be only horizontal or only vertical by holding the Shift key while dragging. In addition, you can hold the Option key to make a copy of the item as you drag and drop. If you have multiple items on a layout, Phoenix will automatically help you align items by snapping to bounds of other items on the layout to make alignment even easier. If you drag a product next to another product, Phoenix will auto-snap the products so the bleeds are perfectly aligned. Keep dragging and you can auto-snap the dielines if you want a dutch-cut.

New to version 8.0, you can interactively rotate items in the Layout view. Simply select an item and move the cursor to a corner of the bounding box. The cursor will change shape to indicate rotation, and you can rotate by clicking and dragging to the desired rotation. Holding the Shift key will lock the rotation to 45° increments.

Phoenix also makes replacing artwork very easy. If you have a product in a layout, simply click it to select it. Then find a different product in the Products panel, click and drag it on top of

the existing artwork in the layout, all while holding the control or command key. Phoenix will automatically swap out the artwork without changing the product placement.

2.6.4.4. Product View

The Product View displays a singular product from the project. You can select the product to view by double-clicking in the Products panel to enter the Product View, or click the Product View button in the Artboard Toolbar. Each product type provides slightly different tools in the Artboard Toolbar for working with the product.

All products contain the Pages view, which displays the pages in the product and allows you to assign artwork to a page.

Flat Product

Flat Products show the following tools in the Artboard Toolbar:

A - Front and Back options provide a quick toggle to view the front or back side of the product.

B - The Choose Artwork button allows you to choose an artwork file to assign to the product. The dropdown option provides perform Page Mapping for both the Front and Back of the product.

C - The autosnap dropdown allows you to use the autosnap tool on a layer or ink to have Phoenix automatically find the die shape based on an ink or layer in the artwork. If artwork is assigned to the product, the Autosnap Analysis tool will appear to display if and how an autosnap match was detected.

D - The bleed opacity slider allows you to define how much of the artwork outside of the bleed should be displayed in the Product View. *Note that this does not affect output, but is a useful tool for seeing artwork outside of the bleed.*

E - The Die Design dropdown allows the Die Design to be set from an external CAD file, from the artwork using a tool type mapping, from the trim box of the artwork, or based on custom dimensions.

F - The Edit Die Design button allows you to manually edit the die design. When this button is selected, the product enters the Die Design Editor mode. This mode allows you to click and select any die lines in the artwork and assign a line type using the dropdown menu that appears in the toolbar. Further, you can use Shape Search along with setting a Gap Margin to find a die design from current die lines. You can also use the Drawing tools which appear under the main Toolbox at the top of the screen to select, draw, and edit die lines in the artwork.

G - The Generate Bleed Mask from Die allows you to easily create a bleed mask based on the die shape of the product.

H - The Rectangular Bleed Mask button creates a rectangular bleed mask based on the bounds of the die shape.

I - The No Bleed Mask button disables the bleed mask altogether.

J - If there is a bleed mask, this field allows you to specify the bleed distance. This value can also be set in the product's properties using the Properties panel.

Bound Product

Bound products have two primary view modes, parts/sections and signatures.

The Parts/Sections view allows you to visually see the parts that make up the bounded product, including the folding pattern and how the signatures are bound together.

You can add, match, or remove signatures through the buttons in the toolbar or by right clicking in the main window. You can easily add a signature in a particular location by right clicking on the signature just before or after the spot where you want to add the new one.

The other main view is the Signatures view, which shows each individual signature.

A - The signature dropdown allows you to select a particular signature to view. You can also double click on a signature in the Parts view to open it up in the Signature view.

B - Easily toggle between signatures using the arrow selectors.

C - Choose the front or back side to display.

Folded Product

Folded products have the same Signature View as described above in the bound Signature section.

Tiled Product

Tiled products give you two views, one for all of the tiles together, and then one for individual tiles.

The Tiles view shows an overview of all the tiles in the product.

In the Tiles view, you have many of the same options as for normal Flat products. In addition, there is a toggle to show the overlay of the tiles on the Product, or to just display the tiles with dummy colors to easily view the shapes.

The Tile view shows each individual tile. The toolbar allows you to choose which tile to view, along with the standard product toolbar buttons.

2.6.4.5. Artboard View

Just underneath the artboard toolbar is the Artboard itself. There are a few items to point out in the artboard:

- **Rulers** - Rulers are shown along the top and left sides of the artboard and behave similar to the rulers in other programs. You can see and change the units in the ruler by right-clicking on it and choosing a different unit. You can also create a horizontal or vertical guide line by clicking and dragging from the ruler down or over into the artboard. These guides can then be locked in place or removed by right-clicking on the guide line. The guides can be repositioned by clicking and dragging, or by single clicking to select a guide and then typing in an exact position in either the Y or X coordinate in the toolbar.
- **Origin** - By default, the origin of a layout is in the bottom left corner of a layout. To move the origin, you can either right-click on the area where the two rulers meet, or click and drag from this area and then release at the spot where you'd like the new origin to be.

2.6.5. Toolbars

The tools in the main Toolbar are split into six sections. The different sections can be shown/ hidden from the Window -> Toolbars sub-menu or by right clicking on the toolbar and checking the sections to be shown.

Phoenix is built for speed. This secion also describes the shortcuts in Phoenix that can dramatically cut down the time it takes to build print-ready layouts in Phoenix. To switch between tools, you can click on the corresponding button or you can use the keyboard shortcut (as long as the corresponding tool is visible).

2.6.5.1. Toolbox

Some of the most frequently used tools in Phoenix are placed in the Toolbox Toolbar.

Tool	Hotkey	Tool Overview
Selection	**v**	Main selection tool for selecting items, entering item context, moving items and more
Hand	**h**	Hand tool for moving artboard around and zooming in and out
Measure	**m**	Measure distances between items in artboard
Move	**t**	Move one product relative to another by selecting reference points on die lines between the two
Zoom	**z**	Zoom in and out of the artboard
Fit All in View	**ctrl+alt+0**	Fit all items in the current artboard into view

2.6.5.2. Selection Tool

ypically, left click is used with Selection Tool (v) to select a given item while right click on an

item will show that item's Content Menu. Left clicking and dragging the mouse in an area

with no items will create a selection area that will select all items inside the rectangle when you release the mouse button.

The following additional are available:

Forcing Selection Area

Shortcut: Control + Shift + Left Click + Mouse Drag

Description: Normally selection area gets created when you start Left Click + Mouse Drag in an area with no items. Sometimes you will want to select multiple items with selection area but it is difficult or impossible to start selection area in an empty region. If you hold down the Control and Shift keys, a selection area will be created regardless of whether an item is beneath the cursor or not.

Multiple Item Selection

Shortcut: Shift

Description: To add more items to your current selection, hold down the Shift key while clicking on the additional items. Similarly, hold Shift key while using Selection Area to add all items in the current mouse selection area to your existing selected item(s).

Alt+Drag Duplicate

Shortcut: Alt + Left Click Item(s) + Mouse Drag

Description: Holding the Alt key while moving items in the Artboard with your mouse will duplicate the item in the destination instead of moving the items, essentially performing duplicate and move in a single action.

Alt+Drag Duplicate works on single items as well as multiple selected items, giving you the power to duplicate entire groups of items to a specific location in one shot. All relative positions of selected items are preserved during this action.

Alt+Click

Shortcut: Alt + Left Click when item(s) are selected

Description: This shortcut behaves similarly to Alt + Drag Duplicate. Select item(s) and click anywhere on the artboard to duplicate those items in the location of the mouse click. The new duplicate item(s) will be centered in the cursor position of the click. For multiple item selection, the relative positions of items are preserved.

Swap Items Shortcut

Shortcut: Control + Left Click Item(s)

Description: You can swap two items or groups of items in the sheet in a single action by selecting an item (source) and click on another item (destination) while holding the Control key. The selected source items will move to the position of the clicked destination item while the destination item will move into the position of the source items. Product items, marks, and groups can all be swapped using this shortcut. If any source or destination items are locked, a dialog will appear explaining the swap action cannot be performed.

The reference point used during Swap Items is controlled by the 9-point selection widget in the Geometry Panel. For example, if the center point is selected in the Geometry Panel, the center source and destination item positions are swapped. If the lower-left corner of the 9-point selector is chosen instead, the lower-left corner positions of source and destination items are swapped.

Multiple destination items can be swapped by holding the Control key and left mouse button while dragging the mouse to create a selection area. Once the mouse button is released, all items in the selection area will be treated as destination swap items. This features allows you to quickly swap entire groups of items without explicitly grouping them beforehand.

Zooming in Selection Tool

Shortcut: Control + Mouse Scroll Wheel

Description: You can quickly switch to the Zoom Tool to zoom in and out of the Artboard but if your mouse has a scroll wheel it can be even faster to stay in the Selection Tool, hold down the Control key and move the scroll wheel up and down to zoom in and out.

Scrolling Up and Down in Selection Tool

Shortcut: Mouse Scroll Wheel

Description: To move the Artboard up and down in Selection Tool move your mouse scroll wheel up and down respectively.

Fit Item in View

Shortcut: Alt + Shift + Left Click

Description: If you hold the Alt and Shift keys and click on an item, the Artboard will automatically zoom in fitting the item in the visible space. For example, if you want to zoom into a specific mark, hold down Alt and Shift and click on the mark in the Selection Tool.

Entering Item Context

Shortcut: Double Click

Description: If you want to edit child items of another item, such as Repeat Marks within a Repeat or Artwork within a Product, double click on the parent item(s) until you are in the desired context to perform edits.

Leaving Item Context

Shortcut: Escape

Description: To quickly leave any item context and go back to the global context press the Escape key. Note this also works for leaving Overlaps Tool Mode, Output Preview Mode and other context-based tool modes.

Delete Multiple Anchors Shortcut

Shortcut: Shift + Delete

Description: Removes all currently selected anchor points in a single action. Available in both Die edit and Bleed edit modes

2.6.5.3. Hand Tool

Hand Tool (h) works normally by holding down the left mouse button and dragging to move the Artboard around. This is at times the most efficient way to move around.

Zooming in Hand Tool

Shortcut: Mouse Scroll Wheel

Description: You can quickly switch to the Zoom Tool to zoom in and out of the Artboard but if your mouse has a scroll wheel you can also zoom in and out by moving the scroll wheel up and down.

Spacebar Shortcut

Shortcut: Hold down Spacebar key

Description: Hold down the spacebar at any time to temporarily switch to the Hand Tool. Once the spacebar is released the previous tool will be restored. This shortcut allows you to pop into Hand Tool to do fast navigation before continuing with your current tool without having to switch back and forth.

2.6.5.4. Measure Tool

Measure Tool (m) works normally by holding down the left mouse button to start measuring, dragging the cursor to the desired location and releasing the button to take a measurement at any angle. When starting a measurement, the Measure Panel will appear automatically if not visible.

Forcing Horizontal or Vertical Measurements

Shortcut: Shift + Left Click + Mouse Drag

Description: Holding down the Shift key while taking measurements forces the measurement line to be either horizontal or vertical depending on current cursor position. This is useful for measuring the distance in a single dimension only.

2.6.5.5. Zoom Tool

Zoom Tool (z) will zoom into the Artboard when left mouse button is clicked. Also you can zoom into a defined area by holding down left mouse button, dragging the mouse to define the desired zoom area and releasing the mouse button.

Zooming Out in Zoom Tool

Shortcut: Control + Left Click

Description: Holding down the Control key while clicking will zoom out slightly instead of zoom in.

2.6.5.6. Imposition AI

The Imposition AI toolbar is available when the license includes the Imposition AI module.

Tool	Hotkey	Tool Overview
Smart Place	**s**	Select an open area in the layout to find unfulfilled products in the project that can be placed while honoring spacing and media margin constrains

Tool	Hotkey	Tool Overview
Impose		Opens the Imposition AI dialog and runs the Impose tool with the latest settings
Populate		Opens the Imposition AI dialog and runs the Populate tool with the latest settings
Optimize		Opens the Imposition AI dialog and runs the Optimize tool with the latest settings
Plan		Opens the Imposition AI dialog and runs the Plan tool with the latest settings

2.6.5.7. Alignment

The Alignment toolbar provides tools to quickly align selected items to media or other items.

Tool	Tool Overview
Alignment Target	Select what target the alignment is to be based off
Align Left	Align to the left edge of the alignment target
Align Center Horizontal	Align to the horizontal center of the alignment target
Align Right	Align to the right edge of the alignment target
Align Bottom	Align to the bottom edge of the alignment target
Align Center Vertical	Align to the vertical center of the alignment target
Align Top	Align to the top edge of the alignment target
Span Horizontally	Horizontally space the selected items evenly spanning the alignment target by the given gap distance

Tool	Tool Overview
Span Vertically	Vertically space the selected items, evenly spanning the alignment target by the given gap distance

2.6.5.8. Geometry

The Geometry toolbar reports the positions, rotations, and dimensions of selected items and when possible allows you to accurately define new values for them.

Tool	Tool Overview
Reference Point	Set the reference point for the item
X Position	X position of item relative to the reference point. When possible, item position(s) can be moved by editing this field.
Y Position	Y position in layout relative to the reference point. When possible, item position(s) can be moved by editing this field.
Item Width	Item width. When possible, item widths can be changed by editing this field.
Item Height	Item height. When possible, item widths can be changed by editing this field.
Item Rotation	Item rotation. When possible, item widths can be changed by editing this field.
Lock Items	Lock/Unlock items

2.6.5.9. Marks

The Marks toolbar contains mark-related tools Place Numbers, Camera mark, and Dimension Mark.

Tool	Hotkey	Tool Overview
Place Number	**n**	Place new Product Number Marks directly into Products in Product or Layout View by mouse click
Camera Mark		Manually place a camera mark in the layout by clicking mouse in the artboard

Tool	Hotkey	Tool Overview
Dimension Mark	**d**	Manually create a dimension mark by clicking on snap points in Product or Layout View to measure distances

2.6.5.10. Drawing

The drawing tools are used for drawing and editing die designs and bleed paths in die edit and bleed edit modes, drawing shape marks to products or layouts in normal mode, or manipulating bleed overlaps in overlaps mode.

Tool	Hotkey	Tool Overview
Direct Selection	**a**	Select and move individual control points on a path in die edit and bleed edit modes.
Line	**l**	Add new lines in die and bleed edit modes. Draw line marks in normal mode.
Rect	**r**	Add new rectangles in die and bleed edit modes. Draw line marks in normal mode.
Ellipse	**e**	Add new ellipses in die and bleed edit modes. Draw line marks in normal mode.
Pen	**p**	Draw paths (lines and curves) directly in the shape in die edit and bleed edit modes.
Add Anchor Point	=	Add anchor points to an existing path in die edit and bleed edit modes.
Delete Anchor Point	-	Delete anchor points to an existing path in die edit and bleed edit modes.
Anchor Point Tool	**shift + c**	Select anchor points and manipulate the handles to change the curve shape in die edit and bleed edit modes.
Cut	**c**	Clicking on a path splits the path segment in two in die edit and bleed edit modes. In overlaps mode, drawing a line splits bleed overlaps in

Tool	Hotkey	Tool Overview
		two so they can beresolved independently.

2.6.5.11. Cut Overlap Tool

The Cut Tool (c) works in Overlap Mode by drawing a line bisecting a given overlap. Start the cut by holding the left mouse button and moving the cursor to the desired endpoint.

Releasing the left mouse button will perform the cut on the overlap closest to the start point of the line drawn.

Cutting All Same Overlaps at Once

Shortcut: Control + Left Click + Mouse Drag

Description: Holding down the Shift key while drawing the bisection line will cause the overlap cut to extend to all other identical overlaps in the layout. For example if you have the cartons with the same flaps overlapping 20 times that all need to be cut before resolving, holding the Control key during overlap cut will perform all 20 cuts at once.

2.6.6. View Menu

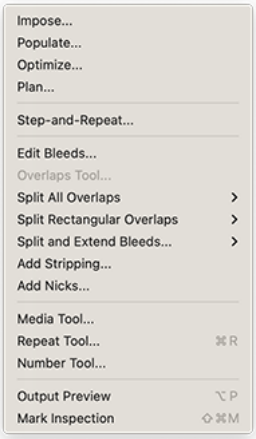
The View Menu in the top menubar of Phoenix (or in the Mac Menubar) provides additional ways to view Phoenix.

These options give an easy way to change the artboard view, or provides a way to show or hide a path, tool type, or attribute of an item in the artboard.



2.7. Phoenix Tools

Phoenix has a number of tools available to make creating and editing layouts fast, efficient, and easy. These tools can be accessed from the Tools menu at the top of the window on Windows, or in the Tools dropdown in the menu bar on a Mac



2.7.1. Imposition AI

The dropdown options for Impose, Populate, Optimize, and Plan are shortcuts to open Imposition AI to each mode.For more about Imposition AI, see *Imposition AI* on page 201

2.7.2. Step and Repeat Tool

The Step and Repeat tool allows you to easily build a Step and Repeat grid from a selected product. To use the Step and Repeat tool, you must have a product placed in a layout and selected, otherwise the tool will appear grayed out.

With a product selected, the tool becomes editable and shows the current settings for the given product's step and repeat grid. The easiest way to see how the Step and Repeat tool works, enable the **Auto apply** option which will show all changes to the Step and Repeat grid as you edit the settings.

At the top of the tool, you can select or save a step and repeat preset. To save, click the floppy disk save icon

Icon or field	Description
	Save preset
H	Horizontal Repeat Count
V	Vertical Repeat Count
	Set the horizontal gap based on the product edges, not including product width
	Sets the horizontal gap based on the center of the product, including product width
	Sets the horizontal gap based on the die lines
Odd	Gap distance for odd numbered gaps in the repeat

Icon or field	Description
Checkbox	Optionally specify a different gap distance for even gaps in the repeat
	Set the vertical gap based on the product edges, not including product height
	Sets the vertical gap based on the center of the product, including product height
	Sets the vertical gap based on the die lines
Odd	Gap distance for odd numbered gaps in the repeat
Checkbox	Optionally specify a different gap distance for even gaps in the repeat
	No head turn
	Head turn on rows
	Head turn on columns
	Head turn on columns and rows
	No product rotation
	90° product rotation
	180° product rotation
	270° product rotation
Create Bleeds	Whether or not to add product bleed
	Set no stagger
	Stagger on columns
	Stagger on rows
Stagger Amount	How much to stagger, can be set in percentages or absolute values with units
Restart After	When to restart the stagger back to the start
	Do not automatically place products horizontally
	Automatically pack products horizontally
	Automatically expand products horizontally
	Automatically wrap products horizontally
	Do not automatically place products vertically
	Automatically pack products vertically
	Automatically expand products vertically
	Automatically wrap products vertically

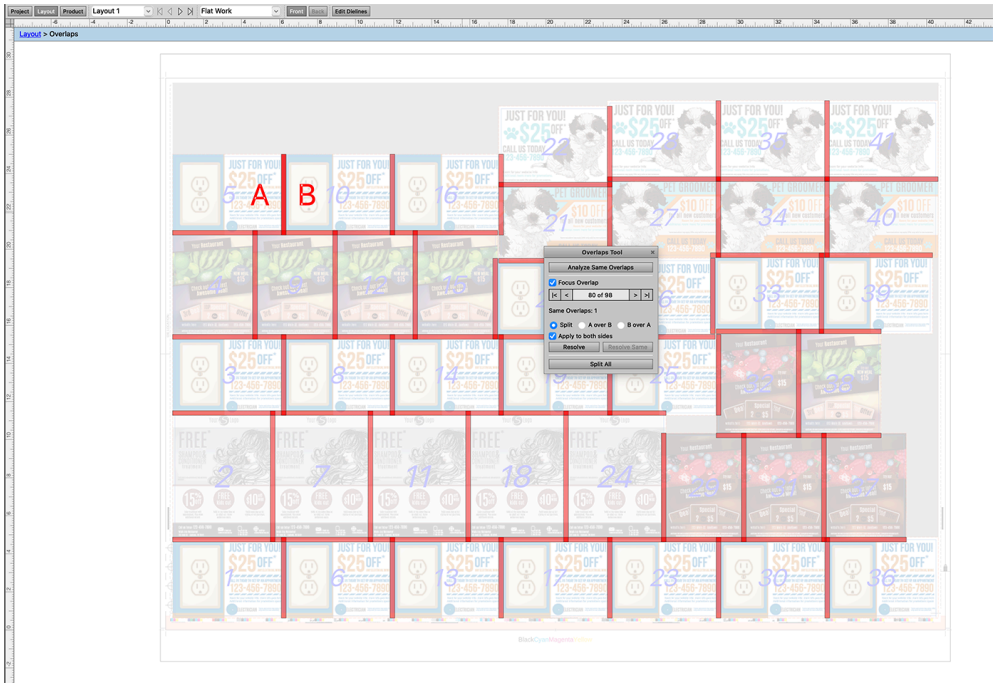
Icon or field	Description
Use Sheet Margins	When automatically creating the step and repeat grid, whether or not to use the sheet margins. If not using the sheet margins, specify custom margins.

2.7.3. Edit Bleed Tool

In the product view, the **Edit Bleeds...** tool will highlight the bleed path of the product and allow you to edit the bleed path using the Drawing tools.

While in the Edit Bleeds mode, you can go to Window > Toolbars > Drawing, and use the tools to manipulate the bleed. You'll notice that the artwork is greyed out and the bleed path becomes clickable. You can make the artwork more or less visable with the slider just below the project tab next to the Done and Cancel buttons. When you're done editing, click the Done button.

2.7.4. Overlaps Tool



The overlaps tool will analyze the layout for any instances of a product overlapping another product. If there are any overlaps, you will see a view similar to the screenshot above. Overlaps are highlighted in a light red, and you can click on any individual overlap to highlight it. When you do, you'll see the two products overlapping will get labeled "A" and "B", which then lets you make the decision on how the overlap should be treated. You can split the overlap down the middle, choose A over B, or B over A. At this point, you can choose whether or not this choice is applied to both sides of the layout, and then can click Resolve to apply the selection, or Resolve Same if there are multiple instances of this same overlap, which can occur in a step and repeat grid for

example. You can toggle between the overlaps by clicking the arrow keys, and you can also split all overlaps with the Split all button.

2.7.5. Strips Tool

The Strips Tool adds strips for die cutting to break down the waste by adding additional cut paths to a layout. With a layout selected, go to Tools > Add Strips to display the Strips Tool.

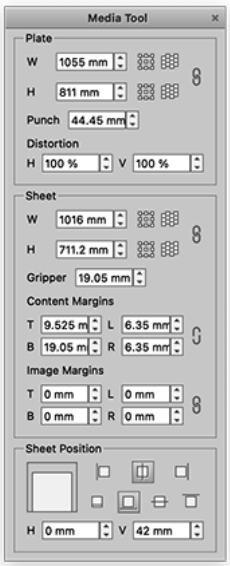
Field	Description
Tool Type	Choose the tool to use for the strips that will be addded
Max Length	Specify the maximum length that an outer strip may be
Margins	Specify the margins between outer strips
Connector Offset	Specify the offset from products that a connector line between strips must be
Margins	Set the margins between inner strips
Spacing Type	Decide how inner strips will be spaced
Quantity/Spacing	If quantity, determine the number of inner strips. If spacing, decide the min/max distance between strips

2.7.6. Nicks Tool

The Nicks Tool adds nicks to the die to create a small gap so that die-cut pieces remain connected to the waste material. With a layout selected, go to Tools > Add Nicks to display the Nicks Tool.

Field	Description
Min Line Length	Sets the minimum line length in the layout to add a nick
Margins	Specify the distance between nicks
Spacing Type	Decide how nicks should be spaced out
Quantity/Spacing	If quantity, determine the number of nicks. If spacing, decide the min/max distance between nicks
Width	Determine how wide each nick should be

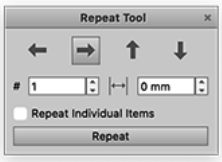
2.7.7. Media Tool



The Media Tool allows you to easily set the sizes and margins for a layout. You can specify the width/height of the plate and sheet, as well as use the button to fit the sheet/plate to the size of the current selection in the layout or the button to fit the sheet/plate to the products in the layout. You can click the link icon to lock the ratio of width to height.

You can also set the Content and Image Margins, and set the Sheet position on the plate

2.7.8. Repeat Tool



The Repeat Tool is an easy way to repeat an item on a layout. Choose the direction you want to repeat by clicking the appropriate arrow button, set the number you want to repeat in the # field, and the product gap in the  field

2.7.9. Number Tool



The Number Tool lets you customize the product numbering on a given layout. This does not print the number, but lets you customize it for use with keywords.

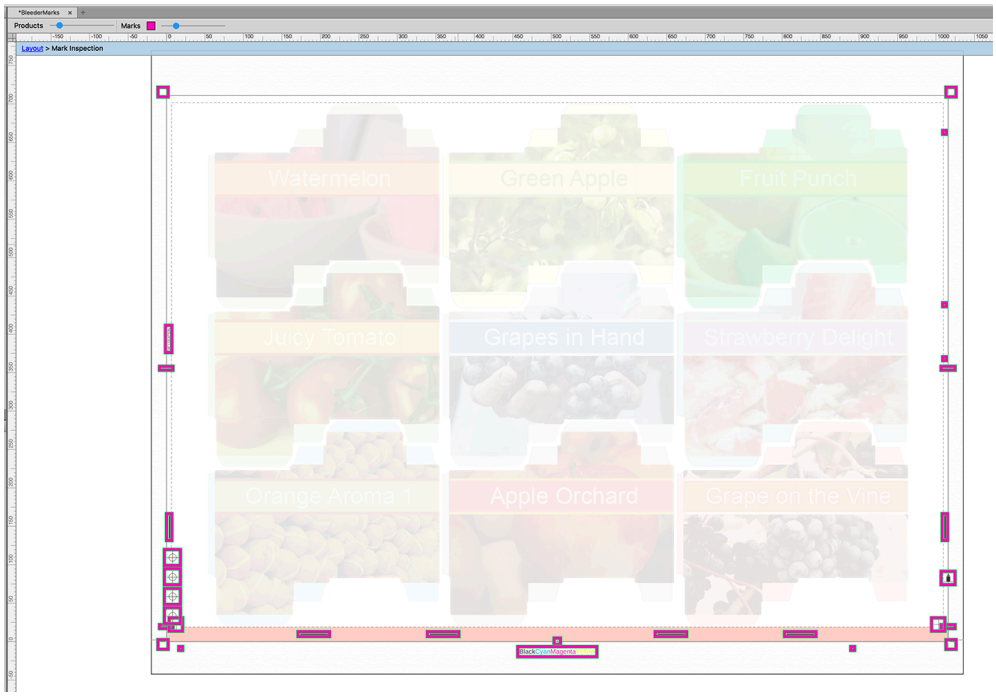
To use the tool, enter in the starting number, and whether or not the number should restart at this value on each row. Then select the number style from numbers, letters, roman numerals, and the various formatting options. You can specify a pre- or post-fix for the number. Then specify the start corner and the direction of ordering. You can include the row number (and if so, whether that row number should be relative to the number, front or back) as well as the format of the back

number. Finally choose if you'd like to apply the numbering to both sides if you have a two-sided layout, and whether to apply numbers to all products or only selected products.

2.7.10. Output Preview

The Output Preview tool provides an output preview of your layout, similar to how Adobe Acrobat or Illustrator can.

2.7.11. Mark Inspection Tool



The Mark Inspection Tool will highlight all marks on the layout to make it easier to see before generating output. You can choose the color of the highlighting box as well as the visibility of products by dragging the slider at the top of the layout.

2.8. Imposition AI

The Imposition AI tools within Phoenix provide the most advanced ways to impose and plan. There are multiple options to optimize the output from Imposition AI, so let's take a look at how it all works

2.8.1. Profiles

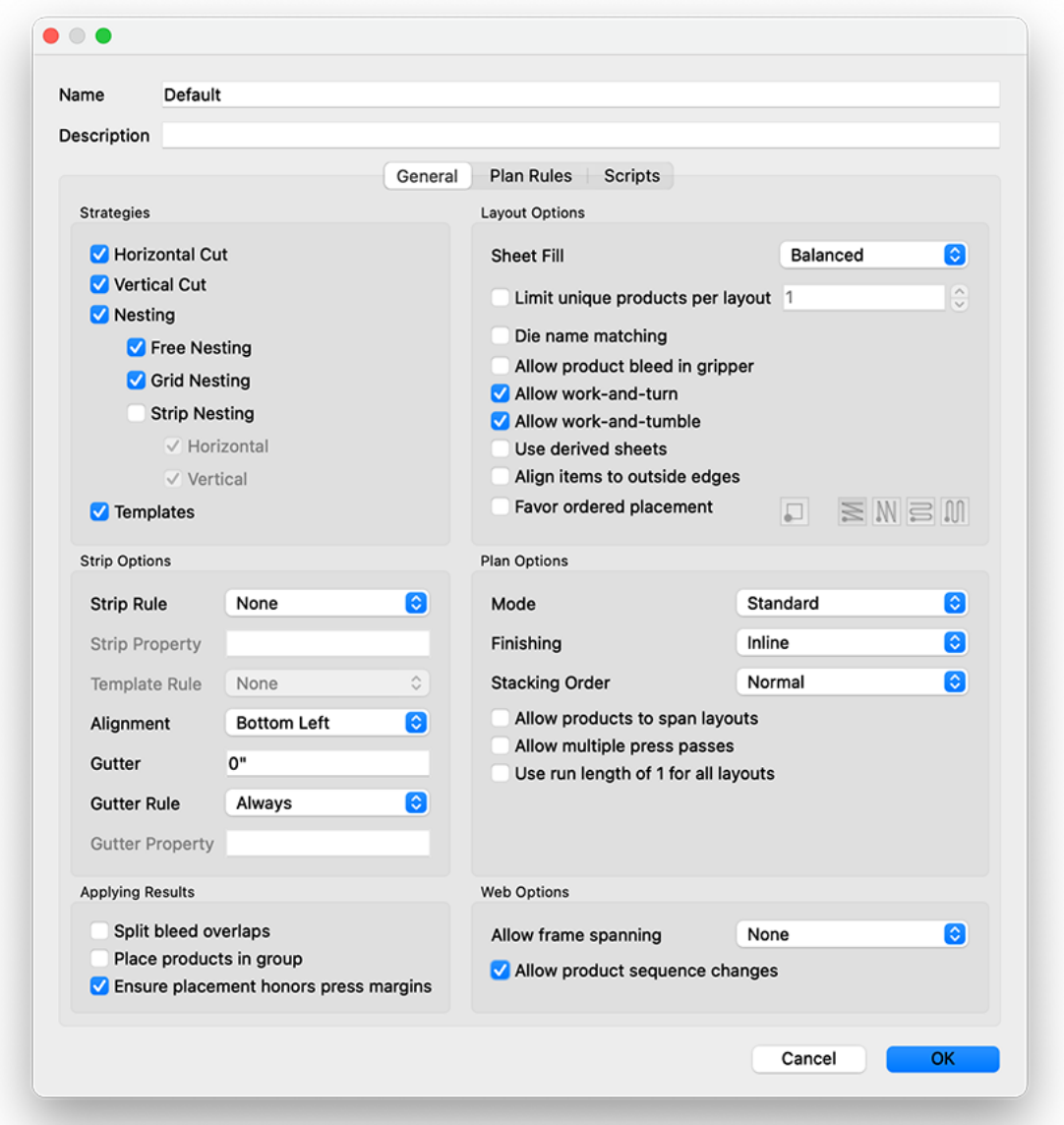
Imposition AI profiles allow fine-grained control over the layout and plan creation process. You can create as many profiles as you would like and choose from them while running the Imposition AI tools in Phoenix or reference them during automation.

To create a new Imposition AI Profile, go to the upper-left corner of the Imposition AI panel, click on the down arrow, and select “New Profile” from the menu.

You can also edit existing Profiles by clicking on the Profiles dropdown and clicking the pencil icon.

2.8.2. General Settings

When creating or modifying a profile, you will see the following window with the general settings:



2.8.2.1. Strategies

Strategies control how products are laid out on the sheet and correspond to the type of cutting you are doing.

Field	Description
Horizontal Cut	Guillotine cut layout (square cut) with first cut in the horizontal direction
Vertical Cut	Guillotine cut layout (square cut) with first cut in the vertical direction
Lanes	Products are placed in lanes
Die / Table Cut	Product items are tightly nested in the layout to be cut out with a cutting die or on a cutting table. Within this strategy there are three general nesting options that can be utilized. Any combination of these nesting options can be enabled at the same time to find the best nested layouts.
Free Nesting	Product items can be tightly nested in any way on the sheet without a discernible pattern.
Grid Nesting	Product items are nested into step and repeat grids for more consistent grid-like pattern layouts. This option is especially useful when there are a smaller number of unique shapes being nested onto a layout.
Strip Nesting	Product items are roughly nested into vertical or horizontal strips. Items can be rotated to fit together better, and some free nesting is performed to maximize sheet usage, so strips are not as rigidly defined as Horizontal Cut or Vertical Cut strategies.
Templates	Place products into existing layout templates loaded into the Templates library or imported directly into the current project (from CF2, DXF, etc)

2.8.2.2. Strip Options

These rules give control to how pieces are placed into strips when Horizontal Cut, Vertical Cut, and optionally Templates strategies are being used.

Field	Description
Strip Rule	Controls which products can be placed in the same horizontal or vertical strip. For example, "Same Product" means a single product can be placed in a strip with no other products mixed in that strip. * **None** - No strip rules, all combinations of products are allowed within a strip (horizontal row or vertical column). * **Same Product** - Within a strip, only instances of a single product are allowed. no other products can be placed in the strip.

Field	Description
	* **Same Dimensions** - Within a strip, only products with the same width and height are allowed, other products with differing widths or heights cannot be placed in the same strip. Note that the die shape itself can differ for products in the same strip as long as the dimensions are the same. * **Same Property** - Within a strip, only products with the same product property are allowed. * **Same Width** - Within a strip, only products with the same width are allowed. Note that the die shape itself can differ for products in the same strip as long as the widths are the same. * **Same Height** - Within a strip, only products with the same height are allowed. Note that the die shape itself can differ for products in the same strip as long as the heights are the same. * **Same Shape** - Within a strip, only products with the same die shape are allowed, other products with different die shapes cannot be placed in the same strip. * **Same Colors** - Within a strip, only products that have the same normal printing colors (inks) are allowed, other products that have fewer, more, or at least one different printing color cannot be placed in the same strip. Technical inks, varnish inks, and foil inks are not considered printing colors and are ignored when comparing colors between products for this rule. * **Same Varnish** - Within a strip, only products that have the same varnish colors (inks) are allowed, other products that have fewer, more, or at least one different varnish color cannot be placed in the same strip. Note that products with no varnish colors can be combined on a strip. * **Same Foil** - Within a strip, only products that have the same foil colors (inks) are allowed, other products that have fewer, more, or at least one different foil color cannot be placed in the same strip. Note that products with no foil colors can be combined on a strip. * **Has Varnish** - Within a strip, only products that either all contain one or more varnish inks

Field	Description
	or all have no varnish inks are allowed. In other words, products with one or more varnish inks are not allowed to be combined with products with no varnish inks in the same strip and vice-versa. * **Has Foil** - Within a strip, only products that either all contain one or more foil inks or all have no foil inks are allowed. In other words, products with one or more foil inks are not allowed to be combined with products with no foil inks in the same strip and vice-versa.
Strip Property	If using Strip Rule **Same Property**, specify which product property to separate based on
Template Rule	The rule controlling when to apply the strip rules to templates if at all. When a strip rule is chosen, you can apply this same rule to a template, treating the templates as either horizontal or vertical strips. Phoenix will analyze the templates being used to detect these strips and then enforce the strip rule.
Alignment	How the strips of products are aligned on the sheet and how products are aligned within the strips. If you are cutting the sheet along left and top edges first, then you will want "Top Left" to reduce the number of cuts needed.
Gutter	The amount of space to guarantee between strips of products on the sheet.
Gutter Rule	Rule for when to apply the gutter space between two strips on the sheet. For example, if you always want 10 mm space between strips containing foil and those that do not contain foil, then you can use the "Has Foil" rule.
Gutter Property	If using the Gutter Rule **Properties Differ**, specify which property to base the gutter rule on. This gives more fine-grained control when gutters are added between strips in layouts generated with Horizontal Cut and Vertical Cut strategies.

2.8.2.3. Applying Results

These settings control what happens when results are applied to the project, by double click, by clicking "Apply" from the detailed info popup dialog for the given result, and during automation.

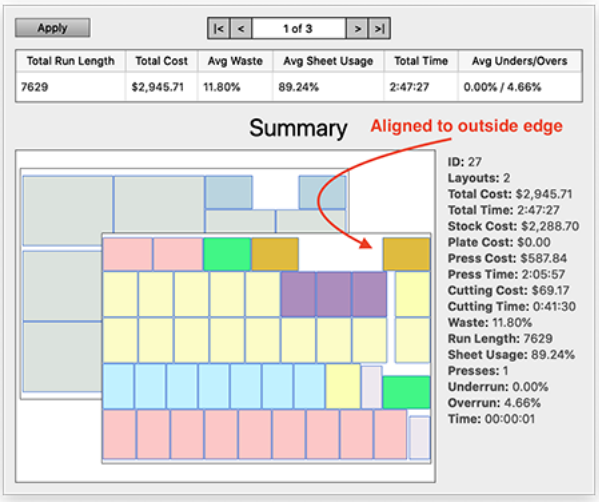
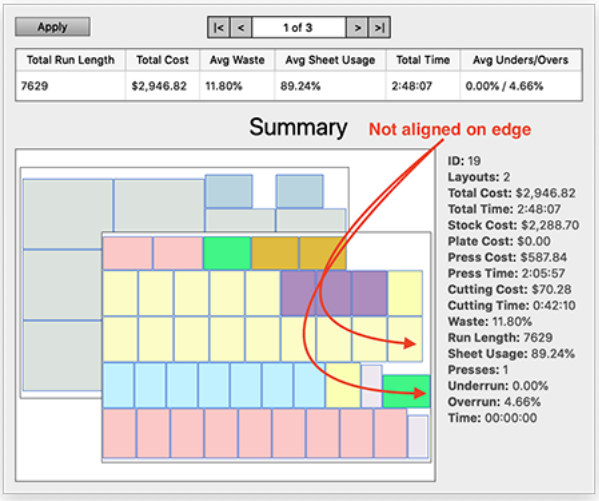
Field	Description
Split bleed overlaps	When enabled, split all overlapping bleed paths between products when the layouts from Imposition AI are applied to the project.
Place products in group	When enabled, place all product items in each layout into a group when applying the layouts to the project so product layout positions are locked and can be easily moved around as a group in the layout. Note that these products can be ungrouped at any time in the layouts after the result is applied.
Ensure placement honors press margins	By default, the placement rules of the press are used when applying results. Depending on the way placement rules are defined in the press and the sizes of product bleed paths, it might be possible at times for the press placement rules to push the bleed paths of products in the generated layouts into an image margin. If you disable this option, then the layout will be automatically shifted in these cases to avoid content getting into press margins, meaning the final placement might differ from the press's placement rules.

2.8.2.4. Layout Options

Layout options apply to all layout strategies and control how many products are placed on the sheet and the order of placement.

Field	Description
Sheet Fill	Controls how aggressively the sheet is filled up with products. * **Balanced** mode will use the best ratios of products to avoid making too many products above the order quantities, i.e. "overrun". Phoenix does try to fill sheets with the best product combinations to keep all layouts filled without much overrun, but sometimes there are no great options. Balanced mode allows you to easily add a few more products onto the sheet manually. * **Max** mode will aggressively fill up the sheet up to the max overrun allowed for the products on the sheet. This is good if you prefer to use the sheet up always, even if it creates unnecessary overruns.

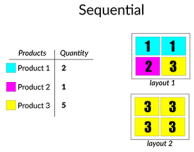
Field	Description
	* **Min** mode will place only the minimum number of products on the sheet. It is only useful if you are mostly trying to place as many 1-ups as possible on the sheet and would like to go in afterward and add more products to the project in cases where there is not a great way to gang all current products in order to increase the number of products as much as possible.
Limit unique products per layout	By default Plan will place any number of products on the same layout. You can limit the number of unique products with this setting. For example, if you want every product to go on its own layout, enable this setting and enter "1" in the text field. We have customers limiting in the number of unique products on a layout to 6, 8, 9, etc.
Die name matching	This option adds additional requirements to template matching so that the die design name must match between the product and the die template. This option prevents the potential of a product being placed in a template position where the outer shape is a match, but the inner shape is not a match, for instance if there is a window cutout that is unique to a particular die design.
Allow product bleed in gripper	By default, the gripper is treated as an image margin and the layout strategies will not place product bleeds into the gripper. Enabling this setting allows products to be placed right above the gripper even if their bleed paths go into the gripper.
Allow work-and-turn	Optionally allow Imposition AI to consider Work and Turn layouts when working with sheetfed offset presses. If Imposition AI finds that Work and Turn will create a more cost effective result, it will automatically select the Work and Turn layout
Allow work-and-tumble	Optionally allow Imposition AI to consider Work and Tumble layouts when working with sheetfed offset presses. If Imposition AI finds that Work and Tumble will create a more cost effective result, it will automatically select the Work and Tumble layout
Use derived sheets	If enabled, Plan will also search for results using 1/2 and 1/4 sheet sizes. A "derived" sheet

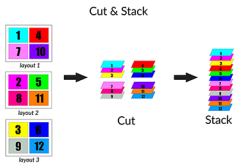
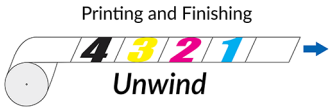
Field	Description
	means the original sheet is split in two or in four. Plan will still use the constraints of the presses to make sure any derived sheets can be printed on the selected presses.
Align items to outside edges	If enabled, Plan will align the edges of items to the 'outter-most' item (top, bottom, left, and right) on the sheet. This provides benefits in finishing scenarios such as guillotine cutting by reducing the number of sheet turns and cuts Aligned to edge:  Not aligned to edge: 
Favor ordered placement	When enabled, products in the layout will be ordered according to the ordering pattern based on the order that the products were

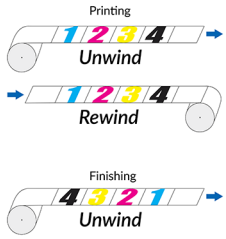
Field	Description
	added to the project. You can specify the starting corner, as well as the order method (by repeating rows or snaking, either vertically or horizontally) **Note:** Only products with the same shape are re-ordered within each layout. Layouts containing products with two or more shapes are not guaranteed to be placed sequentially.
Allow multiple dies per layout	When enabled, multiple dies can be combined on a single sheet for improved optimization.

2.8.2.5. Plan Options

Plan Options control how the Plan tool behaves.

Field	Description
Mode	Controls the overall behavior of the Plan tool. * **Standard** mode will try to optimize the entire project. This is the recommended way to run Plan in most cases. * **Layout by Layout** mode will try to create tightly filled layouts one at a time. This mode is suitable for cases in digital printing when products are low order quantities and products are allowed to be split up across layouts, i.e. "spanning". * **Sequential** mode ensures that products are planned sequentially across layouts according to the original order products were added to the project. Sequential planning can greatly simplify collection / packing processes. **Note:** Sequential mode ensures products are assigned to layouts in sequential order, but does not ensure products are positioned sequentially within each layout. Sequential  * **Cut and Stack** mode plans products in stacks for easy stacking after finishing. Cut and Stack is also helpful for ensuring the stack of press sheets fits into the cutting machine.

Field	Description
	 When using the Cut and Stack setting, a new parameter called **Stack Size** appears, allowing you to define how tall the stacks should be. For example, if the stack size is 250 and there are four products each with an order quantity of 500 each, Phoenix will create a layout with a run length of 250 and place two instances of each product, sequentially, so that the order on the layout is Product 1, Product 1, Product 2, Product 2, Product 3, Product 3, Product 4, Product 4. On the other hand, if the Stack size is 250 and each product has an order quantity of 125, Phoenix would create two layouts, each with a run length of 125. Layout 1 would have Product 1 and Product 3, while layout 2 would have Product 2 and product 4. * **Lanes** mode ensures that products are planned in lanes, maintaining the lane across layouts until the product is fulfilled. This mode is useful for lane optimization on roll-fed digital print devices *(i.e. digital labels on web-fed device, books/signatures on web-fed device, etc...)*.
Finishing	Allows you to set whether your finishing equipment is done Inline or Nearline. This will affect the order in which layouts are produced. The default option is Inline. * **Inline** means that layouts will be produced in the order they are created. For instance, if Phoenix creates layouts A, B, and C, then they will be ordered A, then B, then C. If your finishing equipment is inline with the press, this allows your equipment to process the layouts in order.  * **Nearline** means that layouts will be produced in the opposite order they are created. This means that layouts A, B, C would be ordered C, then B, then A, so that they would go onto the rewind in the opposite order. This would then allow your equipment to process the layouts from the finished roll, as the layouts would then come out in order: A, then B, then C.

Field	Description
	When working with signatures, **Nearline** reverses the order of all signatures across the whole job (or across all products). 
Allow products to span layouts	By default, Plan will ensure that each product is on only one layout in the project. If this setting is enabled however, the Plan tool can try to place the same product across multiple layouts to further optimize the project. Spanning products can lead to lower costs in printing, sometimes with added overhead in post-press or shipping.
Allow multiple press passes	Enables Imposition AI to evaluate running an imposed press sheet through the press in multiple passes when the number of inks on a press form exceeds the number of stations/colors on press. - For example, imagine you have the following scenario: *Product 1 = Cyan,Magenta,Yellow,Pantone 185* *Product 2 = Cyan,Magenta,Yellow,Black* *You have a 4-color Offset Press in Phoenix* Here are the impacts 'Allow multiple press passes' will have on Imposition AI results: 1. **Disabled** - Phoenix will be forced to create two separate press layouts and will not be allowed to mix Product 1 & Product 2 on a sheet because the combined number of inks on the layout would 5 and the press in Phoenix is only a 4-color press. 2. **Enabled** - Phoenix will be allowed to mix Product 1 & Product 2 on one layout as a possible result. However, Phoenix will compute that a result with Product 1 & Product 2 on the same sheet will require two press runs for the one layout (press setup time & costs will be calculated for each press pass)
Allow folding pattern mixing in Standard mode	When enabled, the Plan tool can generate layouts that combine multiple folding patterns in Standard mode, improving optimization. Note that Sequential mode also supports mixing folding patterns within a book, but it's is less powerful.

Field	Description
Use run length of 1 for all layouts	When enabled, the Plan tool will only create layouts with a run length of 1, i.e. no repeats. This is useful in some digital printing environments where it is easier to process one layout at a time. This option can be used in conjunction with the new Sequential mode to produce single copy layouts in order.

2.8.2.6. Web Options

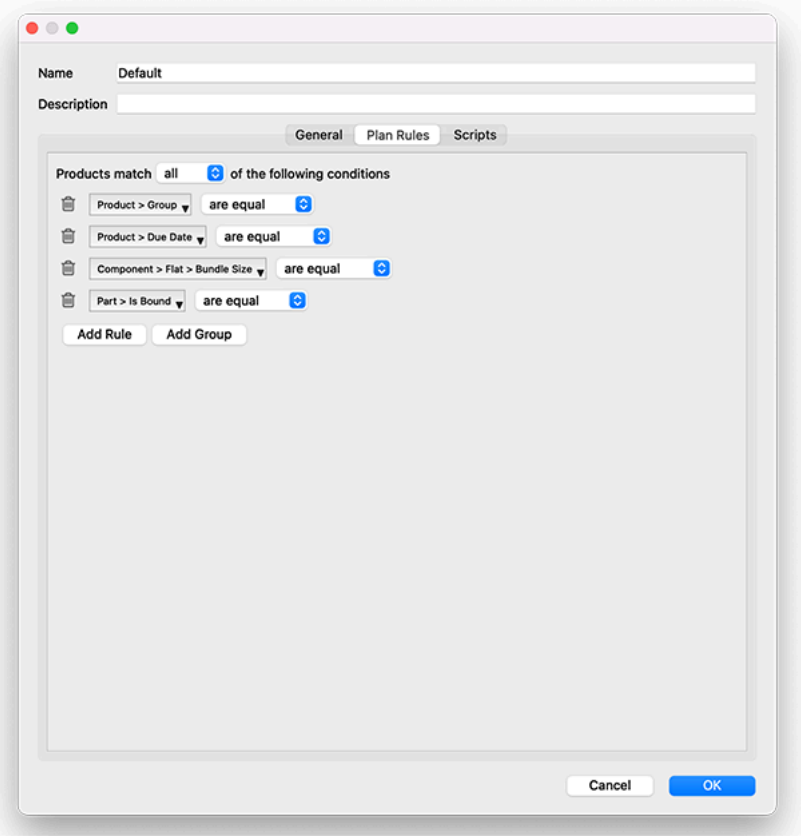
Web Options control how the Plan tool behaves when dealing with a web-fed device.

Field	Description
Allow frame spanning	Option to span items across frames for roll-fed work when using the Lanes planning mode. This can be set to **None**, **Items**, or **Pages**. When set to “Items”, Phoenix will utilize the full frame height of the given roll-fed press with component items placed across frame boundaries when needed.
Allow transition frames	Option that controls whether a transition layout (a single extra layout frame) can be included in roll-fed/reel-fed label production results. • **When enabled**, Phoenix's Plan tool can insert a single transition layout between different label designs on a reel. This transition frame acts as a changeover point where one label design ends and another begins on the same roll. It is submitted via JDF downstream with a repeat count of 1, helping to optimise digitally cut reel-fed solutions. • **When disabled**, Phoenix will not include mid-frame label transitions in its planning results — all layouts must be continuous without transition points.
Allow product sequence changes	When enabled, the order the product are laid out on the web can be changed. When disabled, products will be ordered the same as the product list, top to bottom, left to right

Field	Description
	across the web. This option allows for more optimization.

2.8.3. Plan Rules

The second tab in the Imposition AI Profiles is Plan Rules.



Plan Rules allow you to define how products should be placed on a layout produced with this profile. You can create a rule from any product parameter and add conditional logic to the rules. By default, the rules shown in the screenshot above are added. You can remove a rule by clicking on the trash icon, or add a rule by clicking the "Add Rule" button.

New in v8.0, Phoenix can gang bound products together with flat, folded, and tiled products on the same layout for better optimization. To enable this, simply remove the rule "**Part > Is Bound** *are equal*".

To set a rule, first choose what parameter you would like to set. Click the dropdown on the left side of the rule to choose the parameter, and then on the right side choose the condition for that parameter. The choices available for the conditions change based on the parameter you have selected. For instance, parameters with a numerical value will have numerical comparators, such as the product quantities all "are within" a certain range. Text-based parameters, like product name, will have the comparators "are equal" or "are not equal."

You can also group parameters to create advanced logic, so for example condition A, B, and C must be met, but then either D, E, or F must be true. You can create any number of Plan Rules in an imposition profile.

2.8.4. Scripting

Available with the optional Scripting module, the Scripting tab allows you to run custom scripts when a plan is applied. This feature exposes much of the core architecture of Phoenix and allows for unprecedented customization and automation. Find out more in our Scripting guide.

2.8.5. Tools

There are four tools within Imposition AI - **Impose**, **Populate**, **Optimize**, and **Plan**. These tools each have a specific purpose, but they have some settings in common

Common Settings

Profiles – Choose the Profile to be used to make decisions when running Imposition AI

Products – Select the Products (from those in the Products Panel) to be used when running Imposition AI

Things (only in Optimize and Plan) – Select which things (from those in the Things Panel) should be considered when running Imposition AI

Sheets / Rolls (only in Optimize and Plan) – Select which stocks should be considered when running Imposition AI

Templates (only in Impose, Optimize, and Plan) – Select which die template to use when running Imposition AI

Stopping Params - Optional setting to set a limit for how long Phoenix should continue searching for more layouts. Click the checkbox to enable and set a time limit. The default value is 15 minutes. Phoenix will intelligently stop searching if there are no additional layouts possible.

Impose

The Impose tool generates layouts for the currently selected press and sheet in the project.



Note: If a sheet isn't specified for the layout, you cannot use Impose and will get a warning "A sheet must be specified in the layout before using Impose tool." If you see this, simply drag your desired sheet size from the stocks library onto your layout and try again.

Populate

The Populate tool will automatically assign products to the current die template. The numbers of each product placed in the layout are determined by the Populate tool based on the number of orders to achieve the best balanced result (i.e. lowest amount of overruns). Multiple variations of the original die layout will appear with products assigned to different dies in the layout:



Note: The resolved bleed overlaps are left unchanged. Populate does not alter or reset the bleed masks of the dies when re-arranging products.

Optimize

The Optimize tool goes another level beyond Impose by searching across several press/sheet combinations to try to find the most cost effective layouts possible.



Note:

Only sheets that fit at least one selected press are displayed. Sheets that are below or above min/max sheet sizes or stock thickness constraints of the selected presses are hidden automatically. Auto Optimize will only generate layouts for legal press/sheet combinations.

Impose and Optimize will always generate layouts suitable for vertical first guillotine cutting (Layout = Vertical Cut) and horizontal first guillotine cutting (Layout = Horizontal Cut). In addition, grid-based layouts are also generated (Layout = Die / Table Cut). These layouts are sometimes more efficient, but can lead to layouts that cannot be handled by a guillotine cutter.

For results with the same cost and waste, results with a lower number of “Sheet Turns” arelisted first in the results. A lower number of sheet turns indicates a simpler post-press cut. In general, Impose and Optimize attempt to minimize sheet turns to save time and costs during post- press.

Plan

The Plan tool is the most powerful tool in Phoenix Imposition AI. It can pack products across multiple layouts using different press and stock combinations to find the most cost effective layouts possible.

2.9. Exporting from Phoenix

Phoenix supports outputting in a multitude of file formats. Let's break it all down, based on what exactly is being output:

- *Phoenix Projects*
- *Phoenix Libraries*
- *Products and Layouts*
- *Reports*



Tip:

Using Presets:

The output settings described in this section can all be saved as a Preset to be reused for convenience. To save a preset, simply configure the output settings as desired and click the **Save Preset** option at the top of the window. This preset can be chosen in future exports, as well as specified using any of our Automation tools.

2.9.1. Exporting a Phoenix Project

Within a Phoenix project, you can save or export in many different ways. The most common is to export for printing or cutting for producing layouts generated within Phoenix. Each option allows

multiple output formats and choices on how exactly the output is created, from output size to file naming and more. You can also save the Phoenix project itself for future use, or generate a template from the Phoenix project.

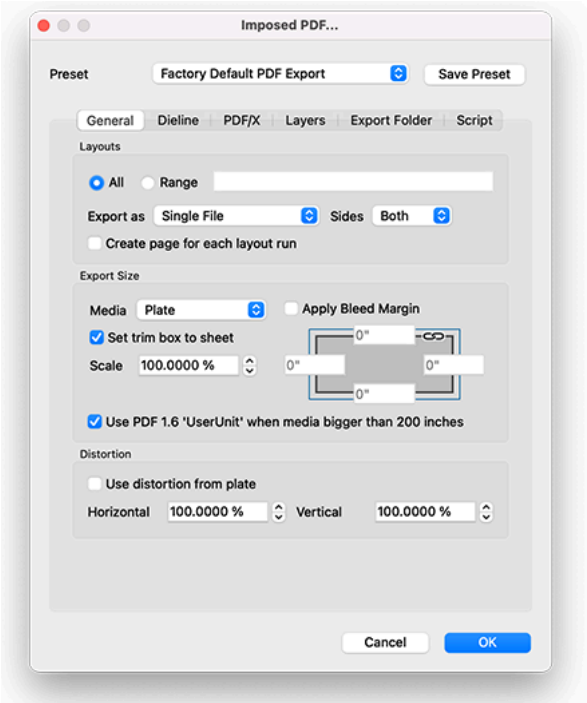
2.9.1.1. Export for Printing

To export a file for printing, simply navigate to the File menu and choose the Export for Printing option. From here, you can choose to export the project as an imposed PDF, JDF, or HP JDF.

Export Imposed PDF

Export Imposed PDF generates a PDF of the layout(s) in the Phoenix project. This option is the most commonly used output in Phoenix, and creates a compliant PDF for use in any RIP or downstream 3rd party system.

Export Imposed PDF is easily accessible with the shortcut **Control–P** (Windows) or **Command–P** (Mac).



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).

Field	Description
Export as	Define whether the layouts will be exported as a **Single File** multi-paged PDF or create **One File Per Layout** or **One File Per Side** for layouts with front and back sides.
Create page for each layout run	Optionally define if Phoenix should generate individual pages for layouts that have a run length greater than 1. For example, if a layout has a run length of 50, this option would create 50 separate pages for layout 1, while disabling this option would create one pdf page for this layout.
Media	Define whether to use the Sheet size or Plate size for the output PDF
Scale	Set the scale for the output PDF. Note this is different than Distortion, which can be set below
Apply Bleed Margin	Add a separate bleed margin to the output PDF, with the margins set below
Use PDF 1.6 'UserUnit' when media bigger than 200 inches	PDF files have a size limitation of 200 inches. PDF version 1.6 supports handling larger files using UserUnits which sets a scaling factor on the PDF.
Use distortion from plate	If using Plates, this option automatically applies the distortion value set for the used plate
Horizontal **Vertical**	Set a horizontal and vertical distortion value
Embed PDF+ grid data	When enabled, this option embeds step-and-repeat grid (layout) metadata as PDF+ data into the imposed PDF output. This allows downstream applications like ArtPro+ and Automation Engine to recognize and work with the grid structure, enabling users to drop in replacement artwork and use grid-based dynamic marks.

Dieline

Field	Description
Remove Artwork Dielines	Optionally remove any dielines in the artwork. Dielines are defined via the Tool Types Mapping. Note that this only applies to Tool Type Mappings specified via Spot color, *not* Layers
Add Dieline	Add a dieline to the output PDF
Place dieline on top of all items	Whether the added dieline should be placed on top of all layout items

Field	Description
Apply Overprint	Whether the added dieline should be overprinted
Dieline thickness	Thickness of the added dieline(s)
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the Ink and/or Layer to use in the output PDF
Include offcut dieline	When enabled, the offcut line is included in the exported PDF. You can define the **Ink** (the color of the offcut dieline) and the **Layer** on which it is placed.

PDF/X

If the input artwork files are using PDF/X compliance data, enable this option to use that in the output PDF. This only works if the input artwork files do not have conflicting PDF/X versions. In that case, a warning will appear.

Layers

Field	Description
Existing Artwork Layers	If the artwork contains layers, you can choose how the output PDF should handle these layers. **Preserve** will attempt to leave the layers as they currently exist. **Merge** will merge any layers with the same name.
Artwork	Optionally create a separate layer only for artwork files. Specify the name for this layer and whether the layer should be On (visible), Off (hidden), or Locked (visible)
Marks	Optionally create a separate layer only for marks. Specify the name for this layer and whether the layer should be On (visible), Off (hidden), or Locked (visible)
Dielines	Optionally create a separate layer only for dielines. Specify the name for this layer and whether the layer should be On (visible), Off (hidden), or Locked (visible)

Export Folder

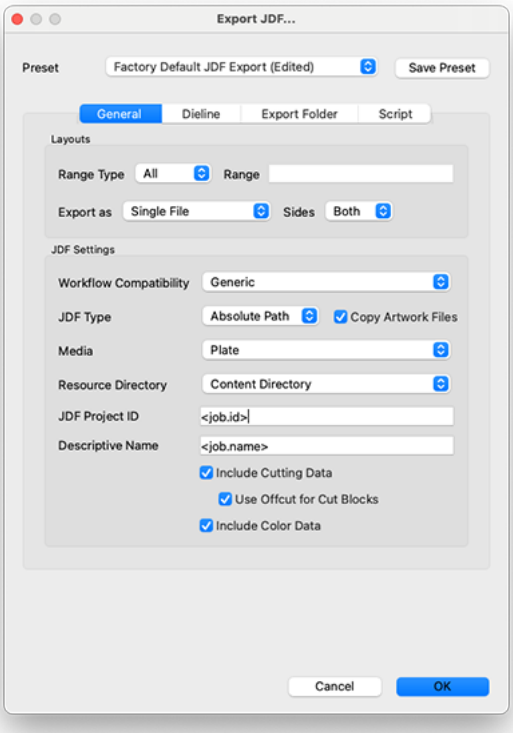
Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if

Field	Description
	one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

Export Imposed JDF

Export Imposed JDF generates a JDF of the layout(s) in the Phoenix project. The JDF follows the LayCrImp specification which is an open standard for generic JDF output to RIPs.

Export Imposed JDF is easily accessible with the shortcut **Control–J** (Windows) or **Command–J** (Mac).



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export as	Define whether the layouts will be exported as a **Single File multi-paged PDF** or create **One File Per Layout** or **One File Per Side** for layouts with front and back sides.
Workflow Compatibility	Specify whether to create a **Generic** JDF, or a JDF designed for compatibility with **Fujifilm XMF** or **Screen EQUIOS**.
JDF Type (not for Screen EQUIOS workflows)	Define how the artwork should be referenced, either with an **Absolute Path** (and whether to **Copy Artwork Files**), a Relative Path, or Mime
Media	Define the Media size, either **Plate** or **Sheet**
Resource Directory (only for Screen EQUIOS workflows)	Specify where the resources should be placed. Choose either the Same Directory, Content Directory, or choose a Specific Directory. If choosing a directory, you can also perform a **Text Replace** to do a find/replace of a string in the file path that's written to the JDF file. This functionality was added support Screen EQUIOS workflows.
JDF Project ID	Specify the Project ID for the JDF, using static text and Dynamic Keywords
Descriptive Name	Specify the Descriptive Name for the JDF, using static text and Dynamic Keywords
Include (not for Screen EQUIOS workflows)	Choose whether to include Cutting JDF Data and/or Color Data When you select **Include Cutting Data**, enabling the option **Use Offcut for Cut Blocks** uses offcut lines instead of cut lines to define where the cutting machines should cut. This ensures that the margins created by offcuts are preserved, for example for applying glue to covers.

Dieline

Field	Description
Add Dieline	Add a dieline to the output JDF
Place dieline on top of all items	Whether the added dieline should be placed on top of all layout items

Field	Description
Apply Overprint	Whether the added dieline should be overprinted
Dieline thickness	Thickness of the added dieline(s)
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the Ink and/or Layer to use in the output JDF
Include offcut dieline	When enabled, the offcut line is included in the exported JDF. You can define the **Ink** (the color of the offcut dieline) and the **Layer** on which it is placed.

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the JDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

Export HP JDF

Export HP JDF generates a customized JDF output specifically designed for the HP DFE. This makes for a tighter integration of Phoenix with HP workflows.

Field	Description
Version	Choose JDF version 1.3 or 1.4
Preset	Specify the PDF Export preset to use
Folder	Define the name of the content folder
Use Export Folder	Optionally specify an export folder

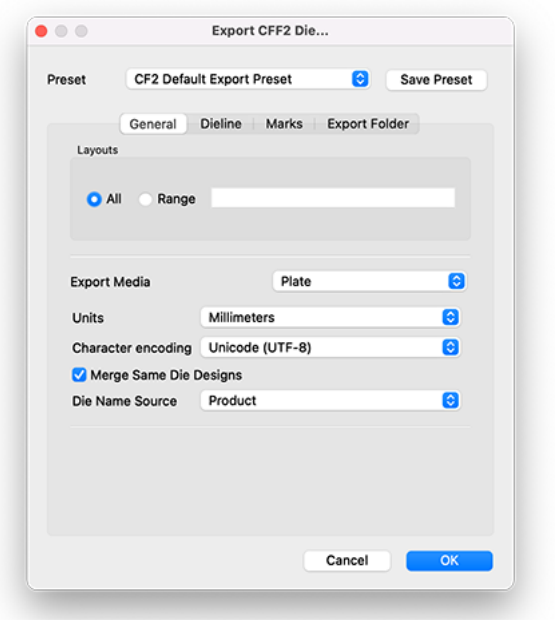
Field	Description
Filename	If using an export folder, specify the filename for the HP JDF

2.9.1.2. Export for Cutting

Phoenix can export projects in a number of formats designed for cutting. To export for cutting, navigate to the File menu and choose Export for Cutting:

CFF2

CFF2 is an industry standard cutting file format, which can be used by most CAD systems.



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export Media	Define the Media size, either **Plate** or **Sheet**
Units	Choose either Millimeters or Inches as the units for the CFF2 file
Character encoding	Define the character encoding if different than the system encoding

Field	Description
Merge Same Die Designs	Optionally simplify the output file by merging die designs that are the same
Die Name Source	Choose how the Die should be named, either from the Product name, or the Die Design name (if used)

Dieline

Field	Description
Dieline thickness	Thickness of the dieline(s) used
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the CFF2 Line Type to use in the output CFF2 file.
Include offcut dieline	When enabled, the offcut line is included in the exported CFF2 file. You should choose the **CFF2 Line Type** (the color of the offcut dieline).

Marks

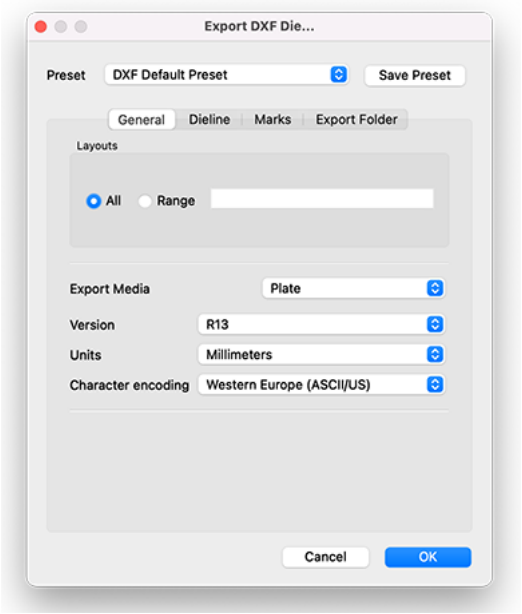
Specify whether to include marks, and if so which mark types and what line type to use for the marks

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the CFF2 with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

DXF

The DXF (Drawing Interchange Format) is a AutoCAD drawing file format that can be used as a cutting file from Phoenix. DXF in general is not as useful as CFF2, but may be required in certain applications.



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export Media	Define the Media size, either **Plate** or **Sheet**
Version	Choose the standard version of the DXF file, **R12**, **R13**, or **2007**
Units	Choose either Millimeters or Inches as the units for the DXF file
Character encoding	Define the character encoding if different than the system encoding

Dieline

Field	Description
Dieline thickness	Thickness of the dieline(s) used

Field	Description
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the DXF Layer and/or DFX Color to use in the output DXF file.
Include offcut dieline	When enabled, the offcut line is included in the exported DXF file. You should choose the **DXF Line Type** (the color of the offcut dieline).

Marks

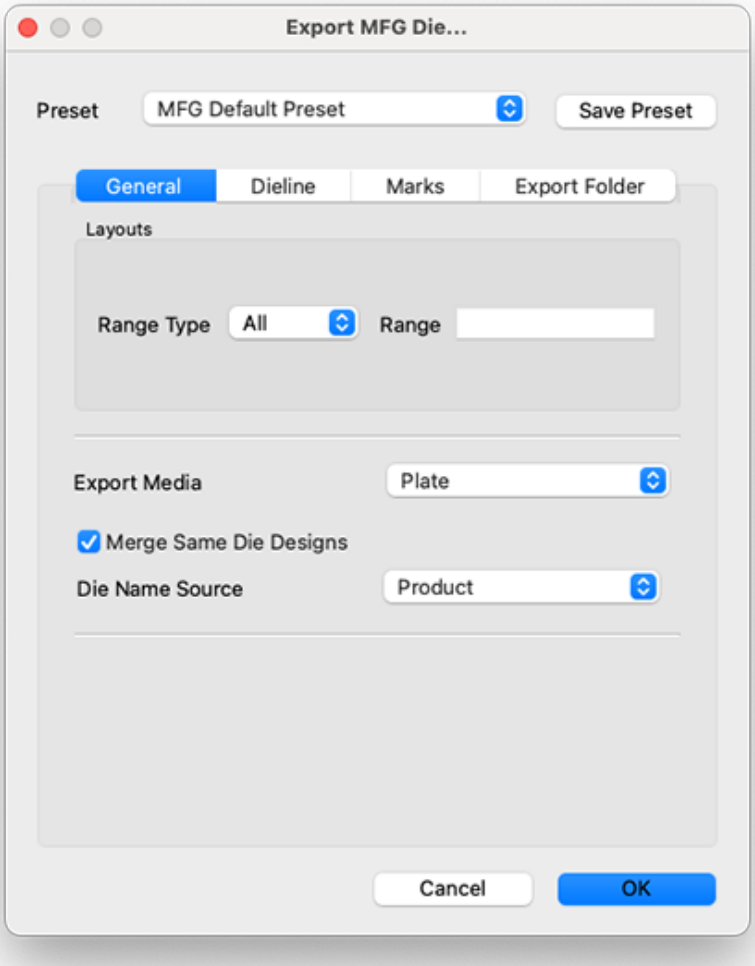
Specify whether to include marks, and if so which mark types and what line type to use for the marks

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the DXF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

MFG

MFG is a packaging-specific manufacturing layout format used to exchange structural design layouts (including repetition and positioning) with CAD systems such as ArtiosCAD.



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export Media	Define the Media size, either **Plate** or **Sheet**
Merge Same Die Designs	Optionally simplify the output file by merging die designs that are the same
Die Name Source	Choose how the Die should be named, either from the Product name, or the Die Design name (if used)

Dieline

Field	Description
Dieline thickness	Thickness of the dieline(s) used
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the MFG Line Type to use in the output MFG file.
Include offcut dieline	When enabled, the offcut line is included in the exported MFG file. You should choose the **MFG Line Type** (the color of the offcut dieline).

Marks

Specify whether to include marks, and if so which mark types and what line type to use for the marks

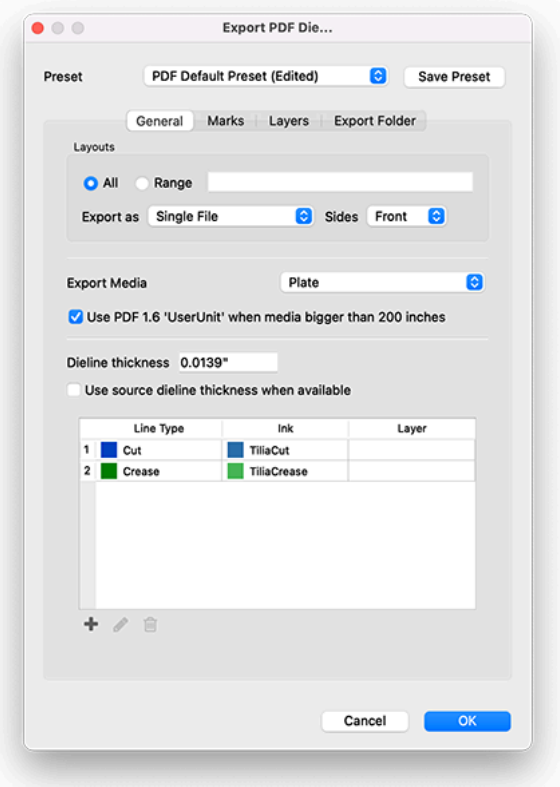
Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the DXF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

PDF

PDF Cutting files generates a PDF file with just the tooling in the project. Since PDF is not designed to be a CAD format, it's not as powerful as a CF2, but is easier for people to look at and is widely used in certain fields, such as wide format printing.

Export Cutting PDF is easily accessible with the shortcut **^-Control–P** (Windows) or **^-Command–P** (Mac).



General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export as	Define whether the layouts will be exported as a **Single File** multi-paged PDF or create **One File Per Layout** or **One File Per Side** for layouts with front and back sides.
Sides	Specify which side(s) to export, **Both**, **Front**, or **Back**
Export Media	Define whether to use the Sheet size or Plate size for the output PDF
Use PDF 1.6 ‘UserUnit’ when media bigger than 200 inches	PDF files have a size limitation of 200 inches. PDF version 1.6 supports handling larger files using UserUnits which sets a scaling factor on the PDF.
Dieline thickness	Thickness of the added dieline(s)
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.

Field	Description
Dieline to add	Click the + to add a dieline. Specify the Line Type to use to generate the dieline, as well as the Ink and/or Layer to use in the output PDF
Include offcut dieline	When enabled, the offcut line is included in the exported PDF. You can define the **Ink** (the color of the offcut dieline) and the **Layer** on which it is placed.

Marks

Specify whether to include marks, and if so which mark types and what line type to use for the marks

Layers

Choose whether to create a new layer specifically for Marks, and whether that layer should be **On**, **Off**, or **Locked** in the output PDF

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

ZCC

Phoenix supports a rich integration with Zund Cut Center, and can natively export ZCC files.

Note:

While Phoenix can output directly to the ZCC format, there are some requirements for this to work properly. Notably, the tool(s) used in Phoenix must match the tools in Zund Cut Center, and the stock in Phoenix must match the stock name in Cut Center.

By default, Phoenix uses the tool **Cut** as the default cut tool, while Cut Center requires the use of **Thru-cut**. If a Phoenix project is using Cut as the tool type for a project, and a ZCC file is output, the ZCC will not contain any cut lines since there is a mismatch. In the export dialog for ZCC files, you can see a list of the valid tool names for Zund Cut Center, so please ensure your project is using the correct tool types to match.

In addition, the stock name in Phoenix must match the material name in Cut Center.

Please see our page on the *Zund Cut Center Integration* for more information.

General

Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Project Name	Set the name of the project to be saved in the ZCC. Note that this is different from the filename, which is defined in the Export Folder tab.
ZCC Version	Set the ZCC version. Options are V3 and V4.
Dieline thickness	Thickness of the added dieline(s)
Use source dieline thickness when available	When enabled, Phoenix preserves the line thickness defined in the imported dieline file.
Line Types	ZCC has a predefined list of Line Types, which are listed here. If the line type in the project is not one of these line types, it won't appear in the output ZCC
Include offcut dieline	When enabled, the offcut dieline is included in the exported file. You should select one of the predefined line types.

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset

Field	Description
Filename	Define the output filename. You can **Use Project Filename** to simply save the ZCC with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

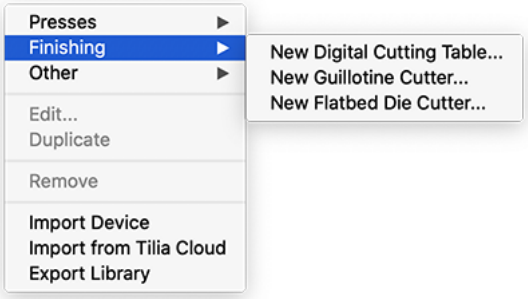
Zund Cut Center Integration

Phoenix supports a native integration with Zund Cutting Systems, allowing for bidirectional communication with Zund Cut Center for cut time and cost estimates, along with easy export of projects in the .zcc file format.

Configuration

Adding a Zund Cutting Table

To add a new Zund Cutting Table to your Phoenix library, click the dropdown in the top left of the Things panel, and select **New Digital Cutting Table...**.

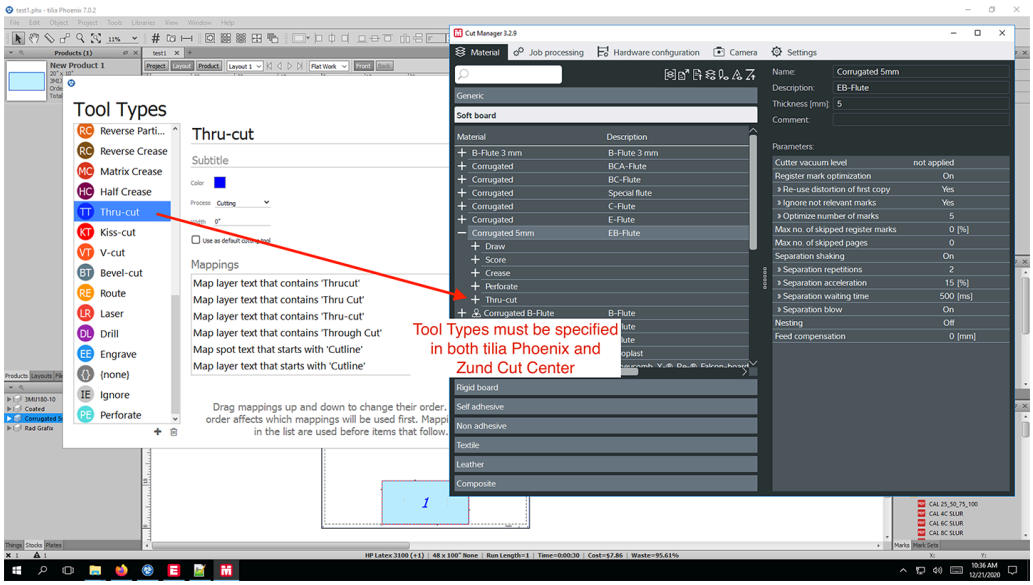


In the General tab, navigate to the **Estimating Engine** field and select **Zund Cut Center**. Here you can enter the **Hostname** or IP address of your table, along with the **port** and **timeout**. The timeout simply provides the number of seconds Phoenix should try to connect before displaying an error that it couldn't connect. Once you have the fields entered, **Test connection** to ensure the connection is working.

For complete details on the setup of a Cutting Table, see *Digital Cutting Table* on page 107.

Tool Types

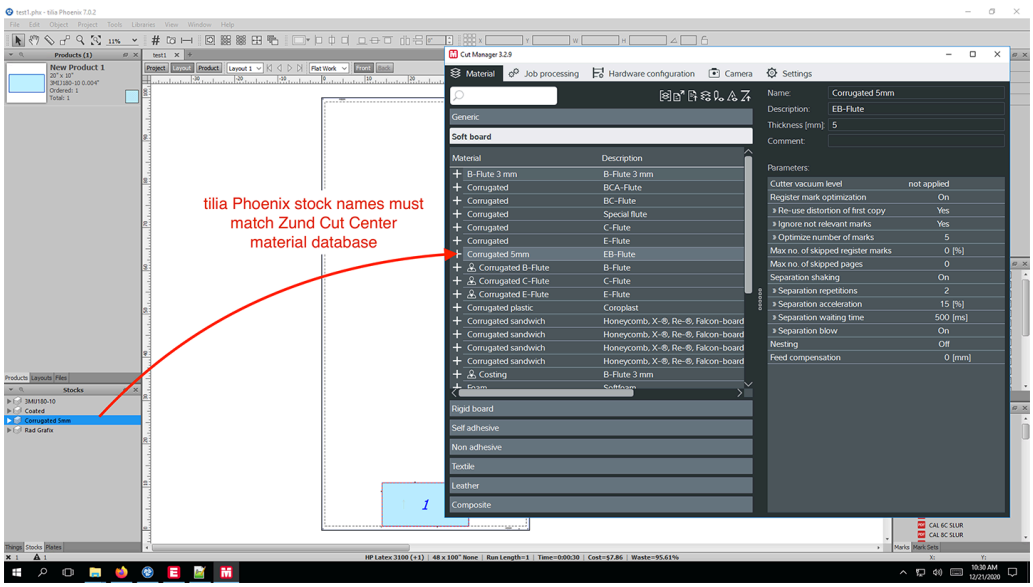
In Phoenix, Tool Types refers to the tooling in a project. This can be a **Cut** or **Crease** line, or a custom tool. The integration with Zund requires the use of tool types that match the tooling in Cut Center. If there is a mismatch, Phoenix essentially asks Zund for an estimate of how long it would take to produce something with a tool that Zund doesn't know about, so it returns an error.



By default, Phoenix uses the tool type **Cut** as the default. If you are primarily using a Zund table, it's a good idea to make the **Thru-cut** tool the default by checking the **Use as default cutting tool** box in the *Tool Types* menu.

Stocks

In addition, Zund Cut Center also must have a matching Material for the given **Stock** in Phoenix, otherwise the integration will not work properly.



Note: Phoenix can still output .zcc files from Phoenix without issue if there is a stock mismatch, but if the tooling is incorrect the .zcc file will not properly contain tooling information.

Cost and Cut Time Estimations

To use Cut Center for cut time and cost estimations, simply add the Zund table in the list of Things within Imposition AI. Phoenix will use this connection to request a more accurate cost and time estimate from Cut Center, and display the Tilia Labs Estimating Engine time and display **(Pending)** until a value is returned from Cut Center. Once the result is returned, the value is updated automatically.

In the event there is an error in the request to Cut Center, the Cut Time field will display a cut time of 0:00 and the text **(Error occurred)**. The error could stem from multiple places, such as a tool type or stock name mismatch, the wrong hostname or port being used, or something else. Phoenix does return the entire error message and connection status, which is accessible as shown in the above video. Simply apply the result and navigate to the Job Trail in the layout properties. From there, select the Zund table to see the full details of the Thing, including **External Messages** which is the error supplied by the table.

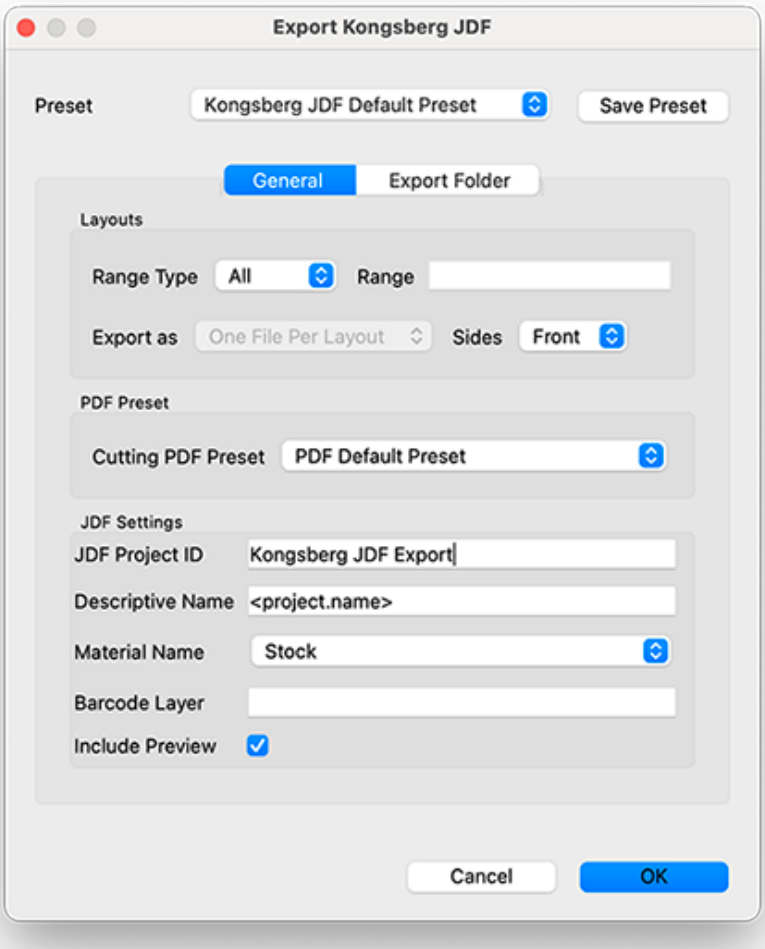
Kongsberg JDF

Kongsberg JDF is a job file format used to send cutting jobs (including metadata and instructions) from production software to Kongsberg cutting tables for automated execution.

This export option generates a zipped JDF instruction file that can be submitted directly to iPC (Kongsberg's software) for automated cutting.

The ZIP file contains the following files:

- A JDF instruction file (carrying metadata like number of copies, substrate/material info, customer data)
- A cutting PDF (containing the actual cut path geometry, registration marks, and barcodes)
- A preview image (optional; if **Include Preview** is enabled)



General

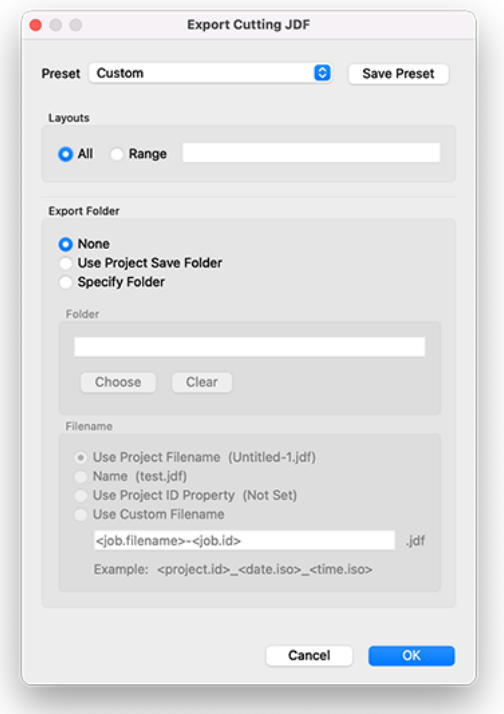
Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Export as	Creates one file per layout. This cannot be changed.
Sides	JDF is always exported one side per export. Select the side to be exported: **Front** or **Back**.
Cutting PDF Preset	Preset that controls how the cutting PDF file (which is bundled inside the exported Kongsberg JDF ZIP package) is generated, specifically how barcodes, registration marks, and cut line data from your layout are rendered

Field	Description
	into the PDF that the Kongsberg table (via iPC) will consume for cutting.
JDF Project ID	Specify the Project ID for the JDF, using static text and Dynamic Keywords
Descriptive Name	Specify the Descriptive Name for the JDF, using static text and Dynamic Keywords
Material Name	Material information is a prerequisite for automatic production on Kongsberg tables. Without it, operators must manually specify material or tool settings between each job. Options are **Stock**, **Grade** or **Both**.
Barcode Layer	Layer where the barcodes will be placed.
Include Preview	If you want to include a preview (a PNG file) in the exported Kongsberg JDF ZIP package, select this checkbox.

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the ZIP with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

Cutting JDF

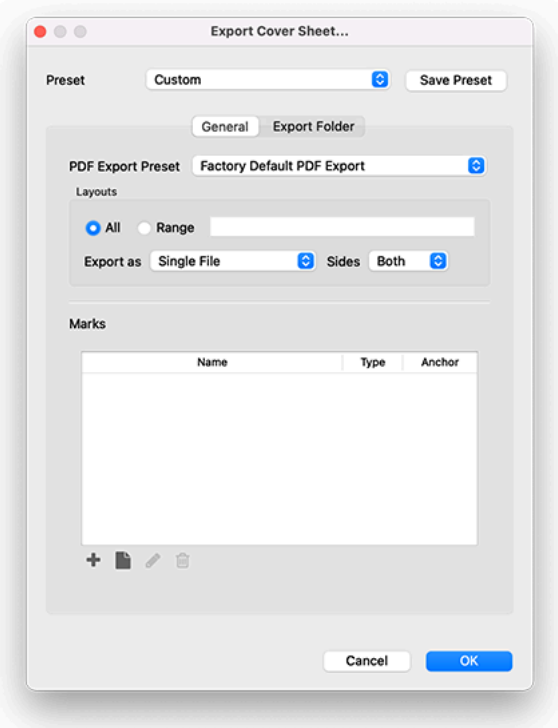


Field	Description
Range Type	Select whether to output **All** or either a range of one or more **Layouts** or **Rolls**.
Range	Specify an individual number, a range (i.e. “1-4”), or a comma separated list (i.e. “1-3, 5, 7-10”).
Use Offcut for Cut Blocks	Select this option to use offcut lines instead of cut lines to define where the cutting machines should cut. This ensures that the margins created by offcuts are preserved, for example for applying glue to covers.
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset

Field	Description
Filename	Define the output filename. You can **Use Project Filename** to simply save the ZCC with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.9.1.3. Export Cover Sheet

Cover Sheets allow you to export one or more layouts and add marks on top, to be used as a cover sheet. This is useful for adding identifying information on top of products, such as text marks or barcodes.



General

Field	Description
Layouts	Select whether to output **All** layouts, or a range of one or more layouts. The range field can specify an individual layout number, a range of layouts (i.e. “1-4”), or a comma separated list of layouts (i.e. “1-3, 5, 7-10”)
Export as	Define whether the layouts will be exported as a **Single File** multi-paged PDF or create

Field	Description
	One File Per Layout or **One File Per Side** for layouts with front and back sides.
Sides	Specify which side(s) to export, **Both**, **Front**, or **Back**
Marks	Specify which marks to add to the exported cover sheet.

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.9.2. Exporting Phoenix Libraries

As described in the *Configuration* page, Phoenix is designed to model your production environment. Each part of that environment is represented by various libraries, such as your Stock library or Marks library. Each of these libraries contains a custom setup of items that make your Phoenix setup unique.

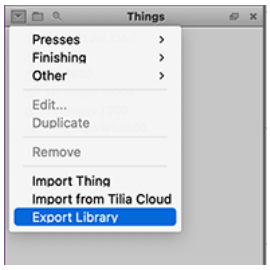
Exporting a .phxlib file

You can export your entire Phoenix environment by exporting all of the combined libraries into a Phoenix Libraries file, or .phxlib. This is a complete copy of your environment containing all libraries and preferences, and is the best way to back up Phoenix, share your libraries with a colleague, or send your libraries to Tilia Labs if you have any questions.

To export your Phoenix Libraries to a .phxlib file, simply navigate to Preferences, click the Diagnostics tab, and click the Export Libraries button.

Individual Library

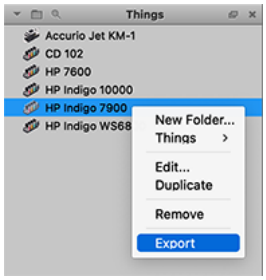
In addition, you can also export individual Phoenix libraries. For example, you may have multiple computers using Phoenix. If you add a new press to your production environment, you will need to update the Things in Phoenix to reflect the new press. Rather than adding it and all the settings for it to each machine running Phoenix, you can add it to one Phoenix Things library, then export the library and simply import it on the other Phoenix clients.



To export an individual library, navigate to the relevant panel (for instance, the Things panel), click the dropdown menu and choose **Export Library**. This will create .xml files for each item in the library. Now, you can simply click the dropdown menu on another machine and choose **Import Thing**.

Individual Items

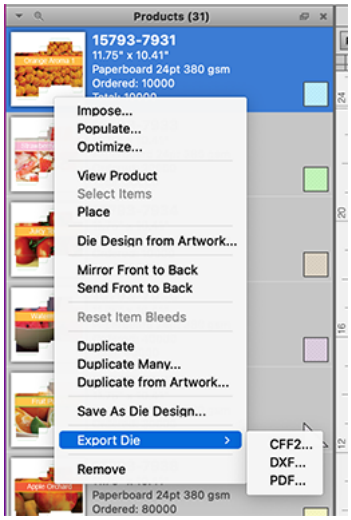
You can also select an individual item in a library, right-click it, and export it.



2.9.3. Exporting Products and Layouts

In addition to exporting print and cut files from a Phoenix project, you can also select individual assets to export or save. There are a number of reasons to do this, such as creating templates, die designs, or vector separations.

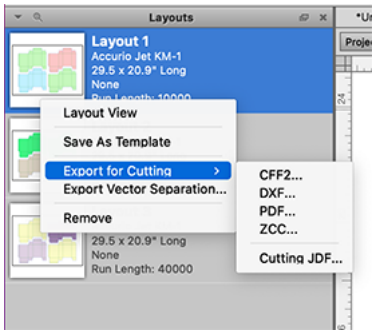
Products



You can easily use Products from a Phoenix project to create a 1-up die file by right clicking on the product (either in a layout or in the Products panel) and choosing the **Export Die** option. You can then select the file type for the die, either **DXF**, **CFF2**, or **PDF**.

In addition, you can save a product in the Products panel as a Die Design to your Die Designs library for future use. Simply right click on the product and choose the **Save as Die Design...** option

Layouts



Once you have a layout created in Phoenix, you can output it in a number of ways by right-clicking on the layout in the Layouts panel. You can **Save as Template** to add the layout to your Templates library. You can also easily create a cutting file for the layout, using the **Export for Cutting** option and choosing the desired filetype. Lastly you can **Export Vector Separation** from the layout.

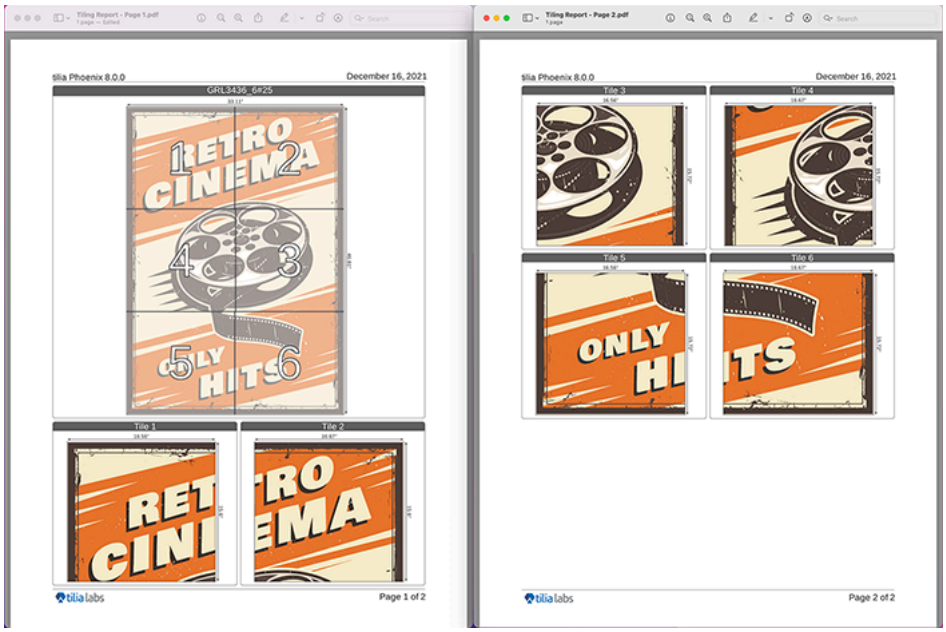
2.9.4. Reporting in Phoenix

There are five types of reports that can be created in Phoenix:

1. *Tiling Reports*
2. *PDF Reports*
3. *XML Reports*
4. *JSON Reports*

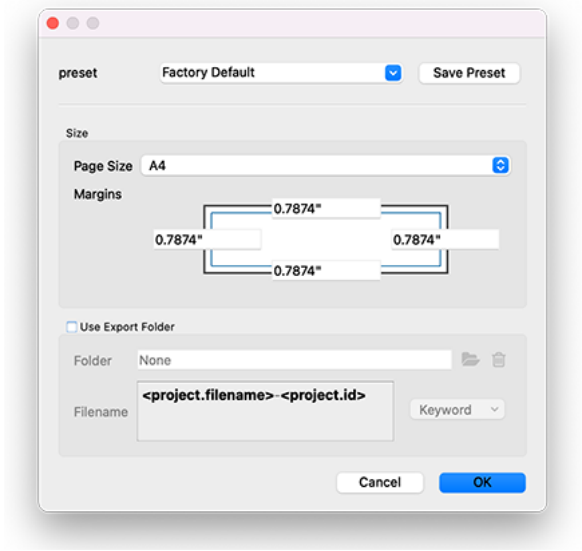
5. *CSV Reports*

2.9.4.1. Tiling Reports



Tiling Reports are used to provide more information about a Tiled product to make assembly easier. To use Tiling Reports, you must have a tiled product in the project.

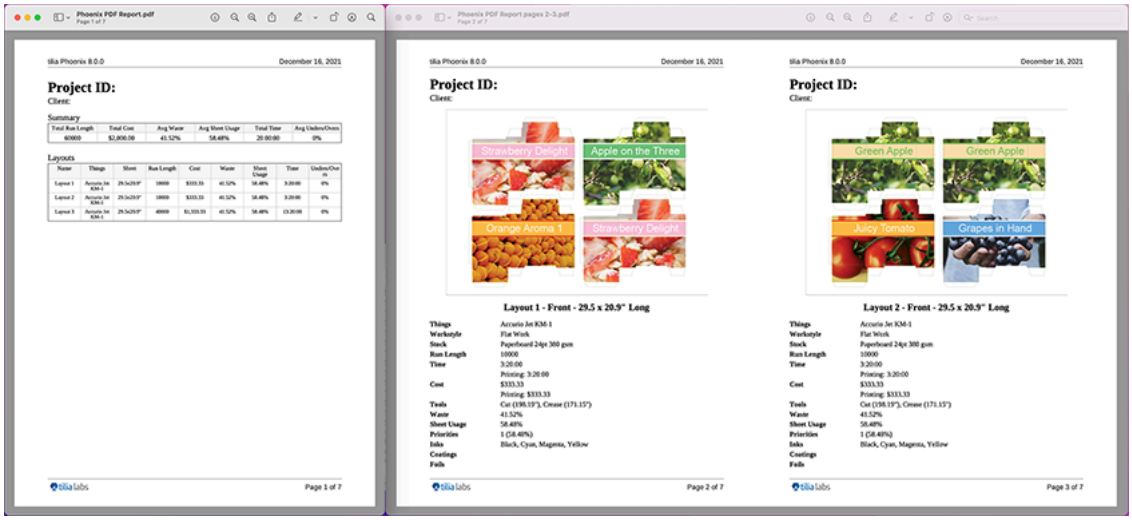
Export a tiling report from the File menu.



Field	Description
Page Size	Choose between A4 and Letter size for the report
Margins	Define page margins

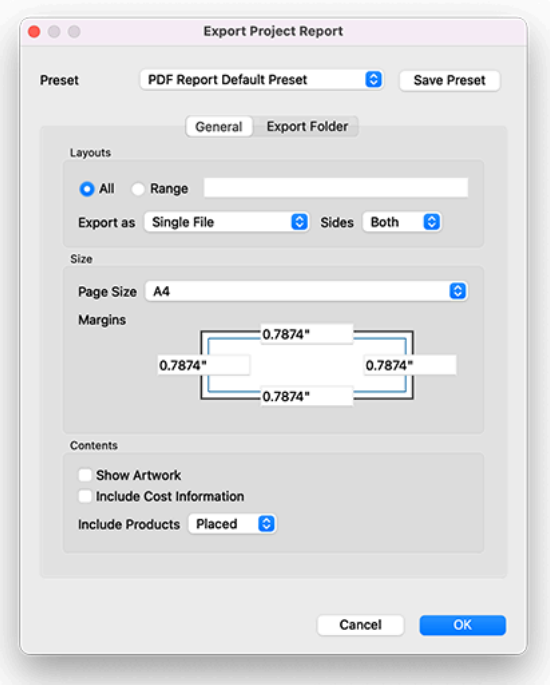
Field	Description
Use Export Folder	Optionally specify an export folder
Filename	If using an export folder, specify the filename for the HP JDF

2.9.4.2. PDF Reports



PDF Reports provide a great way to get a quick overview of a project. The first page provides a project summary that includes total run length, total cost, average waste, average sheet usage, total production time, and overage/underage. In addition, the first page provides a layout by layout rundown of this same information as well as the Things and Stocks used.

To export a PDF report, navigate to the File menu and choose Export Report > PDF...



General

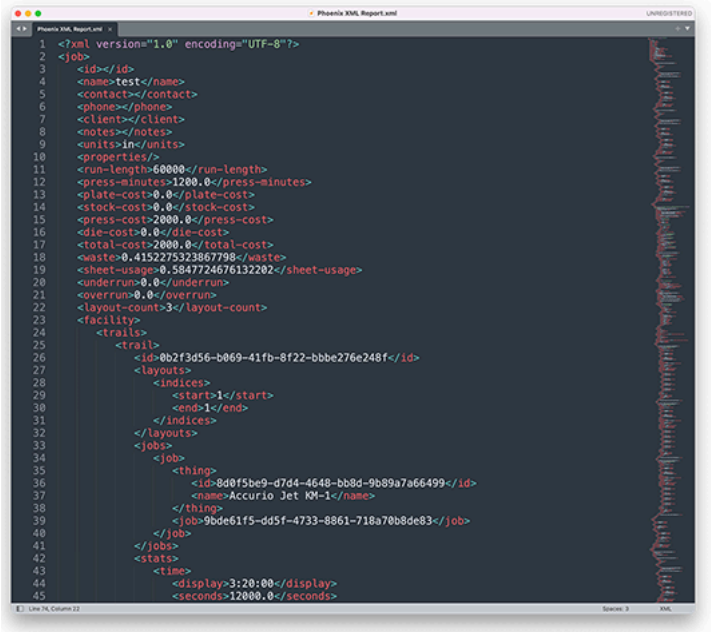
Field	Description
Layouts	Select whether to output **All** layouts, or a range of one or more layouts. The range field can specify an individual layout number, a range of layouts (i.e. “1-4”), or a comma separated list of layouts (i.e. “1-3, 5, 7-10”)
Export as	Define whether the layouts will be exported as a **Single File** multi-paged PDF or create **One File Per Layout** or **One File Per Side** for layouts with front and back sides.
Sides	Specify which side(s) to export, **Both**, **Front**, or **Back**
Page Size	Choose between A4 and Letter size for the report
Margins	Define page margins
Show Artwork	Option to show artwork thumbnails in report. If not selected, report will show the products as a representative color instead
Include Cost Information	Option to show project cost in report

Export Folder

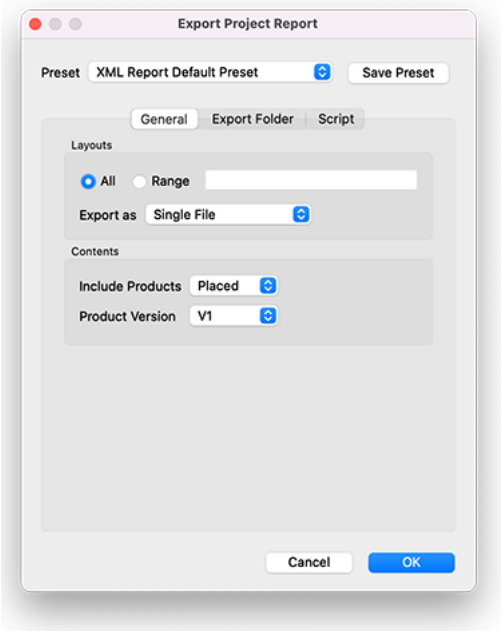
Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will

Field	Description
	allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.9.4.3. XML Reports



XML Reports place all of the project data into an xml file. This is useful when communicating with 3rd party tools for project automation and reporting.



General

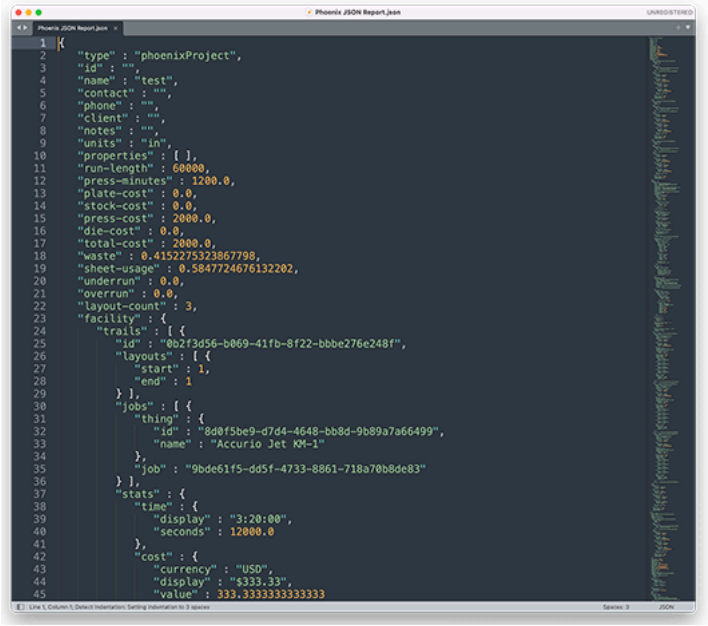
Field	Description
Layouts	Select whether to output **All** layouts, or a range of one or more layouts. The range field can specify an individual layout number, a range of layouts (i.e. “1-4”), or a comma separated list of layouts (i.e. “1-3, 5, 7-10”)
Export as	Define whether the layouts will be exported as a **Single File** or create **One File Per Layout**
Include Products	Option to include information on all products, only products placed in layouts, or no products
Product Version	If including products, whether to use the legacy Product version V1 or the newer V2. V2 contains more information on the products, but may not work with systems designed for V1 product data

Export Folder

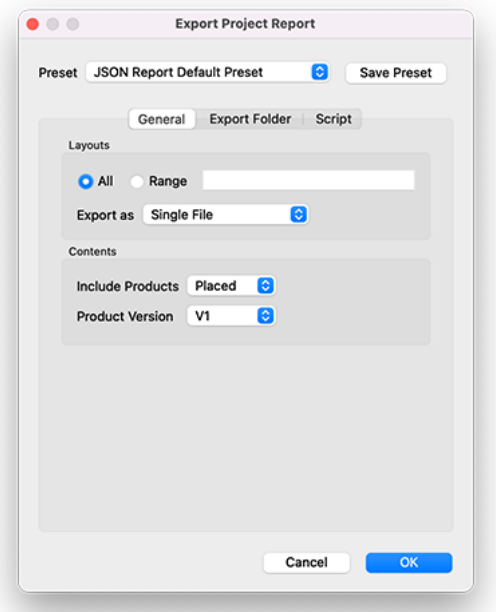
Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename

Field	Description
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.9.4.4. JSON Reports



JSON Reports place all of the project data into an xml file. This is useful when communicating with 3rd party tools for project automation and reporting.



General

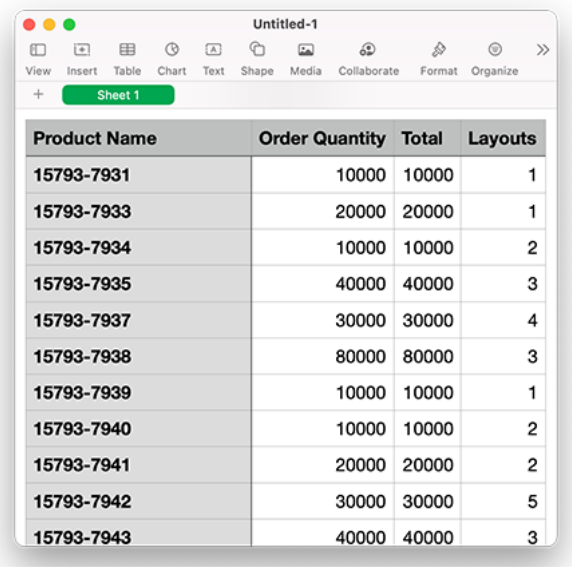
Field	Description
Layouts	Select whether to output **All** layouts, or a range of one or more layouts. The range field can specify an individual layout number, a range of layouts (i.e. “1-4”), or a comma separated list of layouts (i.e. “1-3, 5, 7-10”)
Export as	Define whether the layouts will be exported as a **Single File** or create **One File Per Layout**
Include Products	Option to include information on all products, only products placed in layouts, or no products
Product Version	If including products, whether to use the legacy Product version V1 or the newer V2. V2 contains more information on the products, but may not work with systems designed for V1 product data

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename

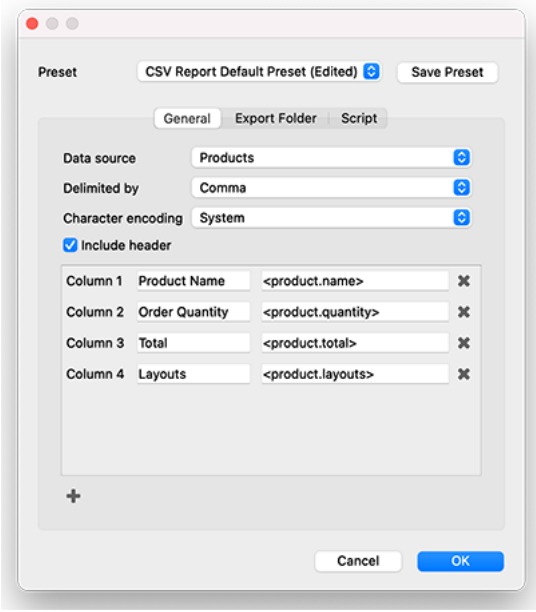
Field	Description
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename. **Name** uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.9.4.5. CSV Reports



Product Name	Order Quantity	Total	Layouts
15793-7931	10000	10000	1
15793-7933	20000	20000	1
15793-7934	10000	10000	2
15793-7935	40000	40000	3
15793-7937	30000	30000	4
15793-7938	80000	80000	3
15793-7939	10000	10000	1
15793-7940	10000	10000	2
15793-7941	20000	20000	2
15793-7942	30000	30000	5
15793-7943	40000	40000	3

CSV reports are a new and incredibly powerful reporting tool in Phoenix 8.0. You can create CSV reports based on virtually any data in a project, and structure it exactly how you need it structured.



General

Field	Description
Data Source	Select where the data is coming from that you want to export. Choose from Product data, Roll data, or Layout data
Delimited by	Choose your CSV delimiter
Character Encoding	Select the character encoding for the CSV file
Include Header	Option to include the Header row in the CSV file
Column Info	Provide a name for each column, and specify the data that should be in the column using Dynamic Keywords

Export Folder

Field	Description
Export Folder	Used for export presets - specify whether an export folder should be predefined. **None** will allow you to specify the output location when you click **OK**. **Use Project Save Folder** will use the same folder where the Project is saved, if one is specified. **Specify Folder** allows you to use the below options to choose a folder and filename
Folder	Choose a folder to use for output. Primarily useful when saving export settings as a preset
Filename	Define the output filename. You can **Use Project Filename** to simply save the PDF with the same name as the project filename.

Field	Description
	Name uses the project name set in the Project Properties. **Use Project ID Property** uses the Project ID set in the Project Properties. **Use Custom Filename** allows you to set a custom name, using static text and Dynamic Keywords.

2.10. Dynamic Keyword System

2.10.1. Phoenix Keywords

Phoenix features over 2000+ unique keywords. Keywords are used in Text Marks, Bearer Bars, Custom Marks, and Barcodes to create dynamic marks that update in real time as the underlying data changes. Text keywords are also used during export to create unique, job-specific filenames automatically.

New in 8.0

The Dynamic Keywords have changed during the Phoenix 8.0 release, and some keywords from older versions are no longer available in Phoenix. Note that no new keywords were deprecated or changed since version 7.0. The list of changes from 6.0–7.0 can be found at the following links along with more info:

- *Keyword Mappings* on page 348
- *Deprecated Keywords* on page 351

Index Numbers (.#.)

In many keywords, you will see a # symbol separating components of a keyword. This symbol represents an index number. This means that it could apply to any number of potential items. For example, **<project.product.#.layouts>** is a keyword that returns which layouts a given product is on. To specify which product, you simply replace the # with the number of the product you want. So if you want to find the layouts that the first product in the project is on, you would use **<project.product.1.layouts>**

Number Padding (.pad.#>)

Phoenix 7.0 added support for padding integer-based keywords by a specified amount. This allows you to ensure that returned have the same number of characters, regardless of the actual value. For instance, if a project has 10 layouts, previously the <layout.index> keyword would return 1 for the first layout, 2 for the second layout, and so on up to 10 for the tenth layout. Now, you can add padding, so <layout.index.pad.3> would return 001, 002, and 010 for those same layouts!

Navigating the Keywords Documentation

The complete list of text keywords available in Phoenix is below. Keywords in Phoenix are contextual. For instance, bleed can refer to a component bleed with a keyword like **<component.bleed.margin>** or a page bleed like **<part.page.#.bleed.bottom>** or any other

number of bleed values. Even though the context is different, bleed is still bleed, just the context of what bleed you want is what is changing.

Our keyword documentation is setup to reflect these relationships and the context. To navigate to a definition, simply click on any part of a keyword to go to that part's page. From here, you will find any definitions that apply, as well as links to other keyword parts. If you are looking for a particular definition, the easiest way to find a specific keyword (out of the over 800 available!) is to use the *Find* feature in your browser. Press command (or control) + "F", then type in the keyword you're searching for. That will take you to the keyword on this page. From there, you can click on the link to navigate to that keyword's page.

CSV Export Keywords

Phoenix 8.0 introduced the ability to create custom csv reports exported from Phoenix projects. These reports allow you to create a csv with exactly the data that you need, and these are configured with the use of keywords

There are four types of keywords that are exclusive to this CSV export, so you will not be able to use them in other places in Phoenix. These keywords are *lane*, *ribbon*, *roll*, and *lane*. Each of these keywords is only available in CSV export and only for roll-related data sources.

Cloud

- <*cloud*.*user*.description>
- <*cloud*.*user*.email>
- <*cloud*.*user*.name>
- <*cloud*.*user*.*name*.first>
- <*cloud*.*user*.*name*.last>
- <*cloud*.*user*.title>

Component

- <*component*.*bleed*.margins>
- <*component*.*bleed*.*margins*.cm>
- <*component*.*bleed*.*margins*.ft>
- <*component*.*bleed*.*margins*.in>
- <*component*.*bleed*.*margins*.m>
- <*component*.*bleed*.*margins*.mil>
- <*component*.*bleed*.*margins*.mm>
- <*component*.*bleed*.*margins*.pt>
- <*component*.*bleed*.*margins*.um>
- <*component*.*bleed*.*margins*.bottom>
- <*component*.*bleed*.*margins*.bottom.cm>

- <*component*.*bleed*.*margins*.bottom.ft>
- <*component*.*bleed*.*margins*.bottom.in>
- <*component*.*bleed*.*margins*.bottom.m>
- <*component*.*bleed*.*margins*.bottom.mil>
- <*component*.*bleed*.*margins*.bottom.mm>
- <*component*.*bleed*.*margins*.bottom.pt>
- <*component*.*bleed*.*margins*.bottom.um>
- <*component*.*bleed*.*margins*.left>
- <*component*.*bleed*.*margins*.left.cm>
- <*component*.*bleed*.*margins*.left.ft>
- <*component*.*bleed*.*margins*.left.in>
- <*component*.*bleed*.*margins*.left.m>
- <*component*.*bleed*.*margins*.left.mil>
- <*component*.*bleed*.*margins*.left.mm>
- <*component*.*bleed*.*margins*.left.pt>
- <*component*.*bleed*.*margins*.left.um>
- <*component*.*bleed*.*margins*.right>
- <*component*.*bleed*.*margins*.left.cm>
- <*component*.*bleed*.*margins*.left.ft>
- <*component*.*bleed*.*margins*.left.in>
- <*component*.*bleed*.*margins*.left.m>
- <*component*.*bleed*.*margins*.left.mil>
- <*component*.*bleed*.*margins*.left.mm>
- <*component*.*bleed*.*margins*.left.pt>
- <*component*.*bleed*.*margins*.left.um>
- <*component*.*bleed*.*margins*.top>
- <*component*.*bleed*.*margins*.top.cm>
- <*component*.*bleed*.*margins*.top.ft>

- <*component*.*bleed*.*margins*.top.in>
- <*component*.*bleed*.*margins*.top.m>
- <*component*.*bleed*.*margins*.top.mil>
- <*component*.*bleed*.*margins*.top.mm>
- <*component*.*bleed*.*margins*.top.pt>
- <*component*.*bleed*.*margins*.top.um>
- <*component*.*bleed*.type>
- <*component*.colors>
- <*component*.column>
- <*component*.column.pad.#>
- <*component*.component-type>
- <*component*.double-sided>
- <*component*.*flat*.bundle-size>
- <*component*.*flat*.bundle-size.pad.#>
- <*component*.*flat*.*die*.name>
- <*component*.*flat*.*die*.path>
- <*component*.*flat*.*die*.source>
- <*component*.*flat*.*die*.source-noext>
- <*component*.*flat*.*die*.type>
- <*component*.instanceid>
- <*component*.instanceid.pad.#>
- <*component*.locked>
- <*component*.name>
- <*component*.number>
- <*component*.*offcut*.*margins*.bottom>
- <*component*.*offcut*.*margins*.bottom.cm>
- <*component*.*offcut*.*margins*.bottom.ft>
- <*component*.*offcut*.*margins*.bottom.in>
- <*component*.*offcut*.*margins*.bottom.m>

- <*component*.*offcut*.*margins*.bottom.mil>
- <*component*.*offcut*.*margins*.bottom.mm>
- <*component*.*offcut*.*margins*.bottom.pt>
- <*component*.*offcut*.*margins*.bottom.um>
- <*component*.*offcut*.*margins*.left>
- <*component*.*offcut*.*margins*.left.cm>
- <*component*.*offcut*.*margins*.left.ft>
- <*component*.*offcut*.*margins*.left.in>
- <*component*.*offcut*.*margins*.left.m>
- <*component*.*offcut*.*margins*.left.mil>
- <*component*.*offcut*.*margins*.left.mm>
- <*component*.*offcut*.*margins*.left.pt>
- <*component*.*offcut*.*margins*.left.um>
- <*component*.*offcut*.*margins*.right>
- <*component*.*offcut*.*margins*.left.cm>
- <*component*.*offcut*.*margins*.left.ft>
- <*component*.*offcut*.*margins*.left.in>
- <*component*.*offcut*.*margins*.left.m>
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- <*component*.*offcut*.*margins*.left.mm>
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- <*component*.*offcut*.*margins*.left.um>
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- <*component*.*offcut*.*margins*.top.in>
- <*component*.*offcut*.*margins*.top.m>
- <*component*.*offcut*.*margins*.top.mil>
- <*component*.*offcut*.*margins*.top.mm>

- <*component*.*offcut*.*margins*.top.pt>
- <*component*.*offcut*.*margins*.top.um>
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- <*component*.*page*.*#*.*bleed*.bottom.in>
- <*component*.*page*.*#*.*bleed*.bottom.m>
- <*component*.*page*.*#*.*bleed*.bottom.mil>
- <*component*.*page*.*#*.*bleed*.bottom.mm>
- <*component*.*page*.*#*.*bleed*.bottom.pt>
- <*component*.*page*.*#*.*bleed*.bottom.um>
- <*component*.*page*.*#*.*bleed*.left>
- <*component*.*page*.*#*.*bleed*.left.cm>
- <*component*.*page*.*#*.*bleed*.left.ft>
- <*component*.*page*.*#*.*bleed*.left.in>
- <*component*.*page*.*#*.*bleed*.left.m>
- <*component*.*page*.*#*.*bleed*.left.mil>
- <*component*.*page*.*#*.*bleed*.left.mm>
- <*component*.*page*.*#*.*bleed*.left.pt>
- <*component*.*page*.*#*.*bleed*.left.um>
- <*component*.*page*.*#*.*bleed*.right>
- <*component*.*page*.*#*.*bleed*.left.cm>
- <*component*.*page*.*#*.*bleed*.left.ft>
- <*component*.*page*.*#*.*bleed*.left.in>
- <*component*.*page*.*#*.*bleed*.left.m>
- <*component*.*page*.*#*.*bleed*.left.mil>
- <*component*.*page*.*#*.*bleed*.left.mm>
- <*component*.*page*.*#*.*bleed*.left.pt>

- <*component*.*page*.*#*.*bleed*.left.um>
- <*component*.*page*.*#*.*bleed*.top>
- <*component*.*page*.*#*.*bleed*.top.cm>
- <*component*.*page*.*#*.*bleed*.top.ft>
- <*component*.*page*.*#*.*bleed*.top.in>
- <*component*.*page*.*#*.*bleed*.top.m>
- <*component*.*page*.*#*.*bleed*.top.mil>
- <*component*.*page*.*#*.*bleed*.top.mm>
- <*component*.*page*.*#*.*bleed*.top.pt>
- <*component*.*page*.*#*.*bleed*.top.um>
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- <*component*.*page*.*#*.*color*.count.pad.#>
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- <*component*.*page*.*#*.*colors*.detection>
- <*component*.*page*.*#*.*colors*.source>
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- <*component*.*page*.*#*.*creep*.cm>
- <*component*.*page*.*#*.*creep*.ft>
- <*component*.*page*.*#*.*creep*.in>
- <*component*.*page*.*#*.*creep*.m>
- <*component*.*page*.*#*.*creep*.mil>
- <*component*.*page*.*#*.*creep*.mm>
- <*component*.*page*.*#*.*creep*.pt>
- <*component*.*page*.*#*.*creep*.um>

- <*component*.*page*.*#*.*file*.checksum>
- <*component*.*page*.*#*.*file*.name>
- <*component*.*page*.*#*.*file*.number>
- <*component*.*page*.*#*.*file*.number.pad.#>
- <*component*.*page*.*#*.*file*.path>
- <*component*.*page*.*#*.*file*.timestamp>
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- <*component*.*page*.*#*.name>
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- <*component*.*page*.*#*.*position*.x.cm>
- <*component*.*page*.*#*.*position*.x.ft>
- <*component*.*page*.*#*.*position*.x.in>
- <*component*.*page*.*#*.*position*.x.m>
- <*component*.*page*.*#*.*position*.x.mil>
- <*component*.*page*.*#*.*position*.x.mm>
- <*component*.*page*.*#*.*position*.x.pt>
- <*component*.*page*.*#*.*position*.x.um>
- <*component*.*page*.*#*.*position*.y>
- <*component*.*page*.*#*.*position*.y.cm>
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- <*component*.*page*.*#*.*position*.y.mil>
- <*component*.*page*.*#*.*position*.y.mm>
- <*component*.*page*.*#*.*position*.y.pt>
- <*component*.*page*.*#*.*position*.y.um>
- <*component*.*page*.*#*.rotation>

- <*component*.*page*.*#*.*scale*.x>
- <*component*.*page*.*#*.*scale*.x.cm>
- <*component*.*page*.*#*.*scale*.x.ft>
- <*component*.*page*.*#*.*scale*.x.in>
- <*component*.*page*.*#*.*scale*.x.m>
- <*component*.*page*.*#*.*scale*.x.mil>
- <*component*.*page*.*#*.*scale*.x.mm>
- <*component*.*page*.*#*.*scale*.x.pt>
- <*component*.*page*.*#*.*scale*.x.um>
- <*component*.*page*.*#*.*scale*.y>
- <*component*.*page*.*#*.*scale*.y.cm>
- <*component*.*page*.*#*.*scale*.y.ft>
- <*component*.*page*.*#*.*scale*.y.in>
- <*component*.*page*.*#*.*scale*.y.m>
- <*component*.*page*.*#*.*scale*.y.mil>
- <*component*.*page*.*#*.*scale*.y.mm>
- <*component*.*page*.*#*.*scale*.y.pt>
- <*component*.*page*.*#*.*scale*.y.um>
- <*component*.*page*.*#*.*size*.height>
- <*component*.*page*.*#*.*size*.height.cm>
- <*component*.*page*.*#*.*size*.height.ft>
- <*component*.*page*.*#*.*size*.height.in>
- <*component*.*page*.*#*.*size*.height.m>
- <*component*.*page*.*#*.*size*.height.mil>
- <*component*.*page*.*#*.*size*.height.mm>
- <*component*.*page*.*#*.*size*.height.pt>
- <*component*.*page*.*#*.*size*.height.um>
- <*component*.*page*.*#*.*size*.width>
- <*component*.*page*.*#*.*size*.width.cm>

- <*component*.*page*.*#*.*size*.width.ft>
- <*component*.*page*.*#*.*size*.width.in>
- <*component*.*page*.*#*.*size*.width.m>
- <*component*.*page*.*#*.*size*.width.mil>
- <*component*.*page*.*#*.*size*.width.mm>
- <*component*.*page*.*#*.*size*.width.pt>
- <*component*.*page*.*#*.*size*.width.um>
- <*component*.*page*.*#*.visible>
- <*component*.*position*.x>
- <*component*.*position*.x.cm>
- <*component*.*position*.x.ft>
- <*component*.*position*.x.in>
- <*component*.*position*.x.m>
- <*component*.*position*.x.mil>
- <*component*.*position*.x.mm>
- <*component*.*position*.x.pt>
- <*component*.*position*.x.um>
- <*component*.*position*.y>
- <*component*.*position*.y.cm>
- <*component*.*position*.y.ft>
- <*component*.*position*.y.in>
- <*component*.*position*.y.m>
- <*component*.*position*.y.mil>
- <*component*.*position*.y.mm>
- <*component*.*position*.y.pt>
- <*component*.*position*.y.um>
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- <*component*.row>
- <*component*.row.pad.#>

- <*component*.*signature*.folding-pattern>
- <*component*.*signature*.*folds*.horizontal>
- <*component*.*signature*.*folds*.*horizontal*.pad.#>
- <*component*.*signature*.*folds*.total>
- <*component*.*signature*.*folds*.total.pad.#>
- <*component*.*signature*.*folds*.vertical>
- <*component*.*signature*.*folds*.*vertical*.pad.#>
- <*component*.*signature*.index>
- <*component*.*signature*.index.pad.#>
- <*component*.*signature*.*muller-martini*.finishing>
- <*component*.*signature*.*muller-martini*.order>
- <*component*.*signature*.page-count>
- <*component*.*signature*.page-count.pad.#>
- <*component*.*signature*.relative-index>
- <*component*.*signature*.relative-index.pad.#>
- <*component*.*size*.height>
- <*component*.*size*.height.cm>
- <*component*.*size*.height.ft>
- <*component*.*size*.height.in>
- <*component*.*size*.height.m>
- <*component*.*size*.height.mil>
- <*component*.*size*.height.mm>
- <*component*.*size*.height.pt>
- <*component*.*size*.height.um>
- <*component*.*size*.width>
- <*component*.*size*.width.cm>
- <*component*.*size*.width.ft>
- <*component*.*size*.width.in>
- <*component*.*size*.width.m>

- <*component*.*size*.width.mil>
- <*component*.*size*.width.mm>
- <*component*.*size*.width.pt>
- <*component*.*size*.width.um>
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- <*component*.*spacing*.*margin*.cm>
- <*component*.*spacing*.*margin*.ft>
- <*component*.*spacing*.*margin*.in>
- <*component*.*spacing*.*margin*.m>
- <*component*.*spacing*.*margin*.mil>
- <*component*.*spacing*.*margin*.mm>
- <*component*.*spacing*.*margin*.pt>
- <*component*.*spacing*.*margin*.um>
- <*component*.*spacing*.*margins*.bottom>
- <*component*.*spacing*.*margins*.bottom.cm>
- <*component*.*spacing*.*margins*.bottom.ft>
- <*component*.*spacing*.*margins*.bottom.in>
- <*component*.*spacing*.*margins*.bottom.m>
- <*component*.*spacing*.*margins*.bottom.mil>
- <*component*.*spacing*.*margins*.bottom.mm>
- <*component*.*spacing*.*margins*.bottom.pt>
- <*component*.*spacing*.*margins*.bottom.um>
- <*component*.*spacing*.*margins*.left>
- <*component*.*spacing*.*margins*.left.cm>
- <*component*.*spacing*.*margins*.left.ft>
- <*component*.*spacing*.*margins*.left.in>
- <*component*.*spacing*.*margins*.left.m>
- <*component*.*spacing*.*margins*.left.mil>
- <*component*.*spacing*.*margins*.left.mm>

- <*component*.*spacing*.*margins*.left.pt>
- <*component*.*spacing*.*margins*.left.um>
- <*component*.*spacing*.*margins*.right>
- <*component*.*spacing*.*margins*.left.cm>
- <*component*.*spacing*.*margins*.left.ft>
- <*component*.*spacing*.*margins*.left.in>
- <*component*.*spacing*.*margins*.left.m>
- <*component*.*spacing*.*margins*.left.mil>
- <*component*.*spacing*.*margins*.left.mm>
- <*component*.*spacing*.*margins*.left.pt>
- <*component*.*spacing*.*margins*.left.um>
- <*component*.*spacing*.*margins*.top>
- <*component*.*spacing*.*margins*.top.cm>
- <*component*.*spacing*.*margins*.top.ft>
- <*component*.*spacing*.*margins*.top.in>
- <*component*.*spacing*.*margins*.top.m>
- <*component*.*spacing*.*margins*.top.mil>
- <*component*.*spacing*.*margins*.top.mm>
- <*component*.*spacing*.*margins*.top.pt>
- <*component*.*spacing*.*margins*.top.um>
- <*component*.*spacing*.type>
- <*component*.*tile*.*die*.name>
- <*component*.*tile*.*die*.path>
- <*component*.*tile*.*die*.source>
- <*component*.*tile*.*die*.source-noext>
- <*component*.*tile*.*die*.type>
- <*component*.*tile*.index>
- <*component*.*tile*.index.pad.#>
- <*component*.*tile*.tile-count>

- <*component*.*tile*.tile-count.pad.#>
- <*component*.type>
- <*component*.z-order>
- <*component*.z-order.pad.#>

Date

- <*date*.h1>
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- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.in>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.m>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.mil>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.mm>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.pt>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*scale*.y.um>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.cm>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.ft>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.in>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.m>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.mil>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.mm>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.pt>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.height.um>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.cm>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.ft>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.in>

- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.m>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.mil>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.mm>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.pt>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.*size*.width.um>
- <*project*.*product*.*#*.*part*.*#*.*page*.*#*.visible>
- <*project*.*product*.*#*.*part*.*#*.part-type>
- <*project*.*product*.*#*.*part*.*#*.processes>
- <*project*.*product*.*#*.*part*.*#*.*rotation*.custom-values>
- <*project*.*product*.*#*.*part*.*#*.*rotation*.type>
- <*project*.*product*.*#*.*part*.*#*.stock>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*die*.name>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*die*.path>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*die*.source-noext>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*die*.type>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.cm>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.m>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.height.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.ft>

- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.mm>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*size*.width.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.tiles>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.tiles.pad.*#*>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.cutting-tool>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension-rule>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension.in>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.extension.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.gap.um>

- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.method>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.no-image.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.number>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.number.pad.#>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap-rule>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.overlap.pt>
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- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.size>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.mm>

- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.*size*.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.sizes>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.type>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*horizontal*.uniform-final-size>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.order>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.preset>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.start>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension-rule>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.extension.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.gap.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.method>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image>

- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.no-image.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.number>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.number.pad.#>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap-rule>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.overlap.um>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.size>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.cm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.ft>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.in>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.m>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.mil>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.mm>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.pt>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.*size*.um>

- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.sizes>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.type>
- <*project*.*product*.*#*.*part*.*#*.*tiled*.*tiling*.*vertical*.uniform-final-size>
- <*project*.*product*.*#*.*part*.count>
- <*project*.*product*.*#*.*part*.count.pad.#>
- <*project*.*product*.*#*.placed>
- <*project*.*product*.*#*.placed.pad.#>
- <*project*.*product*.*#*.priority>
- <*project*.*product*.*#*.priority.pad.#>
- <*project*.*product*.*#*.quantity>
- <*project*.*product*.*#*.quantity.pad.#>
- <*project*.*product*.*#*.total>
- <*project*.*product*.count>
- <*project*.*product*.count.pad.#>
- <*project*.run-length>
- <*project*.run-length.pad.#>
- <*project*.sourcetemplate>
- <*project*.time>
- <*project*.underrun>
- <*project*.units>
- <*project*.usage>
- <*project*.waste>

Repeat

- <*repeat*.items>
- <*repeat*.*items*.pad.#>
- <*repeat*.locked>
- <*repeat*.*position*.x>
- <*repeat*.*position*.x.cm>
- <*repeat*.*position*.x.ft>

- <*repeat*.*position*.x.in>
- <*repeat*.*position*.x.m>
- <*repeat*.*position*.x.mil>
- <*repeat*.*position*.x.mm>
- <*repeat*.*position*.x.pt>
- <*repeat*.*position*.x.um>
- <*repeat*.*position*.y>
- <*repeat*.*position*.y.cm>
- <*repeat*.*position*.y.ft>
- <*repeat*.*position*.y.in>
- <*repeat*.*position*.y.m>
- <*repeat*.*position*.y.mil>
- <*repeat*.*position*.y.mm>
- <*repeat*.*position*.y.pt>
- <*repeat*.*position*.y.um>
- <*repeat*.rotation>
- <*repeat*.*size*.height>
- <*repeat*.*size*.height.cm>
- <*repeat*.*size*.height.ft>
- <*repeat*.*size*.height.in>
- <*repeat*.*size*.height.m>
- <*repeat*.*size*.height.mil>
- <*repeat*.*size*.height.mm>
- <*repeat*.*size*.height.pt>
- <*repeat*.*size*.height.um>
- <*repeat*.*size*.width>
- <*repeat*.*size*.width.cm>
- <*repeat*.*size*.width.ft>
- <*repeat*.*size*.width.in>

- <*repeat*.*size*.width.m>
- <*repeat*.*size*.width.mil>
- <*repeat*.*size*.width.mm>
- <*repeat*.*size*.width.pt>
- <*repeat*.*size*.width.um>
- <*repeat*.type>
- <*repeat*.z-order>
- <*repeat*.z-order.pad.#>

Ribbon

Roll

Second

- <*second*>

Section

- <*section*.binding-method>
- <*section*.index>
- <*section*.index.pad.#>
- <*section*.pages>
- <*section*.*pages*.pad.#>
- <*section*.signatures>
- <*section*.*signatures*.pad.#>

Segment

Sheet

- <*sheet*.cost>
- <*sheet*.dimensions>
- <*sheet*.external-id>
- <*sheet*.grade>
- <*sheet*.grain>
- <*sheet*.height>

- <*sheet*.height.cm>
- <*sheet*.height.ft>
- <*sheet*.height.in>
- <*sheet*.height.m>
- <*sheet*.height.mil>
- <*sheet*.height.mm>
- <*sheet*.height.pt>
- <*sheet*.height.um>
- <*sheet*.name>
- <*sheet*.price>
- <*sheet*.stock>
- <*sheet*.width>
- <*sheet*.width.cm>
- <*sheet*.width.ft>
- <*sheet*.width.in>
- <*sheet*.width.m>
- <*sheet*.width.mil>
- <*sheet*.width.mm>
- <*sheet*.width.pt>
- <*sheet*.width.um>

Spot

- <*spot.#*.abbr>
- <*spot.#*.abbr>
- <*spot.#*.first>
- <*spot.#*.first>
- <*spot.#*.name>
- <*spot.#*.name>
- <*spot.#*.neutral-density>
- <*spot.#*.neutral-density>

- <*spot*.*#*.number>
- <*spot*.*#*.number>
- <*spot*.*#*.smart>
- <*spot*.*#*.smart>
- <*spot*.*#*.type>
- <*spot*.*#*.type>

Spots

- <*spots*>

Spots-stacked

- <*spots-stacked*>
- <*spots-stacked*.abbr>
- <*spots-stacked*.first>
- <*spots-stacked*.full>
- <*spots-stacked*.number>
- <*spots-stacked*.smart>
- <*spots*.abbr>
- <*spots*.first>
- <*spots*.full>
- <*spots*.number>
- <*spots*.smart>

Stock

- <*stock*.description>
- <*stock*.external-id>
- <*stock*.name>
- <*stock*.sheets>
- <*stock*.*sheets*.pad.#>
- <*stock*.thickness>
- <*stock*.thickness.cm>
- <*stock*.thickness.ft>

- <*stock*.thickness.in>
- <*stock*.thickness.m>
- <*stock*.thickness.mil>
- <*stock*.thickness.mm>
- <*stock*.thickness.pt>
- <*stock*.thickness.um>
- <*stock*.vendor>
- <*stock*.weight>

Surface

- <*surface*.*items*.*bounds*.height>
- <*surface*.*items*.*bounds*.height.cm>
- <*surface*.*items*.*bounds*.height.ft>
- <*surface*.*items*.*bounds*.height.in>
- <*surface*.*items*.*bounds*.height.m>
- <*surface*.*items*.*bounds*.height.mil>
- <*surface*.*items*.*bounds*.height.mm>
- <*surface*.*items*.*bounds*.height.pt>
- <*surface*.*items*.*bounds*.height.um>
- <*surface*.*items*.*bounds*.width>
- <*surface*.*items*.*bounds*.width.cm>
- <*surface*.*items*.*bounds*.width.ft>
- <*surface*.*items*.*bounds*.width.in>
- <*surface*.*items*.*bounds*.width.m>
- <*surface*.*items*.*bounds*.width.mil>
- <*surface*.*items*.*bounds*.width.mm>
- <*surface*.*items*.*bounds*.width.pt>
- <*surface*.*items*.*bounds*.width.um>
- <*surface*.*items*.*bounds*.x>
- <*surface*.*items*.*bounds*.x.cm>

- <*surface*.*items*.*bounds*.x.ft>
- <*surface*.*items*.*bounds*.x.in>
- <*surface*.*items*.*bounds*.x.m>
- <*surface*.*items*.*bounds*.x.mil>
- <*surface*.*items*.*bounds*.x.mm>
- <*surface*.*items*.*bounds*.x.pt>
- <*surface*.*items*.*bounds*.x.um>
- <*surface*.*items*.*bounds*.y>
- <*surface*.*items*.*bounds*.y.cm>
- <*surface*.*items*.*bounds*.y.ft>
- <*surface*.*items*.*bounds*.y.in>
- <*surface*.*items*.*bounds*.y.m>
- <*surface*.*items*.*bounds*.y.mil>
- <*surface*.*items*.*bounds*.y.mm>
- <*surface*.*items*.*bounds*.y.pt>
- <*surface*.*items*.*bounds*.y.um>
- <*surface*.*items*.count>
- <*surface*.*items*.count.pad.#>
- <*surface*.*origin*.x>
- <*surface*.*origin*.x.cm>
- <*surface*.*origin*.x.ft>
- <*surface*.*origin*.x.in>
- <*surface*.*origin*.x.m>
- <*surface*.*origin*.x.mil>
- <*surface*.*origin*.x.mm>
- <*surface*.*origin*.x.pt>
- <*surface*.*origin*.x.um>
- <*surface*.*origin*.y>
- <*surface*.*origin*.y.cm>

- <*surface*.*origin*.y.ft>
- <*surface*.*origin*.y.in>
- <*surface*.*origin*.y.m>
- <*surface*.*origin*.y.mil>
- <*surface*.*origin*.y.mm>
- <*surface*.*origin*.y.pt>
- <*surface*.*origin*.y.um>
- <*surface*.plate>
- <*surface*.sheet>
- <*surface*.side>
- <*surface*.stock>

Template

- <*template*.comments>
- <*template*.items>
- <*template*.*items*.pad.#>
- <*template*.locked>
- <*template*.name>
- <*template*.*position*.x>
- <*template*.*position*.x.cm>
- <*template*.*position*.x.ft>
- <*template*.*position*.x.in>
- <*template*.*position*.x.m>
- <*template*.*position*.x.mil>
- <*template*.*position*.x.mm>
- <*template*.*position*.x.pt>
- <*template*.*position*.x.um>
- <*template*.*position*.y>
- <*template*.*position*.y.cm>
- <*template*.*position*.y.ft>

- <*template*.*position*.y.in>
- <*template*.*position*.y.m>
- <*template*.*position*.y.mil>
- <*template*.*position*.y.mm>
- <*template*.*position*.y.pt>
- <*template*.*position*.y.um>
- <*template*.preset-mirroring>
- <*template*.preset-rotation>
- <*template*.rotation>
- <*template*.*size*.height>
- <*template*.*size*.height.cm>
- <*template*.*size*.height.ft>
- <*template*.*size*.height.in>
- <*template*.*size*.height.m>
- <*template*.*size*.height.mil>
- <*template*.*size*.height.mm>
- <*template*.*size*.height.pt>
- <*template*.*size*.height.um>
- <*template*.*size*.width>
- <*template*.*size*.width.cm>
- <*template*.*size*.width.ft>
- <*template*.*size*.width.in>
- <*template*.*size*.width.m>
- <*template*.*size*.width.mil>
- <*template*.*size*.width.mm>
- <*template*.*size*.width.pt>
- <*template*.*size*.width.um>
- <*template*.source-file>
- <*template*.template-type>

- <*template*.type>
- <*template*.z-order>
- <*template*.z-order.pad.#>

Time

- <*time*.iso>
- <*time*.long>
- <*time*.medium>
- <*time*.short>

Varnish

- <*varnish.#*.abbr>
- <*varnish.#*.first>
- <*varnish.#*.name>
- <*varnish.#*.neutral-density>
- <*varnish.#*.number>
- <*varnish.#*.smart>
- <*varnish.#*.type>

Varnishes

- <*varnishes*>
- <*varnishes*.abbr>
- <*varnishes*.first>
- <*varnishes*.full>
- <*varnishes*.number>
- <*varnishes*.smart>

Varnishes-stacked

- <*varnishes-stacked*>
- <*varnishes-stacked*.abbr>
- <*varnishes-stacked*.first>
- <*varnishes-stacked*.full>
- <*varnishes-stacked*.number>

- <*varnishes-stacked*.smart>

Year

- <*year*.long>
- <*year*.short>

2.10.1.1. Keyword Mappings

Phoenix 7.0 was our biggest release ever! With some of the changes in Phoenix 7.0, the structure of certain keywords has changed.

The table below shows how they've changed, with the old keyword used pre-7.0 on the left, and the new keyword that it's mapped to on the right. Moving forward, please use the new keyword style.

Old Keyword	New Keyword
group.x	group.position.x
group.y	group.position.y
group.height	group.size.height
group.width	group.size.width
plate.x	plate.position.x
plate.y	plate.position.y
plate.height	plate.size.height
plate.width	plate.size.width
product.allowed-rotations	part.rotation.custom-values
product.artwork.name	component.page.1.file.name
product.bleed	component.bleed.margin
product.bleed-bottom	component.bleed.margins.bottom
product.bleed-left	component.bleed.margins.left
product.bleed-right	component.bleed.margins.right
product.bleed-top	component.bleed.margins.top
product.bleed-type	component.bleed.type
product.bundle-size	component.flat.bundle-size
product.die-name	component.flat.die.name
product.die-path	component.flat.die.path
product.die-source	component.flat.die.source
product.die-source-noext	component.flat.die.source-noext
product.die-type	component.flat.die.type
product.grain	part.grain

Old Keyword	New Keyword
product.height	component.size.height
product.number	component.number
product.offcut-bottom	component.offcut.margins.bottom
product.offcut-left	component.offcut.margins.left
product.offcut-right	component.offcut.margins.right
product.offcut-top	component.offcut.margins.top
product.ordered	product.quantity
product.rotation	component.rotation
product.rotation-type	part.rotation.type
product.spacing	component.spacing.margin
product.spacing-bottom	component.spacing.margins.bottom
product.spacing-left	component.spacing.margins.left
product.spacing-right	component.spacing.margins.right
product.spacing-top	component.spacing.margins.top
product.spacing-type	component.spacing.type
product.stock	part.stock
product.templates	part.flat.templates
product.width	component.size.width
product.x	component.position.x
product.y	component.position.y
repeat.x	repeat.position.x
repeat.y	repeat.position.y
repeat.height	repeat.size.height
repeat.width	repeat.size.width
side.origin-x	surface.origin.x
side.origin-y	surface.origin.y
side.type	surface.side
job.product.([0-9]+).allowed-rotations	project.product.$1.part.1.rotation.custom-values
job.product.([0-9]+).artwork-back	project.product.$1.part.1.page.2.file.name
job.product.([0-9]+).artwork-front	project.product.$1.part.1.page.1.file.name
job.product.([0-9]+).bleed	project.product. $1.part.1.component.1.bleed.margin
job.product.([0-9]+).bleed-bottom	project.product. $1.part.1.component.1.bleed.margins.bottom

Old Keyword	New Keyword
job.product.([0-9]+).bleed-left	project.product. $1.part.1.component.1.bleed.margins.left
job.product.([0-9]+).bleed-right	project.product. $1.part.1.component.1.bleed.margins.right
job.product.([0-9]+).bleed-top	project.product. $1.part.1.component.1.bleed.margins.top
job.product.([0-9]+).bleed-type	project.product. $1.part.1.component.1.bleed.type
job.product.([0-9]+).bundle-size	project.product. $1.part.1.component.1.flat.bundle-size
job.product.([0-9]+).die-name	project.product. $1.part.1.component.1.flat.die.name
job.product.([0-9]+).die-path	project.product. $1.part.1.component.1.flat.die.path
job.product.([0-9]+).die-source	project.product. $1.part.1.component.1.flat.die.source
job.product.([0-9]+).die-source-noext	project.product. $1.part.1.component.1.flat.die.source-noext
job.product.([0-9]+).die-type	project.product. $1.part.1.component.1.flat.die.type
job.product.([0-9]+).grain	project.product.$1.part.1.grain
job.product.([0-9]+).height	project.product. $1.part.1.component.1.size.height
job.product.([0-9]+).offcut-bottom	project.product. $1.part.1.component.1.offcut.margins.bottom
job.product.([0-9]+).offcut-left	project.product. $1.part.1.component.1.offcut.margins.left
job.product.([0-9]+).offcut-right	project.product. $1.part.1.component.1.offcut.margins.right
job.product.([0-9]+).offcut-top	project.product. $1.part.1.component.1.offcut.margins.top
job.product.([0-9]+).ordered	project.product.$1.quantity
job.product.([0-9]+).rotation-type	project.product.$1.part.1.rotation.type
job.product.([0-9]+).spacing	project.product. $1.part.1.component.1.spacing.margin
job.product.([0-9]+).spacing-bottom	project.product. $1.part.1.component.1.spacing.margins.bottom
job.product.([0-9]+).spacing-left	project.product. $1.part.1.component.1.spacing.margins.left

Old Keyword	New Keyword
job.product.([0-9]+).spacing-right	project.product. $1.part.1.component.1.spacing.margins.right
job.product.([0-9]+).spacing-top	project.product. $1.part.1.component.1.spacing.margins.top
job.product.([0-9]+).spacing-type	project.product. $1.part.1.component.1.spacing.type
job.product.([0-9]+).stock	project.product.$1.part.1.stock
job.product.([0-9]+).templates	project.product.$1.part.1.flat.templates
job.product.([0-9]+).width	project.product.$1.part.1.component.1.size.width
job.	project.

2.10.1.2. Deprecated Keywords

The following keywords from previous versions are no longer supported in Phoenix:

- **<layout.back-passes>**
- **<layout.cost-die>**
- **<layout.cost-plate>**
- **<layout.cost-press>**
- **<layout.crease-length>**
- **<layout.cut-length>**
- **<layout.front-passes>**
- **<layout.press-time>**
- **<press.cost>**
- **<press.speed>**
- **<press.speed-units>**
- **<product.artwork.creator>**
- **<product.artwork.format>**
- **<product.artwork.page-count>**
- **<product.artwork.page-number>**
- **<product.artwork.pages>**
- **<product.artwork.path>**
- **<product.artwork.pdf-version>**
- **<product.artwork.pdfx-profile>**
- **<product.artwork.pdfx-version>**
- **<product.artwork.producer>**
- **<product.artwork.title>**
- **<product.back-inks>**
- **<product.front-inks>**
- **<job.cost-die>**
- **<job.cost-plate>**
- **<job.cost-press>**
- **<job.press-time>**
- **<job.product.#.back-inks>**
- **<job.product.#.front-inks>**

- **<job.time>**
- **<sheet.height>**
- **<sheet.price>**
- **<sheet.width>**
- **<stock.sheets>**
- **<stock.thickness>**
- **<stock.weight>**

2.10.2. Artwork

keyword	description
.artwork.creator>	Software used to create the artwork. *Example: Adobe Illustrator CC 2015.3 (Macintosh)*
.artwork.format>	Artwork file type*Example: PDF*
.artwork.page-count>	Number of total pages in the artwork file
.artwork.page-number>	Page number of the artwork
.artwork.pages>	Number of total pages in the artwork file
.artwork.path>	Artwork file path
.artwork.pdf-version>	Artwork PDF version
.artwork.pdfx-profile>	PDF/X Profile, if one exists
.artwork.pdfx-version>	PDF/X Version, if one exists
.artwork.producer>	PDF producer*Example: Adobe PDF library 15.00*
.artwork.title>	Title of artwork from PDF

2.10.3. Bleed

keyword	description
.bleed.margin>†	Overall bleed distance of the given object. Single value when bleed spacing is uniform, "None" when no bleed mask, "CAD" when bleed comes from CAD file, and four values when side bleed spacing differs (rectangular bleed) with order "left top right bottom"
.bleed.*margin*.	*See Margins on page 369*
.bleed.type>	Type of bleed of the given product item. Values can be "Rectangle", "Contour", "CAD", or "None".
.bleed.bottom>†	Bottom page bleed
.bleed.left>†	Left page bleed

keyword	description
.bleed.right>†	Right page bleed
.bleed.top>†	Top page bleed



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.4. Bound

keyword	description
.bound.binding-edge>	Binding edge. One of **Top**, **Left**, **Bottom**, or **Right**
.bound.binding-method>	Binding method for the product. One of **Perfect Bound**, **Saddle Stitch**, or **None**
.bound.*creep*.	*See creep*
.bound.jog-edge>	Jog edge specified. One of **Left**, **Top**, **Right**, or **Bottom**
.bound.*n-up*.	*See n-up*
.bound.*page-size*.	*See page-size*
.bound.pages-per-section>	Number of pages in each section of the bound product
.bound.reading-order>	Reading order. One of **Normal** or **Calendar**
.bound.sections>	Number of sections of the

keyword	description
.bound.self-cover>	Whether bound products in Calendar reading order contain the front and back covers of the calendar
.bound.signatures>	Number of signatures in the bound product
.bound.*trim*.	*See trim*

2.10.5. Bounds

keyword	description
.bounds.height>†	The total height of the items on the current surface
.bounds.width>†	The total width of the items on the current surface
.bounds.x>†	The X-coordinate of the bounds of items on the current surface
.bounds.y>†	The Y-coordinate of the bounds of items on the current surface



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points

modifier	description
.um>	Measurement in meters

2.10.6. Cloud

keyword	description
<cloud.*user*.	*See user*

2.10.7. Color

keyword	description
.color.coverage>	Percentage (0-100) of coverage of the given color
.color.name>	Name of the color
.color.process>	Process for the specified color (Printing, Cutting, Technical, etc.)
.color.type>	Color type, for example: CMYK
.color.values>	Color values, for example: 0, 100, 100, 0
.color.count>	Number of colors for the given item

2.10.8. Colors

.colors.analysis>	Color analysis mode for the given product (Fast or Raster). For more information on color analysis, see the *Products* on page 65 page
.colors.detection>	When Color Analysis is set to **Raster**, returns the value of the Color Detection field, either **Bleed** or **Cut**. This value determines which area of the component Phoenix is considering when analyzing colors.
.colors.source>	Source of colors for the item, either **Specified** or **From Artwork**

2.10.9. Component

keyword	description
<component.*bleed*.	*See bleed*

keyword	description
<component.colors>	Colors in the specified component
<component.column>	Column number of the component item when the item is part of a Step and Repeat group
<component.component-type>	Product Type for the component.*Example: Tiled*
.component.custom.	Custom keyword based on a user-defined custom property. For more on custom properties, see *Custom Properties*
<component.double-sided>	Whether or not the component is double sided, either **true** or **false**
<component.*flat*.	*See flat*
<component.instanceid>	Instance number of the component. For use when you need to identify multiple instances of the same component
<component.locked>	Whether or not the component is locked on the artboard in Phoenix, either **true** or **false**
<component.name>	Name of the component
<component.number>	Product number of the given component.*Example: 4-A*
<component.*offcut*.	*See offcut*
<component.*page*.	*See page*
<component.*position*.	*See position*
<component.rotation>	Rotation of the given component, from - 180° to 180°
<component.row>	Row number of the component item when the item is part of a Step and Repeat group
<component.*signature*.	*See signature*
<component.*size*.	*See size*
<component.*spacing*.	*See spacing*
<component.*tile*.	*See tile*
<component.type>	Type of object for the component*Example: Product*
<component.z-order>	Order of the component in the layout on the z-axis. Numbers start at 1 for the lowest item, and count up for subsequent items on top
.component.id>	ID of the component in a lane, ribbon, segment, or roll. **Only available in CSV Report Export*

keyword	description
.component.index>	Index of the component in a lane, ribbon, segment, or roll. **Only available in CSV Report Export*
.component.*part*.	*See part*
.component.*product*.	*See product*
.component.repeats>	Number of repeats the component in a lane, ribbon, segment, or roll. **Only available in CSV Report Export*
.component.count>	Number of components in the part

2.10.10. Creep

keyword	description
.creep.amount>†	Amount of creep applied
.creep.calculation>	How Creep is calculated, either **From Stock**, **Per Page**, or **Total**
.creep.method>	Method of creep calculation, either **Offset** or **Scale**
.creep.transition>†	Transition percentage when using Custom Creep
.creep.type>	Type of creep. One of **None**, **Inward**, **Outward**, **Both**, or **Custom**

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points

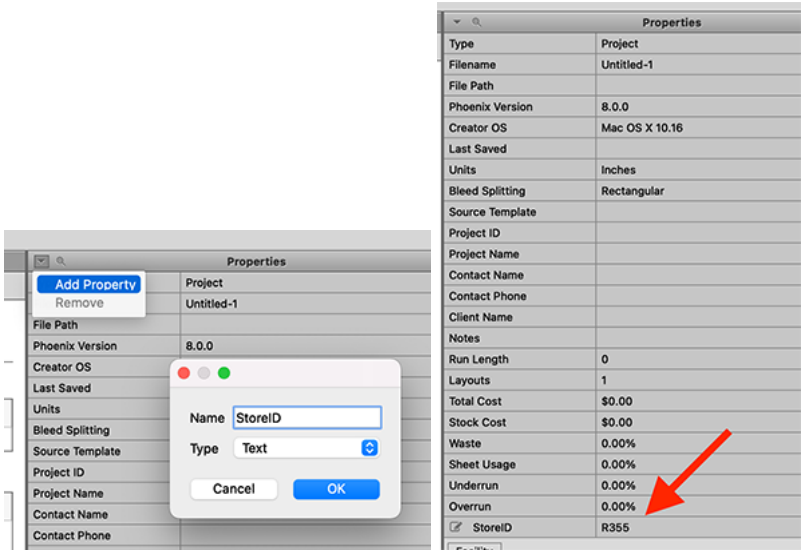
modifier	description
.um>	Measurement in meters

2.10.11. Custom

Phoenix 7.0 introduced the ability to add custom properties to Products, allowing you to add custom values to properties. These properties can then be used in marks, in Imposition AI Plan Rules, export presets, reports, and more.

Phoenix 8.0 brings custom properties to even more areas of Phoenix, including **Components**, **Parts**, **Projects**, **Surfaces**, and **Layouts**. These custom properties can be added manually by clicking the dropdown in the Properties panel and adding a new custom property, or they can be added through scripting.

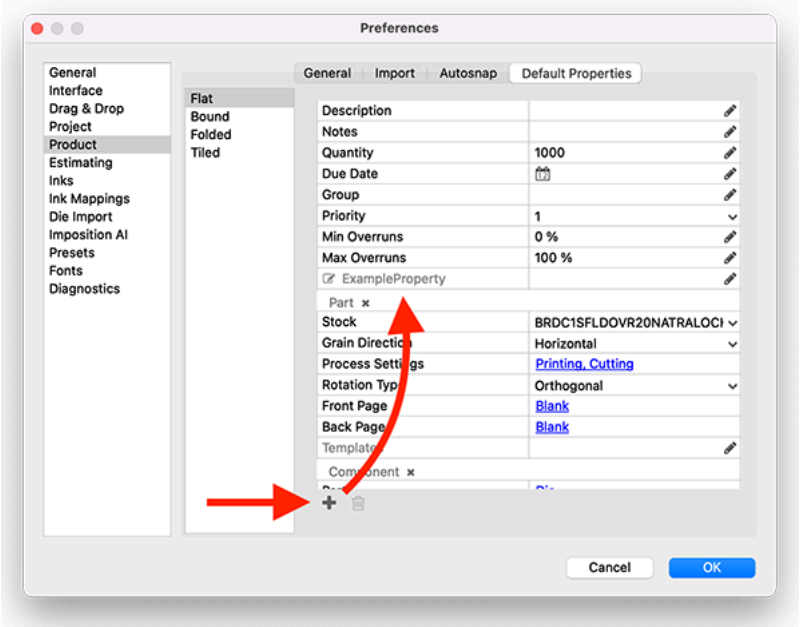
Custom properties always take the form of .custom.customPropertyName. For example, we could add a new custom property to all projects specifying the destintion Store ID for the project. First, navigate to the project view to find the project properties in the Properties panel, and click the dropdown to add a property:

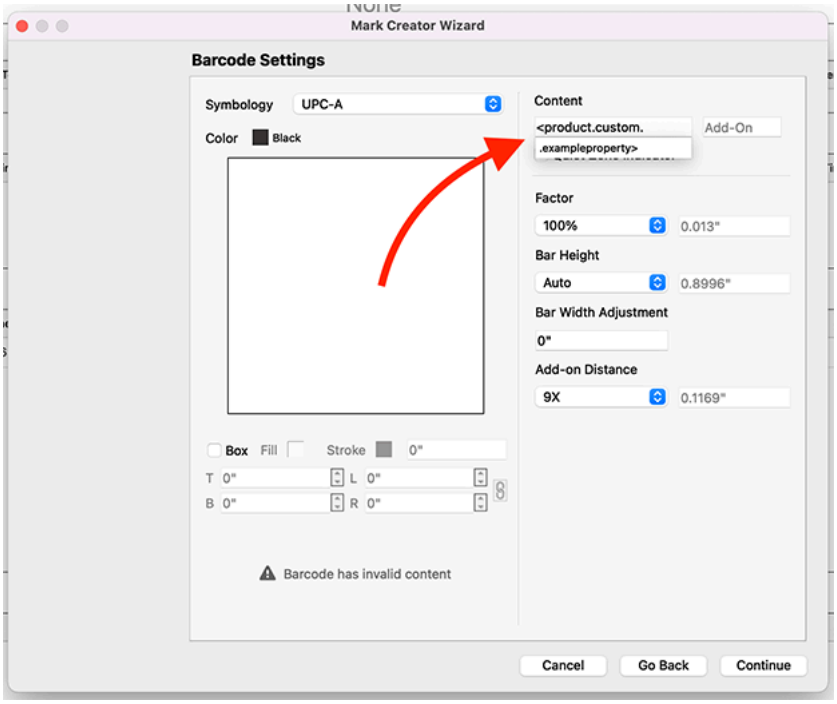


Once the custom property is added to the project, we can add or edit a value, and then that value is available as a keyword <project.custom.StoreID> anywhere we can use keywords!

Default Product Properties

You can add custom properties to all products on creation by adding a Default Custom Property and optionally specify a value for it. This adds a custom property to all products created. Where this is especially useful is if you are using custom properties with marks that perform validation, such as barcodes. These marks are verified to make sure they contain valid data - for Phoenix to see a custom product property and display it as an available option in the marks creator, you need to first define it in the Preferences. Note that you can specify a default value for the custom property, but that is not necessary.





2.10.12. Date

keyword	description
<date.h1>	Displays the value '12' if the current month is not December.Useful for creating date-clock custom/text marks.

keyword	description
<date.h10>	Displays the value '10' if the current month is not October.Useful for creating date-clock custom/text marks.
<date.h11>	Displays the value '11' if the current month is not November.Useful for creating date-clock custom/text marks.
<date.h12>	Displays the value '12' if the current month is not December.Useful for creating date-clock custom/text marks.
<date.h2>	Displays the value '2' if the current month is not February.Useful for creating date-clock custom/text marks.
<date.h3>	Displays the value '3' if the current month is not March.Useful for creating date-clock custom/text marks.
<date.h4>	Displays the value '4' if the current month is not April.Useful for creating date-clock custom/text marks.
<date.h5>	Displays the value '5' if the current month is not May.Useful for creating date-clock custom/text marks.
<date.h6>	Displays the value '6' if the current month is not June.Useful for creating date-clock custom/text marks.
<date.h7>	Displays the value '7' if the current month is not July.Useful for creating date-clock custom/text marks.
<date.h8>	Displays the value '8' if the current month is not August.Useful for creating date-clock custom/text marks.
<date.h9>	Displays the value '9' if the current month is not September.Useful for creating date-clock custom/text marks.
<date.iso>	ISO 8601 format of current date. *Example: 2020-10-15*
<date.long>	Long text-based format of current date. Uses month long format, day short format and year long format. *Example: October 15, 2020*
<date.m1>	Displays the value '12' if the current month is before December. Useful for creating blanking date-clock custom/text marks.

keyword	description
<date.m10>	Displays the value '10' if the current month is before October. Useful for creating blanking date-clock custom/text marks.
<date.m11>	Displays the value '11' if the current month is before November. Useful for creating blanking date-clock custom/text marks.
<date.m12>	Displays the value '12' if the current month is before December. Useful for creating blanking date-clock custom/text marks.
<date.m2>	Displays the value '2' if the current month is before February. Useful for creating blanking date-clock custom/text marks.
<date.m3>	Displays the value '3' if the current month is before March. Useful for creating blanking date-clock custom/text marks.
<date.m4>	Displays the value '4' if the current month is before April. Useful for creating blanking date-clock custom/text marks.
<date.m5>	Displays the value '5' if the current month is before May. Useful for creating blanking date-clock custom/text marks.
<date.m6>	Displays the value '6' if the current month is before June. Useful for creating blanking date-clock custom/text marks.
<date.m7>	Displays the value '7' if the current month is before July. Useful for creating blanking date-clock custom/text marks.
<date.m8>	Displays the value '8' if the current month is before August. Useful for creating blanking date-clock custom/text marks.
<date.m9>	Displays the value '9' if the current month is before September. Useful for creating blanking date-clock custom/text marks.
<date.medium>	Medium text-based date format of current date. Uses Medium month format, short day format and long year format. *Example: Oct 15, 2020*
<date.short>	Short number-based date format of current date. Uses short day format, short month

keyword	description
	format and short year format. *Example: 10/15/20*

2.10.13. Day

keyword	description
<day.iso>	ISO 8601 format of current day of the month from 01 to 31. *Example: 08*
<day.short>	Short format of current day of the month from 1 to 31. *Example: 8*

2.10.14. Die

keyword	description
.die.name>	1-up die name of the given product's die if die came from a CAD layout
.die.path>	Full file path of the CAD layout the product's die came from
.die.source>	The file name of the CAD layout the nth product's die came from, excluding file extension.
.die.source-noext>	The file name of the CAD layout the nth product's die came from, excluding file extension.
.die.type>	Die type of the component

2.10.15. Distortion

keyword	description
<distortion.horizontal>	Percentage amount of plate distortion in the horizontal direction. When project is exported to PDF the keyword is resolved to the final distortion value used during export, whether distortion values are taken from the plate or explicitly defined in PDF export settings. *Example: 98.5%*
<distortion.vertical>	Percentage amount of plate distortion in the vertical direction. When project is exported to PDF the keyword is resolved to the final distortion value used during export, whether

keyword	description
	distortion values are taken from the plate or explicitly defined in PDF export settings. *Example: 98.5%*

2.10.16. File

keyword	description
.file.checksum>	Checksum of the artwork file
.file.name>	File name of the artwork
.file.number>	Page number within the artwork file of the artwork assigned to this page
.file.path>	File path for the artwork
.file.timestamp>	Artwork file timestamp, in unix time

2.10.17. Flat

keyword	description
.flat.bundle-size>	Bundle size of the product, if set
.flat.*die*.	*See die*
.flat.templates>	List of template the given product is restricted to

2.10.18. Folds

keyword	description
.folds.horizontal>	Number of horizontal folds in the signature
.folds.total>	Total number of folds in the signature
.folds.vertical>	Number of vertical folds in the signature

2.10.19. Grade

keyword	description
<grade.caliper>†	Thickness of the current grade in the layout
<grade.cost>	Cost of the current grade in the layout
<grade.external-id>	External ID of the current grade in the layout
<grade.name>	Name of the current grade in the layout

keyword	description
<grade.stock>	The stock that the current grade belongs to in the layout
<grade.weight>	The weight of the current grade in the layout



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.20. Group

keyword	description
<group.items>	Number of items contained in the given group
<group.locked>	True/false of whether the group is positionally locked
<group.name>	Name of the given group item, includes ID number.
<group.*position*.	*See position*
<group.rotation>	Rotation of the given group item from -180° to 180°.
<group.*size*.	*See size*
<group.type>	Type of the item. Returns **Group**

keyword	description
<group.z-order>	Order of the group in the layout on the z-axis. Numbers start at 1 for the lowest item, and count up for subsequent items on top

2.10.21. Horizontal

keyword	description
.horizontal.extension>†	Horizontal tile extension rule when horizontal tiling method is set to "Gap"
.horizontal.extension-rule>	Horizontal tile extension rule when horizontal tiling method is set to "Gap"
.horizontal.gap>†	Horizontal gap between tiles
.horizontal.method>	Horizontal tiling method. One of **None**, **Gap**, or **Overlap**,
.horizontal.no-image>†	Horizontal overlap no image area, used to specify the area where glue will be placed so no artwork should be printed
.horizontal.number>	Number of horizontal tiles
.horizontal.overlap>†	How the tiles should overlap. One of **Top**, **Bottom**, or **Both**
.horizontal.overlap-rule>	How the tiles should overlap. One of **Top**, **Bottom**, or **Both**
.horizontal.size>†	Sizes of tiles in the horizontal direction when horizontal tiling rule is set to "Variable Sizes"
.horizontal.sizes>	Sizes of tiles in the horizontal direction when horizontal tiling rule is set to "Variable Sizes"
.horizontal.type>	Type of horizontal tiling. One of **None**, **Fixed Number**, **Fixed Size**, or **Variable Sizes**
.horizontal.uniform-final-size>	Boolean of whether or not the horizontal tiles are of uniform final size



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches

modifier	description
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.22. Hour

keyword	description
<hour>	The current hour

2.10.23. Index Number

Phoenix keywords can reference items on a sheet. Many times, there will be multiple possible items, but you only want to select the Nth item. For instance, you want to return the 1st ink on a product. If Phoenix had a smartname for each individual possible ink, the list would be enormous. Instead, Phoenix uses a placeholder '#' symbol that you can replace with the index that you want to use. So for the ink example above, you would choose the keyword **<ink.#.name>** and replace the *#* with *1*:

```
<ink.1.name>
```

Similiarly, for finding the number of times the 2nd product is placed in a project, you would use **<project.product.#.placed>** and then replace the *#* with *2*:

```
<project.product.2.placed>
```

Any time you see a hash symbol in a keyword in Phoenix, that is a representation of a number that you can replace to find the Nth item.

2.10.24. Ink

keyword	description
<ink.abbr>	Abbreviated ink name of the nth ink in the layout. Abbreviated name uses the first and last letter of the ink name except for process colors which are abbreviated to a single letter (CMYK).

keyword	description
<ink.first>	First letter of ink name of the nth ink in the layout. The letter 'K' is used for process color Black.
<ink.name>	Full ink name of the nth ink in the layout
<ink.neutral-density>	Neutral Density of the nth ink in the layout.*Example: 0.461*
<ink.number>	The number of the nth ink in the layout.
<ink.smart>	Smart abbreviated ink name of the nth ink in the layout. Smart text uses Pantone, HKS, TOYO, Trumatch and other ink type formats to produce optimal abbreviated names.
<ink.type>	Ink type of the nth ink in the layout. Ink type is one of the following: Normal, Bleed, Crease, Cut, Glue, Varnish, Technical

2.10.25. Inks

keyword	description
<inks.abbr>	Same as <inks> keywords except spot ink names are abbreviated using the first and last letter of each ink. Process colors are abbreviated to a single letter (CMYK).
<inks.first>	Same as <inks> keywords except ink names are shortened to only first letter. The letter 'K' is used for process color Black.
<inks.full>	Same as <inks> keyword
<inks.number>	Same as <inks> keywords except ink number is used instead of ink name. The ink number is the position of the ink in the layout's ink list as shown in the Inks Panel.
<inks.smart>	Same as <inks> keywords except ink names are abbreviated using smart text. Smart text uses Pantone, HKS, TOYO, Trumatch and

keyword	description
	other ink type formats to produce optimal abbreviated names.

2.10.26. Inks-stacked

keyword	description
<inks-stacked.abbr>	Same content and behavior as <inks.abbr> keyword except ink name abbreviations are placed on top of each other.
<inks-stacked.first>	Same content and behavior as <inks.first> keyword except ink name first letters are placed on top of each other.
<inks-stacked.full>	Same content and behavior as <inks.full> keyword except ink names are placed on top of each other.
<inks-stacked.number>	Same content and behavior as <inks.number> keyword except ink names are placed on top of each other.
<inks-stacked.smart>	Same content and behavior as <inks.smart> keyword except ink name smart texts are placed on top of each other.

2.10.27. Items

keyword	description
.items.*bounds*.	*See bounds*
.items.count>	The count of items on the current surface

2.10.28. Lane



Note: Ribbon keywords are only available for use in CSV Reports

keyword	description
<lane.*component*.	*See component*
<lane.gutter>[*]	Size of the lane gutter. [*]*Only available in CSV Report Export*
<lane.id>	ID of the lane, or lane within a segment, or roll. [*]*Only available in CSV Report Export*

keyword	description
<lane.index>	Index of the lane, or lane within a segment, or roll. *Only available in CSV Report Export*
<lane.name>	Name of the lane, or lane within a segment, or roll. *Only available in CSV Report Export*
<lane.*position*.	*See position*
<lane.*ribbon*.	*See ribbon*
<lane.*size*.	*See size*
.lane.count>	Count of the lane within a segment, or roll. *Only available in CSV Report Export*



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.29. Layout

keyword	description
<cloud.*user*.	*See user*

2.10.30. Margins

keyword	description
.margins.bottom>†	Bottom margin of the given product object.
.margins.left>†	Left margin of the given product object
.margins.right>†	Right margin of the given product object

keyword	description
.margins.top>†	Top margin of the given product object



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.31. Material

keyword	description
<roll.material.grade>**	Grade of the roll material. *Only available in CSV Report Export*
<roll.material.stock>**	Stock of the roll material. *Only available in CSV Report Export*

2.10.32. Minute

keyword	description
<minute>	The current minute

2.10.33. Month

keyword	description
<month.iso>	ISO 8601 format for the current month from 01 to 12 *Example: 03*

keyword	description
<month.letter>	Current month represented as a single capital letter starting with "A" for January, "B" for February, etc.
<month.long>	Long word form of the current month. *Example: March*
<month.medium>	Medium word form of the current month. *Example: Mar*
<month.short>	Short numeric value for the current month from 1 to 12

2.10.34. Muller-martini

keyword	description
.muller-martini.finishing>	Generates a value for Muller Martini Ventura MC Digital “Finishing” barcodes. This keyword encodes signature information including signature size and fold count in a format specific to these devices.
.muller-martini.order>	Generates a value for Muller Martini Ventura MC Digital “Order” barcodes. This keyword encodes signature information including signature and section indices in a format specific to these devices.

2.10.35. N-up

keyword	description
.n-up.gap>†	Gap between N-ups
.n-up.number>	N-up number



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters

modifier	description
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.36. Name

keyword	description
.name.first>	Optional modifier to specify the first name of the currently logged in user
.name.last>	Optional modifier to specify the last name of the currently logged in user

2.10.37. Offcut

keyword	description
.offcut.*margins*.	*See margins*
.offcut.type>	Type of offcut applied to the item. One of **None**, **Contour**, or **Margins**

2.10.38. Origin

keyword	description
.origin.x>†	X-coordinate of the origin of the surface. Value should be 0 unless the origin is moved
.origin.y>†	Y-coordinate of the origin of the surface. Value should be 0 unless the origin is moved



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches

modifier	description
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.39. Page

keyword	description
.page.*bleed*.	*See bleed*
.page.*color*.	*See color*
.page.*colors*.	*See colors*
.page.creep>	Page creep applied
.page.*file*.	*See file*
.page.index>	Page index
.page.locked>	True/false of whether the page is positionally locked
.page.name>	Name of the page
.page.*position*.	*See position*
.page.rotation>	Rotation applied to the page
.page.*scale*.	*See scale*
.page.*size*.	*See size*
.page.visible>	True/false of whether the page is visible or hidden, respectively

2.10.40. Page-size

keyword	description
.page-size.height>†	Height of the bound product page
.page-size.width>†	Width of the bound product page

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.41. Part

keyword	description
<part.*bound*.	*See bound*
.part.custom.	Custom keyword based on a user-defined custom property. For more on custom properties, see *Custom Properties*
<part.*flat*.	*See flat*
<part.grain>	Grain direction of the product
<part.is-bound>	Boolean to determine if the product part is bound or not, returns true/false
<part.*page*.	*See page*
<part.part-type>	Product type of the part*Example: Flat*
<part.processes>	Processes used for the part*Example: Printing, Cutting*
<part.*rotation*.	*See rotation*
<part.stock>	Stock name of the given product item
<part.*tiled*.	*See tiled*
.part.*component*.	*See component*

keyword	description
.part.count>	Count of the number of this part in the given context

2.10.42. Plate

keyword	description
<plate.external-id>	External ID of the plate
<plate.locked>	Whether or not the plate is locked in position, true or false
<plate.name>	Name of the plate
<plate.*position*.	*See position*
<plate.price>	Price of the plate
<plate.punch>†	Punch offset of the plate in current project units
<plate.rotation>	Rotation of the plate in degrees
<plate.*size*.	*See size*
<plate.type>	Type of item. Returns **Plate**
<plate.z-order>	Order of the plate in the layout on the z-axis. Numbers start at 1 for the lowest item, and count up for subsequent items on top

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points

modifier	description
.um>	Measurement in meters

2.10.43. Position

keyword	description
.position.x>†	X position of the given item in project units
.position.y>†	Y position of the given item in project units



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.44. Press

keyword	description
<press.cost>	The cost to run the press used in the current layout
<press.external-id>	External ID of current press
<press.feed-type>	The feed type for the press used. One of **Sheet** or **Roll**
<press.gripper>†	Gripper offset of current press in project units
<press.manufacturer>	Manufacturer property of the current press
<press.name>	Name of the current press

keyword	description
<press.process-type>	The type of the current press*Example: Digital Printing*
<press.processes>	The process(es) used by the current press*Example: Printing*
<press.speed>	The speed units defined for the current press, to be used in conjunction with <press.speed>.*Example: Sheets/Hours*
<press.speed-units>	The speed units defined for the current press, to be used in conjunction with <press.speed>.*Example: Sheets/Hours*



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.45. Product

keyword	description
<product.*artwork*.	*See artwork*
<product.back-inks>	Comma-separated list of inks used on the back side of the product
<product.color>	RGBA display color of the given product
.product.custom.	Custom keyword based on a user-defined custom property. For more on custom properties, see *Custom Properties*
<product.description>	Description property of the given product

keyword	description
<product.due-date>	Due date property of the given product
<product.front-inks>	Comma-separated list of inks used on the front side of the product
<product.group>	Group name property of the given product
<product.index>	Index number of the given product
<product.layouts>	A comma delimited list of layouts the product is placed in.
<product.max-overruns>†	Max overrun percentage allowed for the given product
<product.min-overruns>†	Min overrun percentage allowed for the given product
<product.name>	Name of the given product item as appears in the Products Panel
<product.notes>	Notes property of the given product
<product.overrun>	Overruns of the product as a percentage of the ordered amount
<product.overrun-percent>	Overruns of the product as a percentage of the ordered amount
<product.placed>	Number of instances of the product placed
<product.priority>	Priority of the product as an integer from 1 to 10
<product.quantity>	Ordered amount of the given product item.*Example: 15000*
<product.total>	Total number of product in the project to be printed including overruns
.product.*part*.	*See part*
.product.count>	Total number of products in the project



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"

modifier	description
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.46. Project

keyword	description
<project.bleed-splitting>	The type of Bleed Splitting chosen for the project.One of **Rectangular**, **Signatures**, or **None**
<project.client>	Client Name property value in the project
<project.contact>	Contact Name property value in the project
<project.cost>	Total stock costs across all layouts in the project
<project.cost-die>	The die cost of the project
<project.cost-plate>	The cost of plates in the project
<project.cost-press>	The total cost of presses in the project
<project.cost-stock>	Total stock costs across all layouts in the project
<project.creator-os>	Computer OS version used to create this project
.project.custom.	Custom keyword based on a user-defined custom property. For more on custom properties, see *Custom Properties*
<project.filename>	File name of this PHX project the last time it was saved excluding path information.*Example: LD-12532.phx*
<project.filepath>	File name of this PHX project the last time it was saved including full path information.*Example: /projects/labels/LD-12532.phx*
<project.id>	Project ID property value in the project
<project.last-saved>	Timestamp of last time the current project was saved
<project.layout-count>	Number of layouts in the project

keyword	description
<project.name>	Project Name property in the project defined independently of the current filename used to save the project (PHX).
<project.notes>	Notes property in the project
<project.overrun>	Average percentage of overruns across all products in the project
<project.phoenix-version>	Version of Phoenix this project was last saved from
<project.phone>	Contact Phone property value in the project
<project.press-time>	Total press time across the entire project
<project.*product*.	*See product*
<project.run-length>	Total sum of all layout run lengths in the project
<project.sourcetemplate>	Full path of project template current project was created from. If project was not created from a template, value is empty
<project.time>	The total time required to produce the project
<project.underrun>	Average percentage of underruns across all products in the project
<project.units>	Current units being used in the project
<project.usage>	Average sheet usage percentage across all layouts in the project
<project.waste>	Percentage of total waste in the project

2.10.47. Repeat

keyword	description
<repeat.items>	Total number of items in the repeat
<repeat.locked>	True/False of whether the repeat position is locked
<repeat.*position*.	*See position*
<repeat.rotation>	Rotation applied to the repeat*Example: 90°*
<repeat.*size*.	*See size*
<repeat.type>	Type of repeat*Example: Repeat*

keyword	description
<repeat.z-order>	Order of the repeat in the layout on the z-axis. Numbers start at 1 for the lowest item, and count up for subsequent items on top

2.10.48. Ribbon



Note: Ribbon keywords are only available for use in CSV Reports

keyword	description
<ribbon.*component*.	*See component*
<ribbon.gutter>†	Size of the ribbon gutter. **Only available in CSV Report Export*
<ribbon.id>	ID of the ribbon, or ribbon within a lane, segment, or roll. **Only available in CSV Report Export*
<ribbon.index>	Index of the ribbon, or ribbon within a lane, segment, or roll. **Only available in CSV Report Export*
<ribbon.name>	Name of the ribbon, or ribbon within a lane, segment, or roll. **Only available in CSV Report Export*
<ribbon.*position*.	*See position*
<ribbon.*size*.	*See size*
.ribbon.count>	Total number of the ribbon within a lane, segment, or roll. **Only available in CSV Report Export*



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters

modifier	description
.pt>	Measurement in points
.um>	Measurement in meters

2.10.49. Roll

Note: Roll keywords are only available for use in CSV Reports

keyword	description
<roll.*component*.	*See component*
<roll.id>	ID of the roll. **Only available in CSV Report Export*
<roll.*lane*.	*See lane*
<roll.material>	Material used for the roll
<roll.name>	Name of the roll
<roll.*ribbon*.	*See ribbon*
<roll.*segment*.	*See segment*
<roll.*size*.	*See size*

2.10.50. Rotation

keyword	description
.rotation.custom-values>	Allowed rotations values for the part
.rotation.type>	Rotation type for the part: "Any", "Orthogonal", "None", or "Custom"

2.10.51. Scale

keyword	description
.scale.x>†	Horzontal scaling value applied to an item, expressed in percent*Example: 10%*
.scale.y>†	Vertical scaling value applied to an item, expressed in percent*Example: 10%*

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.52. Second

keyword	description
<second>	The current second

2.10.53. Section

keyword	description
<section.binding-method>	Binding method for the section. One of **Perfect Bound**, **Saddle Stitch**, or **None**
<section.index>	Index of the section
<section.pages>	Number of pages contained within the section
<section.signatures>	Number of signatures in the section

2.10.54. Segment



Note: Segment keywords are only available for use in CSV Reports

keyword	description
<segment.*component*.	*See component*
<segment.id>	ID of the segment, or segment within a roll. **Only available in CSV Report Export*

keyword	description
<segment.index>	Index of the segment, or segment within a roll. *Only available in CSV Report Export
<segment.*lane*.	*See lane*
<segment.name>	Name of the segment, or segment within a roll. *Only available in CSV Report Export
<segment.*position*.	*See position*
<segment.*ribbon*.	*See ribbon*
<segment.*size*.	*See size*
.segment.count>	Total number of segments *Only available in CSV Report Export

2.10.55. Sheet

keyword	description
<sheet.cost>	Sheet-based cost for the current sheet being used in the layout
<sheet.dimensions>	Dimensions of the current sheet being used in the layout
<sheet.external-id>	External ID of current sheet being used in the layout
<sheet.grade>	Grade of current sheet being used in the layout
<sheet.grain>	Grain direction of current sheet being used in the layout
<sheet.height>†	Height of the current sheet
<sheet.name>	Name of current sheet being used in the layout
<sheet.price>	Price of the current sheet
<sheet.stock>	Name of stock current sheet comes from
<sheet.width>†	Width of the current sheet



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches

modifier	description
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.56. Signature

keyword	description
.signature.folding-pattern>	Folding pattern used in the signature*Example: F4-2*
.signature.*folds*.	*See folds*
.signature.index>	Index of the signature within its section.If a bound product has only one section, then this is the same as **signature.index>**. If, for example, a book has 4 signatures with 2 signatures in section 1 and then 2 signatures in section 2, then it would look like this:Signature 1 -> index: 1, relative-index: 1, section: 1Signature 2 -> index: 2, relative-index: 2, section: 1Signature 3 -> index: 3, relative-index: 1, section: 2Signature 4 -> index: 4, relative-index: 2, section: 2
.signature.*muller-martini*.	*See muller-martini*
.signature.page-count>	Total count of pages in the signature
.signature.relative-index>	Index of the signature within its section.If a bound product has only one section, then this is the same as **signature.index>**. If, for example, a book has 4 signatures with 2 signatures in section 1 and then 2 signatures in section 2, then it would look like this:Signature 1 -> index: 1, relative-index: 1, section: 1Signature 2 -> index: 2, relative-index: 2, section: 1Signature 3 -> index: 3, relative-

keyword	description
	index: 1, section: 2Signature 4 -> index: 4, relative-index: 2, section: 2

2.10.57. Size

keyword	description
.size.height>†	Height of the given item in project units
.size.width>†	Width of the given item in project units

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.58. Spacing

keyword	description
.spacing.margin>†	Overall spacing of the given project item. Single value when spacing type if "Uniform Spacing" or all spacing margins are the same. When product side spacing differs, all four sides' spacing values will be output with order "left top right bottom". When spacing type is "Spacing from Bleed" this keyword will have the same value as **.product.bleed>**
.spacing.*margins*.	*See margins*

keyword	description
.spacing.type>	Spacing type of the given project item. Values can be "Spacing Margins", "Uniform Spacing", or "Spacing from Bleed".



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.59. Spot

keyword	description
<spot.abbr>	Abbreviated ink name of the nth spot ink in the layout. Abbreviated name uses the first and last letter of the ink name except for process colors, which are abbreviated to a single letter (CMYK).
<spot.first>	First letter of ink name of the nth spot ink in the layout. The letter 'K' is used for process color Black.
<spot.name>	ull ink name of the nth spot ink in the layout
<spot.neutral-density>	Neutral Density of the nth spot ink in the layout._Example: 0.461
<spot.number>	Ink number of the nth spot ink in the layout, i.e. the position of the ink in the layout's ink list as shown in the Inks Panel.
<spot.smart>	Smart abbreviated ink name of the nth spot ink in the layout. Smart text uses Pantone, HKS,

keyword	description
	TOYO, Trumatch and other ink type formats to produce optimal abbreviated names.
<spot.type>	Ink type of the nth spot ink in the layout. Ink type is one of the following: Normal, Bleed, Crease, Cut, Glue, Varnish, Technical

2.10.60. Spots

keyword	description
<spots.abbr>	Same as <inks.abbr> but includes only spot inks
<spots.first>	Same as <inks.first> but includes only spot inks
<spots.full>	Same as <inks.full> but includes only spot inks
<spots.number>	Same as <inks.number> but includes only spot inks
<spots.smart>	Same as <inks.smart> but includes only spot inks

2.10.61. Spots-stacked

keyword	description
<spots-stacked.abbr>	Same as <inks-stacked.abbr> but includes only spot inks
<spots-stacked.first>	Same as <inks-stacked.first> but includes only spot inks
<spots-stacked.full>	Same as <inks-stacked.full> but includes only spot inks
<spots-stacked.number>	Same as <inks-stacked.number> but includes only spot inks
<spots-stacked.smart>	Same as <inks-stacked.smart> but includes only spot inks

2.10.62. Stock

keyword	description
<stock.description>	Description property of current stock in the project
<stock.external-id>	External ID of current stock in the project

keyword	description
<stock.name>	Name of current stock in the project
<stock.sheets>	Count of sheets used for the current layout
<stock.thickness>†	Thickness of the current stock*Example: 0.05 mm*
<stock.vendor>	Vendor property of current stock in the project
<stock.weight>	Weight of the current stock*Example: 250 gsm*



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.63. Surface

keyword	description
.surface.custom.	Custom keyword based on a user-defined custom property. For more on custom properties, see *Custom Properties*
<surface.*items*.	*See items*
<surface.*origin*.	*See origin*
<surface.plate>	Name of the plate used for the current surface of the layout
<surface.sheet>	Name of the sheet used for the current surface
<surface.side>	Type of current side, either Front or Back

keyword	description
<surface.stock>	Name of the stock used for the current surface

2.10.64. Template

keyword	description
<template.comments>	Comments saved in the die template
<template.items>	Count of items in the die template
<template.locked>	True/False of whether the die template is locked on the layout
<template.name>	Name of the die template
<template.*position*.	*See position*
<template.preset-mirroring>	Returns Horizontal, Vertical, or None based upon whether the die template was mirrored on import into the templates library
<template.preset-rotation>	True/False of whether the die template has been rotated on import into the templates library
<template.rotation>	Rotation value of the imported die template
<template.*size*.	*See size*
<template.source-file>	File path of the die template that was imported into the Templates library. Phoenix retains the URL when it was imported, but it may have moved since the template was imported into Phoenix
<template.template-type>	Type of template*Example: Die*
<template.type>	Type of item, returns **Die Template**
<template.z-order>	Order of the template in the layout on the z-axis. Numbers start at 1 for the lowest item, and count up for subsequent items on top

2.10.65. Tile

keyword	description
.tile.*die*.	*See die*
.tile.index>	Index of the tile

keyword	description
.tile.tile-count>	Total number of tiles

2.10.66. Tiled

keyword	description
.tiled.*die*.	*See die*
.tiled.*size*.	*See size*
.tiled.tiles>	The total number of tiles in this tiled product part
.tiled.*tiling*.	*See tiling*

2.10.67. Tiling

keyword	description
.tiling.cutting-tool>	Tool type specified as the cutting tool for the tiled product*Example: Cut*
.tiling.*horizontal*.	*See horizontal*
.tiling.order>	Tiling Order. One of **Snaking Vertical**, **Snaking Horizontal**, **Zigzag Vertical**, or **Zigzag Horizontal**
.tiling.preset>	Tiling Preset used
.tiling.start>	Location of the first tile. One of **Top Left**, **Top Right**, **Bottom Left**, or **Bottom Right**
.tiling.*vertical*.	*See vertical*

2.10.68. Time

keyword	description
<time.iso>	ISO 8601 format of current time including hours, minutes and seconds._Example: 23:06:49
<time.long>	Long length format of current time including hours, minutes, seconds, and time zone.*Example: 11:06:49 PM EST*
<time.medium>	Medium length format of current time including hours, minutes and seconds.*Example: 11:06:49 PM*

keyword	description
<time.short>	Short length format of current time including hours and minutes.*Example: 11:06 PM*

2.10.69. Trim

keyword	description
.trim.face>†	The face trim margin of bound signatures in this part
.trim.jog>†	The trim margin of the jog edges of bound signatures in this part
.trim.lip>†	The lip type of bound signatures in this part
.trim.lip-type>	The lip type of bound signatures in this part
.trim.non-jog>†	The trim margin of the non-jog edges of bound signatures in this part
.trim.spine>†	The spine margin of bound signatures in this part

Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

2.10.70. User

keyword	description
.user.description>	Description for the currently logged in user

keyword	description
.user.email>	Email Address for the currently logged in user
.user.name>	Name of the currently logged in user
.user.title>	User title for the currently logged in user

2.10.71. Varnish

keyword	description
<varnish.abbr>	Abbreviated ink name of the nth varnish ink in the layout. Abbreviated name uses the first and last letter of the ink name except for process colors which are abbreviated to a single letter (CMYK).
<varnish.first>	First letter of ink name of the nth varnish ink in the layout. The letter 'K' is used for process color Black.
<varnish.name>	Full ink name of the nth varnish ink in the layout
<varnish.neutral-density>	Neutral Density of the nth varnish ink in the layout.*Example: 0.461*
<varnish.number>	Ink number of the nth varnish ink in the layout, i.e. the position of the ink in the layout's ink list as shown in the Inks Panel.
<varnish.smart>	Smart abbreviated ink name of the nth varnish ink in the layout. Smart text uses Pantone, HKS, TOYO, Trumatch and other ink type formats to produce optimal abbreviated names.
<varnish.type>	Ink type of the nth varnish ink in the layout. Ink type is one of the following: Normal, Bleed, Crease, Cut, Glue, Varnish, Technical

2.10.72. Varnishes

keyword	description
<varnishes.abbr>	Same as <inks.abbr> but includes only varnish inks
<varnishes.first>	Same as <inks.first> but includes only varnish inks
<varnishes.full>	Same as <inks.full> but includes only varnish inks

keyword	description
<varnishes.number>	Same as <inks.number> but includes only varnish inks
<varnishes.smart>	Same as <inks.smart> but includes only varnish inks

2.10.73. Varnishes-stacked

keyword	description
<varnishes-stacked.abbr>	Same as <inks-stacked.abbr> but includes only varnish inks
<varnishes-stacked.first>	Same as <inks-stacked.first> but includes only varnish inks
<varnishes-stacked.full>	Same as <inks-stacked.full> but includes only varnish inks
<varnishes-stacked.number>	Same as <inks-stacked.number> but includes only varnish inks
<varnishes-stacked.smart>	Same as <inks-stacked.smart> but includes only varnish inks

2.10.74. Vertical

keyword	description
.vertical.extension>†	Vertical tile extension rule when vertical tiling method is set to "Gap"
.vertical.extension-rule>	Vertical tile extension rule when vertical tiling method is set to "Gap"
.vertical.gap>†	Vertical gap between tiles
.vertical.method>	Vertical tiling method. One of **None**, **Gap**, or **Overlap**,
.vertical.no-image>†	Vertical overlap no image area, used to specify the area where glue will be placed so no artwork should be printed
.vertical.number>	Number of vertical tiles
.vertical.overlap>†	How the tiles should overlap. One of **Top**, **Bottom**, or **Both**
.vertical.overlap-rule>	How the tiles should overlap. One of **Top**, **Bottom**, or **Both**

keyword	description
.vertical.size>†	Sizes of tiles in the vertical direction when vertical tiling rule is set to "Variable Sizes"
.vertical.sizes>	Sizes of tiles in the vertical direction when vertical tiling rule is set to "Variable Sizes"
.vertical.type>	Type of vertical tiling. One of **None**, **Fixed Number**, **Fixed Size**, or **Variable Sizes**
.vertical.uniform-final-size>	Boolean of whether or not the vertical tiles are of uniform final size



Note:

† These keywords are available with custom modifiers to return a specific unit of measurement! Simply add one of the following modifiers:

modifier	description
.cm>	Measurement in centimeters
.ft>	Measurement in feet
.in>	Measurement in inches
.m>	Measurement in meters
.mil>	Measurement in mils, also known as “thousandths" or "thou"
.mm>	Measurement in millimeters
.pt>	Measurement in points
.um>	Measurement in meters

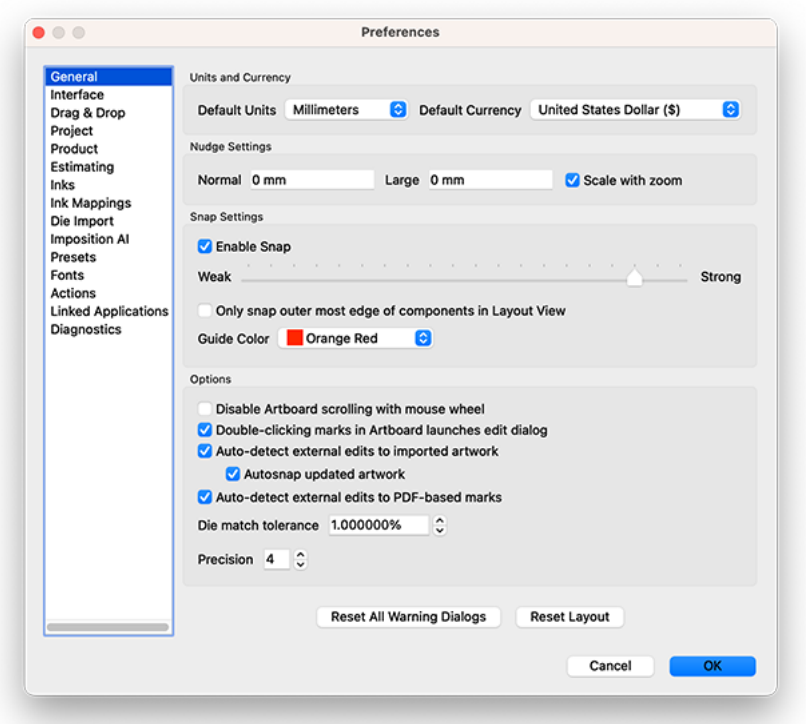
2.10.75. Year

keyword	description
<year.long>	Full four digits of current year.*Example: 2014*
<year.short>	Last two digits of current year.*Example: 14*

2.11. Preferences

Phoenix has a number of preferences that determine how Phoenix behaves in certain scenarios. To view and edit preferences, navigate to the **Phoenix** menu (on a Mac) or Edit (on a PC) and choose **Preferences**.

The Preferences are made up of General preferences, as well as preference tabs for Interface, Drag & Drop, Project, Product, Estimating, Inks, Ink Mappings, Die Import, Presets, and Diagnostics. See below for an explanation of each preference option.



General

Field	Description
Default Units	Set the units for Phoenix to use by default
Default Currency	Set the currency Phoenix should use for costing and estimating
Nudge	Defines the distance used for a "nudge," which is when an object is selected and the arrow keys are used to transform it up, down, left, or right. A large nudge is a nudge with the shift key depressed. The "Scale with zoom" option, when enabled, scales the nudge up or down depending on the zoom level. For instance, if you are zoomed in to a small area on a layout, and nudge, with this option disabled, the nudge would still move the default distance. With "Scale with zoom" enabled, however, the nudge would be scaled proportionately to the zoom level, so the nudge would be a smaller distance than default.
Enable Snap	Toggles whether snapping is enabled when dragging items

Field	Description
Snap Strength	Sets the level of intensity of snapping objects to other objects. The other strength options define how strong the snap is, which refers to the distance from another object before the snap occurs.
Only snap outer most edge of components in Layout View	When enabled, this limits what is snapped while dragging a product in the layout view. When disabled, snap includes cut path and bleed path
Guide Color	Sets the color of guides in Phoenix
Disable Artboard scrolling with mouse wheel	By default, if you have a mouse scroll wheel, the scroll wheel controls artboard scrolling. This option disables this feature.
Double-clicking marks in Artboard launches edit dialog	When enabled, you can edit a mark by double-clicking it in the Artboard
Auto-detect external edits to imported artwork	If enabled, Phoenix will monitor artwork to detect changes. If a change is detected, Phoenix will prompt the user to ask if the artwork should be updated in the project.
Autosnap updated artwork	If artwork is updated, this option enables autosnapping for the updated artwork. If disabled, autosnapping won't happen, and the dieline from the original file will remain unchanged.
Auto-detect external edits to PDF-based marks	If using a custom mark based on a PDF, this option will monitor for any changes to the original PDF and notify the user if changes are detected.
Die match tolerance	Sets the tolerance level for matching artwork to die templates. A larger number equates to a looser tolerance, and a smaller number means a tighter fit. It is recommended to leave this value at the default level, however, if your template does not match your die line well, you can adjust this value to compensate.
Precision	Defines the precision of values displayed within the Phoenix UI. This **does not** affect the precision of any calculations or values within Phoenix, it only truncates the displayed value.
Reset All Warning Dialogs	Resets any warning dialog windows that have previously been dismissed and instructed to not warn the user again
Reset Layout	Phoenix retains the size, and configuration of your Phoenix panels to make for a consistent user experience. If you want to reset the layout to the default, you can click the Reset Layout button.

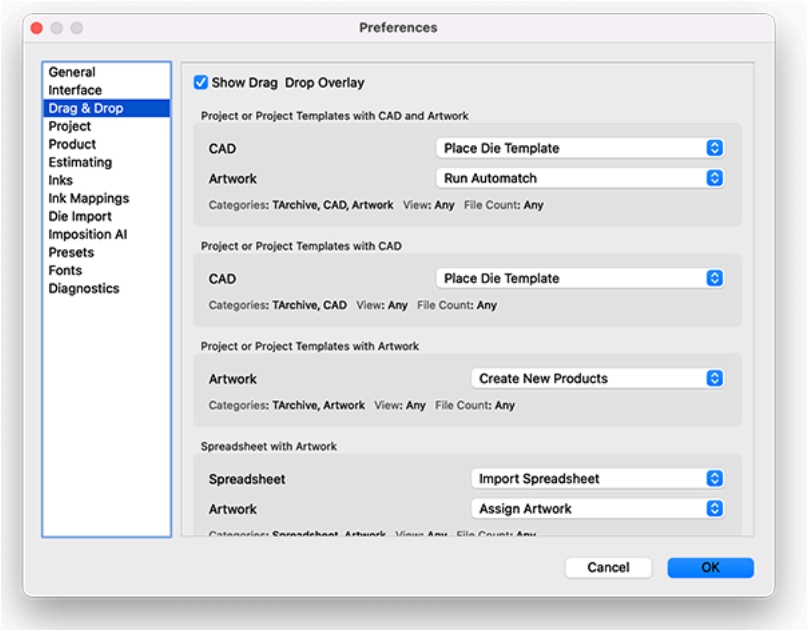
Interface

Field	Description
Tab Text	Choose what should be displayed in each project's tab. Options are Filename, Project Name, or Project ID
Artboard Background	Choose your artboard background. Options are Plain (no background), Origin lines, or Grid.
Clipping Path Color	Set the color of product clipping paths in Phoenix
Spacing Path Color	Set the color of product spacing paths in Phoenix
Offcuts Color	Set the color of product offcuts in Phoenix
Product Number Color	Set the color of product numbers in Phoenix
Product Number Size	Set the relative size of product numbers
Show plate punch	If using plates, define whether to show plate punch
Show plate material	If using plates, define whether to show plate material
Show Sheet grain	Choose whether to display sheet grain

Drag and Drop

Phoenix 8.0 introduces new drag and drop behavior, where you can customize exactly what happens and what options are available when dragging and dropping files into Phoenix.

Each drag and drop behavior is completely customizable through the Preferences in the Drag & Drop pane. For each category in the preferences, a scenario is described, and the type of item being dropped is listed. Next to each item is a dropdown where you can sepcify the desired behavior.



Project

Field	Description
New Project Default Press	Optionally set a default press to be assigned when creating a new project. By having a default sheet set for the press as well, you can have a sheet and press automatically defined upon project creation. Note that this does not affect any layouts created via Imposition AI's Plan or Optimize modes.
Add layout with project creation	Optionally have a new layout create each time a project is created. When not selected, layouts will need to be created manually or via Imposition AI.
Embed artwork in project save	Optionally save artwork inside of projects upon save. This will increase the project file size, but make it much easier to share projects without breaking links to artwork.
Show project properties dialog when creating new projects	Option to display project properties dialog to allow the user to set the project name, ID, and other project properties when a new project is created
Lock assigned artwork	Option to lock assigned artwork so that it cannot be moved or modified on the artboard. Locked artwork can be unlocked manually using the lock icon in the top left of the Phoenix UI when a locked object is selected.
Lock die layouts on import	Option to lock die layouts so they cannot be moved or modified in a layout

Field	Description
Bleed splitting	Behaviour for component instances in layouts so that bleeds are automatically split. The possible choices are defined below: **None** - No bleed splittings. **Signatures** - Only bound and folded components (signatures) will have bleed splitting applied. **Rectangular** - All rectangular components will have bleed splitting applied. This covers bound and folded signatures. And flat and tiled components that have a rectangular dieline.

Product

Field	Description
Enable file convention	Enables Phoenix to extract product properties from a defined filename convention. See *Filename Conventions* on page 93 for more info.
Automatically set die design from tool type mappings	Use autosnapping to create the die design in a product based on the tool type mappings in the Tool Types library.
Use grain direction from cad data when available	Enables automatically setting the grain direction on a product if the CAD file used to create it had a grain direction set.
Use CAD from PDF+ structural design when available	When enabled, products created from PDF + files that contain structural design info will look for the referenced CAD data to set the product die shape. In the event that the CAD data cannot be found, Phoenix will revert to tool type mappings or the artwork trimbox.
Shape Search	When searching for a die design from lines in the artwork, this defines how Phoenix should search for shapes. **Largest** sets the largest continuous path that matches the tool type mappings as the die design. **Merged** sets the lines defined in the tool type mappings as the die design, but merged together into one path. **Multiple** splits up multiple cut paths into separate products
Gap Margin	When searching for a die design, defines the maximum gap margin that may appear in the die shape. Any gap larger than this amount will

Field	Description
	prevent that line from being considered as a potential die design.
Raster Analysis Threshold	Sets the ink coverage percentage required to consider a color as included on a page
Set product name from artwork	Sets the name of the product from the artwork file name
Show dialog when creating new product from artwork	Option to show the product dialog to set certain product parameters when a new product is created from artwork
Page Handling	Defines how multipage artwork is handled upon import. **One product per two pages** means that a multipage artwork will be split into multiple products, with odd numbered pages being the front of the product, and even numbered pages becoming the backside graphic. **One product per page** will create multiple single-sided products, with each page becoming a separate product. **One product per file** will create a single sided product from the first page of a multipage pdf.

Estimating

Processes: Customizable actions that can be assigned to a product via Tool Type Mappings.

Process Types: Process Types allow for further categorization of Processes.

Modes:

Modes allow for customizable operation settings for specific production processes and equipment. Adding a new Mode allows users to more accurately model real-world production speeds and costing per device.

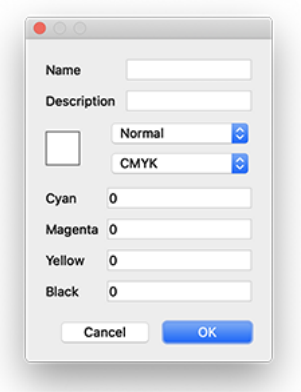
Modes are defined by a **Name**, **Description** *(optional)* and **Value**. When creating a Product in Phoenix, a specific Mode can be set by using the Mode 'Name', or if there are many Modes across many devices, passing a mode 'Value' for the Product allows Phoenix to evaluate the most cost-effective device to use which meets the processing requirements and minimum Mode value.

Stock Types: All stocks in Phoenix are categozied by their Stock Type. Stock Types provide a useful way of specifying whether devices can use a group of stocks or not *(via inclusion/exclusion rules)*.

Inks

The Inks preference panel allows you to define the default ink order, as well as view, add, and edit inks in the Ink Database. To add, edit, or delete an ink, click the +, pencil, or trash buttons, respectively.

When adding (or editing) an ink, the above dialog appears. You can set the Name and optional Description for the ink. In addition, define the type of ink, and whether the ink is defined by CMYK values or LAB values.



2.12. Keyboard Shortcuts

Phoenix is built for speed. This section outlines the many shortcuts in Phoenix that can dramatically cut down the time it takes to build print-ready layouts in Phoenix.

2.12.1. Toolbars

The tools in the main Toolbar are split into six sections. The different sections can be shown/hidden from the Window -> Toolbars sub-menu or by right clicking on the toolbar and checking the sections to be shown.

To switch between tools, you can click on the corresponding button or you can use the single-stroke hot keys when available.

2.12.1.1. Toolbox

Some of the most frequently used tools in Phoenix are placed in the Toolbox Toolbar.

Tool	Hotkey	Tool Overview
Selection	**v**	Main selection tool for selecting items, entering item context, moving items and more
Hand	**h**	Hand tool for moving artboard around and zooming in and out
Measure	**m**	Measure distances between items in artboard

Tool	Hotkey	Tool Overview
Move	**t**	Move one product relative to another by selecting reference points on die lines between the two
Zoom	**z**	Zoom in and out of the artboard
Fit All in View	**ctrl+alt+0**	Fit all items in the current artboard into view

2.12.1.2. Marks

The Marks toolbar contains mark-related tools Place Numbers, Camera mark, and Dimension Mark.

Tool	Hotkey	Tool Overview
Place Number	**n**	Place new Product Number Marks directly into Products in Product or Layout View by mouse click
Camera Mark		Manually place a camera mark in the layout by clicking mouse in the artboard
Dimension Mark	**d**	Manually create a dimension mark by clicking on snap points in Product or Layout View to measure distances

2.12.1.3. Imposition AI

The Imposition AI toolbar is available when the license includes the Imposition AI module.

Tool	Hotkey	Tool Overview
Smart Place	**s**	Select an open area in the layout to find unfulfilled products in the project that can be placed while honoring spacing and media margin constrains

Tool	Hotkey	Tool Overview
Impose		Opens the Imposition AI dialog and runs the Impose tool with the latest settings
Populate		Opens the Imposition AI dialog and runs the Populate tool with the latest settings
Optimize		Opens the Imposition AI dialog and runs the Optimize tool with the latest settings
Plan		Opens the Imposition AI dialog and runs the Plan tool with the latest settings

2.12.1.4. Alignment

The Alignment toolbar provides tools to quickly align selected items to media or other items.

Tool	Tool Overview
Alignment Target	Select what target the alignment is to be based off
Align Left	Align to the left edge of the alignment target
Align Center Horizontal	Align to the horizontal center of the alignment target
Align Right	Align to the right edge of the alignment target
Align Bottom	Align to the bottom edge of the alignment target
Align Center Vertical	Align to the vertical center of the alignment target
Align Top	Align to the top edge of the alignment target
Span Horizontally	Horizontally space the selected items evenly spanning the alignment target by the given gap distance

Tool	Tool Overview
Span Vertically	Vertically space the selected items, evenly spanning the alignment target by the given gap distance

2.12.1.5. Geometry

The Geometry toolbar reports the positions, rotations, and dimensions of selected items and when possible allows you to accurately define new values for them.

Tool	Tool Overview
Reference Point	Set the reference point for the item
X Position	X position of item relative to the reference point. When possible, item position(s) can be moved by editing this field.
Y Position	Y position in layout relative to the reference point. When possible, item position(s) can be moved by editing this field.
Item Width	Item width. When possible, item widths can be changed by editing this field.
Item Height	Item height. When possible, item widths can be changed by editing this field.
Item Rotation	Item rotation. When possible, item widths can be changed by editing this field.
Lock Items	Lock/Unlock items

2.12.1.6. Drawing

The drawing tools are used for drawing and editing die designs and bleed paths in die edit and bleed edit modes, drawing shape marks to products or layouts in normal mode, or manipulating bleed overlaps in overlaps mode.

Tool	Hotkey	Tool Overview
Direct Selection	**a**	Select and move individual control points on a path in die edit and bleed edit modes.
Line	**l**	Add new lines in die and bleed edit modes. Draw line marks in normal mode.

Tool	Hotkey	Tool Overview
Rect	**r**	Add new rectangles in die and bleed edit modes. Draw line marks in normal mode.
Ellipse	**e**	Add new ellipses in die and bleed edit modes. Draw line marks in normal mode.
Pen	**p**	Draw paths (lines and curves) directly in the shape in die edit and bleed edit modes.
Add Anchor Point	=	Add anchor points to an existing path in die edit and bleed edit modes.
Delete Anchor Point	-	Delete anchor points to an existing path in die edit and bleed edit modes.
Anchor Point Tool	**shift** + **c**	Select anchor points and manipulate the handles to change the curve shape in die edit and bleed edit modes.
Cut	**c**	Clicking on a path splits the path segment in two in die edit and bleed edit modes. In overlaps mode, drawing a line splits bleed overlaps in two so they can beresolved independently.

2.12.1.7. Delete Multiple Anchors Shortcut

Shortcut: **Shift** + **Delete**

Description: Removes all currently selected anchor points in a single action. Available in both Die edit and Bleed edit modes. Selection Tool Shortcuts.

2.12.2. Selection Tool Shortcuts

Typically, left click is used with Selection Tool (v) to select a given item while right click on an item will show that item's Content Menu. Left clicking and dragging the mouse in an area with no items will create a selection area that will select all items inside the rectangle when you release the mouse button. The following additional shortcuts are available:

Forcing Selection Area

Shortcut: **Control** + **Shift** + **Left Click** + **Mouse Drag**

Description: Normally selection area gets created when you start Left Click + Mouse Drag in an area with no items. Sometimes you will want to select multiple items with selection area but it is difficult or impossible to start selection area in an empty region. If you hold down the Control and Shift keys, a selection area will be created regardless of whether an item is beneath the cursor or not.

Multiple Item Selection

Shortcut: **Shift**

Description: To add more items to your current selection, hold down the Shift key while clicking on the additional items. Similarly, hold Shift key while using Selection Area to add all items in the current mouse selection area to your existing selected item(s).

Alt+Drag Duplicate

Shortcut: **Alt** + **Left Click Item(s)** + **Mouse Drag**

Description: Holding the Alt key while moving items in the Artboard with your mouse will duplicate the item in the destination instead of moving the items, essentially performing duplicate and move in a single action.

Alt+Drag Duplicate works on single items as well as multiple selected items, giving you the power to duplicate entire groups of items to a specific location in one shot. All relative positions of selected items are preserved during this action.

Alt+Click

Shortcut: **Alt** + **Left Click when item(s) are selected**

Description: This shortcut behaves similarly to Alt + Drag Duplicate. Select item(s) and click anywhere on the artboard to duplicate those items in the location of the mouse click. The new duplicate item(s) will be centered in the cursor position of the click. For multiple item selection, the relative positions of items are preserved.

Swap Items Shortcut

Shortcut: **Control** + **Left Click Item(s)**

Description: You can swap two items or groups of items in the sheet in a single action by selecting an item (source) and click on another item (destination) while holding the Control key. The selected source items will move to the position of the clicked destination item while the destination item will move into the position of the source items. Product items, marks, and groups can all be swapped using this shortcut. If any source or destination items are locked, a dialog will appear explaining the swap action cannot be performed.

The reference point used during Swap Items is controlled by the 9-point selection widget in the Geometry Panel. For example, if the center point is selected in the Geometry Panel, the center source and destination item positions are swapped. If the lower-left corner of the 9-point selector is chosen instead, the lower-left corner positions of source and destination items are swapped.

Multiple destination items can be swapped by holding the Control key and left mouse button while dragging the mouse to create a selection area. Once the mouse button is released, all items in the selection area will be treated as destination swap items. This features allows you to quickly swap entire groups of items without explicitly grouping them beforehand.

Zooming in Selection Tool

Shortcut: **Control** + **Mouse Scroll Wheel**

Description: You can quickly switch to the Zoom Tool to zoom in and out of the Artboard but if your mouse has a scroll wheel it can be even faster to stay in the Selection Tool, hold down the Control key and move the scroll wheel up and down to zoom in and out.

Scrolling Up and Down in Selection Tool

Shortcut: **Mouse Scroll Wheel**

Description: To move the Artboard up and down in Selection Tool move your mouse scroll wheel up and down respectively.

Fit Item in View

Shortcut: **Alt** + **Shift** + **Left Click**

Description: If you hold the Alt and Shift keys and click on an item, the Artboard will automatically zoom in fitting the item in the visible space. For example, if you want to zoom into a specific mark, hold down Alt and Shift and click on the mark in the Selection Tool.

Entering Item Context

Shortcut: **Double Click**

Description: If you want to edit child items of another item, such as Repeat Marks within a Repeat or Artwork within a Product, double click on the parent item(s) until you are in the desired context to perform edits.

Leaving Item Context

Shortcut: **Escape**

Description: To quickly leave any item context and go back to the global context press the Escape key. Note this also works for leaving Overlaps Tool Mode, Output Preview Mode and other context-based tool modes.

2.12.3. Hand Tool Shortcuts

Hand Tool (h) works normally by holding down the left mouse button and dragging to move the Artboard around. This is at times the most efficient way to move around.

Zooming in Hand Tool

Shortcut: **Mouse Scroll Wheel**

Description: You can quickly switch to the Zoom Tool to zoom in and out of the Artboard but if your mouse has a scroll wheel you can also zoom in and out by moving the scroll wheel up and down.

Spacebar Shortcut

Shortcut: **Hold down Spacebar key**

Description: Hold down the spacebar at any time to temporarily switch to the Hand Tool. Once the spacebar is released the previous tool will be restored. This shortcut allows you to pop into Hand Tool to do fast navigation before continuing with your current tool without having to switch back and forth.

2.12.4. Measure Tool Shortcuts

Measure Tool (m) works normally by holding down the left mouse button to start measuring, dragging the cursor to the desired location and releasing the button to take a measurement at any angle. When starting a measurement, the Measure Panel will appear automatically if not visible.

Forcing Horizontal or Vertical Measurements

Shortcut: **Shift + Left Click + Mouse Drag**

Description: Holding down the Shift key while taking measurements forces the measurement line to be either horizontal or vertical depending on current cursor position. This is useful for measuring the distance in a single dimension only.

2.12.5. Cut Overlap Tool Shortcuts



Cut Overlap Tool (c) works in Overlap Tool Mode by drawing a line bisecting a given overlap. Start the cut by holding the left mouse button and moving the cursor to the desired endpoint. Releasing the left mouse button will perform the cut on the overlap closest to the start point of the line drawn.

Cutting All Same Overlaps at Once

Shortcut: **Control + Left Click + Mouse Drag**

Description: Holding down the Shift key while drawing the bisection line will cause the overlap cut to extend to all other identical overlaps in the layout. For example if you have the cartons with the same flaps overlapping 20 times that all need to be cut before resolving, holding the Control key during overlap cut will perform all 20 cuts at once.

2.12.6. Zoom Tool Shortcuts

Zoom Tool (z) will zoom into the Artboard when left mouse button is clicked. Also you can zoom into a defined area by holding down left mouse button, dragging the mouse to define the desired zoom area and releasing the mouse button.

Zooming Out in Zoom Tool

Shortcut: **Control** + **Left Click**

Description: Holding down the Control key while clicking will zoom out slightly instead of zoom in.

2.12.7. Creating Products from Artwork Shortcut

You can create new products from artwork files by using the File menu and selecting "New Product from Artwork..." or by selecting the same action from the Products Panel action menu in the upper left corner of panel.

Shortcut: **Drag and Drop Artwork File**

Description: Another way to quickly create a product from artwork is to drag and drop the artwork file externally into Phoenix. A new product will be created with default values and die design set to the Trim Box of the artwork. Also, if the artwork file contains exactly two pages, the second page is automatically set to the back side artwork of the new product.

2.12.8. Import Die Template Shortcuts

Die layouts can be imported normally by using the File menu and selecting "Import Die Template..." to use the default import preset for the given CAD format defined in Preferences -> Die Import.

They can also be imported and placed into the current layout in a single action by selecting "Place Die Template..." instead.

You can also import die layouts using the interactive Die Import Wizard to confirm line mappings, choose a different import preset or define a new preset. To do this normally, select the "Import using Die Import Wizard" and "Place using Die Import Wizard" options from the File menu.

Import actions are also accessible from the action menu in the Files panel (upper left corner).

Place Die Template Shortcut

Shortcut: **Drag and Drop CAD File**

Description: Dropping a die layout CAD file directly into Phoenix while in Layout View will import the layout as a die template using the default import preset for the given CAD format and place it in the current layout being viewed. If no default import preset is defined for the CAD format the Die Import Wizard is launched.

Place Using Die Import Wizard Shortcut

Shortcut: **Control** + **Drag and Drop CAD File**

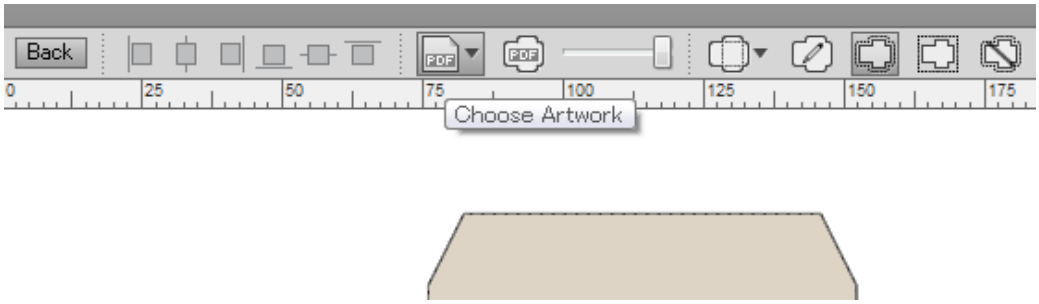
Description: To force the Die Import Wizard to be used to import and place the CAD file, hold down the Control key while dropping the file into Phoenix.

2.12.9. Autosnap Shortcut

Autosnapping artwork into a product die or die template is one of the most powerful features in Phoenix. Autosnap handles a wide range of scenarios such as mismatched rotation, non-centered

artwork, incorrect Trim Box sizes, etc., providing perfect placement of artwork in the product die for a vast majority of cases.

The normal way to autosnap artwork into a die is by clicking on the Choose Artwork button in the Product View or Layout View toolbar.



Shortcut: **Control** + **Drag and Drop Artwork File**

Description: A shortcut for snapping artwork into the die is to hold down the Control key while drag and dropping the artwork file into the desired side (Front or Back) in Product View or in Layout View. If Control key is not held down a new product will be created from the artwork.

When in Layout View, the artwork being dropped into Phoenix will be snapped into all selected product or die template items in the Artboard. If all instances of a product are selected, artwork will be snapped into the existing product. In cases where a subset of all product's instances are selected, the following steps take place automatically:

1. A new product will be created using the name of the artwork file by duplicating the existing product.
2. The artwork will be autosnapped into this new product.
3. Selected product or template items in the Artboard will be replaced by instances of this new product.

If you are drilled into the context of a product instance in Layout View, you are editing the product itself and behavior is the same as in Product View.

Also note, if you are snapping to the Front of the product or template item and the given artwork has two pages, the first page automatically snaps into the Front of the product while the second page snaps to the Back of the same product. If you need to snap different pages of the artwork file to the given side(s) of a product, click on the Choose Artwork button down arrow to open the Page Mapping dialog.

2.12.10. Creating New Empty Product Shortcut

Shortcut: **Control** + **Shift** + **N**

Description: This shortcut opens the New Empty Product dialog where you can create a new product by specifying width and height.

2.12.11. Creating Non-Rectangular Product from Artwork Shortcut

Shortcut: **Alt + Drag and Drop Artwork File**

Description: In Phoenix, you can create products directly from artwork files. Additionally, in Product View you can use the "Die Design from Inks..." or "Die Design from Layers..." option to create the product die design directly from paths in the artwork.

Alternatively, you can perform both steps in one action by holding down the Alt key while dropping artwork into Phoenix. As with normal drag and drop, a new product will be created from the artwork using the file name as product name. The shortcut also causes the artwork spot ink and PDF layers to be matched with line types using the Line Type Mappings defined in Preferences to create the die design from the artwork, with inks and layers matching line types in the Cut category used to define the die design shape.

2.12.12. Assigning Product Group Marks Shortcut

By default, dropping a Group or Product Mark from the Marks Panel into Layout View will apply that mark to all Group or Products in the current side of the layout respectively. You can assign a Group or Product Mark to a specific Repeat item or specific Product by holding down the Control key.

Shortcut: **Control + Drag and Drop Mark Item** *(in Layout View)*

Description: Dropping Group or Product Marks into Layout View applies that mark globally to the project. This means that mark will be in all current and future Groups/Products unless removed or hidden explicitly within them. By using the Control key shortcut you can apply the smart mark to the specific Repeat the cursor is under when releasing the mouse button in the case of Group Smart Marks or, in the case of Product Smart Marks, you can apply the mark to the product that a product item belongs too under the cursor. The mark will appear only in instances of the given product in the project.

2.12.13. Assigning Product Mark to Single Product Item Shortcut

You can assign a Product Mark to one specific instance of a Product in a given layout by holding the Alt key while dropping the mark into Layout View.

Shortcut: **Alt + Drag and Drop Mark Item** *(in Layout View)*

Description: When the Alt key is held down while dropping a smart Product Mark into the Artboard it will apply the mark only to the product item under the cursor. The mark will not be visible in other product items belonging to the same product and is not applied to other products in the project.

This shortcut works by applying the mark to the product but turning on visibility of the mark only in the single product item in the Artboard. This means you can turn visibility of that mark on in other product items at any time. Note: Non-visible items are not included at export time.

This shortcut differs from the Assigning Product/Group Marks Shortcut where the mark becomes visible across all product items in the project, not just the single item under cursor.

2.12.14. Copying Library Items Shortcut

If you would like to make a copy of a library item (Press, Plate, Mark, Mark Set) you can right click on the item and select "Duplicate". This makes a copy of the item in the same folder as the original. Now if you want to move the copy to a different folder you can drag and drop the new item into the folder.

Shortcut: **Control** + **Drag and Drop Item** *(into same panel)*

Description: Pressing Control while dragging and dropping the original item will keep that item in place while making a copy of the item. If you want to make a copy in the same folder make sure to keep the cursor position within that folder. You can also move the cursor into a different folder to make the copy directly into that destination folder.

2.12.15. Rotate Items Shortcut

Rotate Items Shortcuts will rotate currently selected items in Layout View and Product View. When multiple items are selected they will all be rotated in place.

Alt + **Left Arrow Key** (rotate 90 degrees counter-clockwise)

Alt + **Right Arrow Key** (rotate 90 degrees clockwise)

Alt + **Up Arrow Key** (rotate 180 degrees)

Alt + **Down Arrow Key** (rotate 180 degrees)

2.12.16. Mark Inspection Mode Shortcut

Shortcuts: **Control** + **Shift** + **M**

Description: Enters Mark Inspection mode, which will highlight all the marks in Layout View, providing a clear way to verify mark placement.

3. Automation Guide

3.1. Automation in Phoenix

Phoenix offers an unprecedented level of automation for imposition, estimation, and planning tasks. Most of the powerful features available in the desktop user interface of Phoenix are also available in automation with the same level of control.

There are multiple ways of running automation in Phoenix depending on your needs:

- ***REST Service*** – The Phoenix REST web service is the most powerful and flexible way of automating Phoenix with support from all modern programming languages. The REST API includes 125 different methods automating nearly every feature in Phoenix, from imposition and planning to library management. The service is fully documented with a live interactive web client and comprehensive Open API (Swagger) documentation.

- ***Hot Folders*** – Phoenix hot folders features 35 actions covering a wide range of imposition and planning tasks. Hot folders also include a powerful scripting interface giving you complete control over what comes into the hot folders and how that data is processed.

- ***Switch Connector*** – Seamless integration with the popular Switch workflow solution from Enfocus used together with the mature Phoenix configurator available within Switch itself, providing fine-grained automation of the most powerful tool in Phoenix: Plan.

- ***CERM Connector*** – Connector to the popular CERM MIS system, providing tight integration with Phoenix Plan tool from within CERM itself.

Requirements

Automation in Phoenix requires the **Automate** module. This module gives you access to all the automation capabilities in Phoenix: REST Service, unlimited hot folders, Switch Connector, and CERM Connector.

Since automation can be resource intensive, the system requirements are higher in a few areas when running in an automated mode. 8 GB of memory and 4 CPU cores are required to run automation.

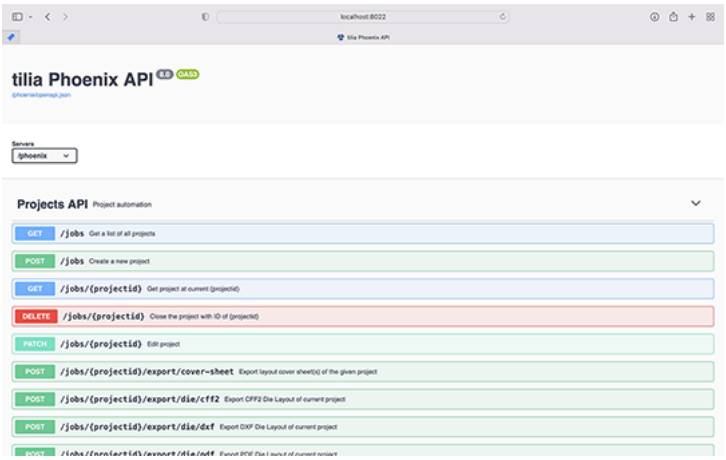
Running in Automated Mode

When running automation in Phoenix all jobs must be closed in the user interface to ensure the necessary resources are available during automation.

In addition, only one type of automation can be run at a given time. For example, if the REST Service is running, no hot folders can be started. Multiple hot folders can run at the same time as long as other automation types are not running.

3.2. REST API

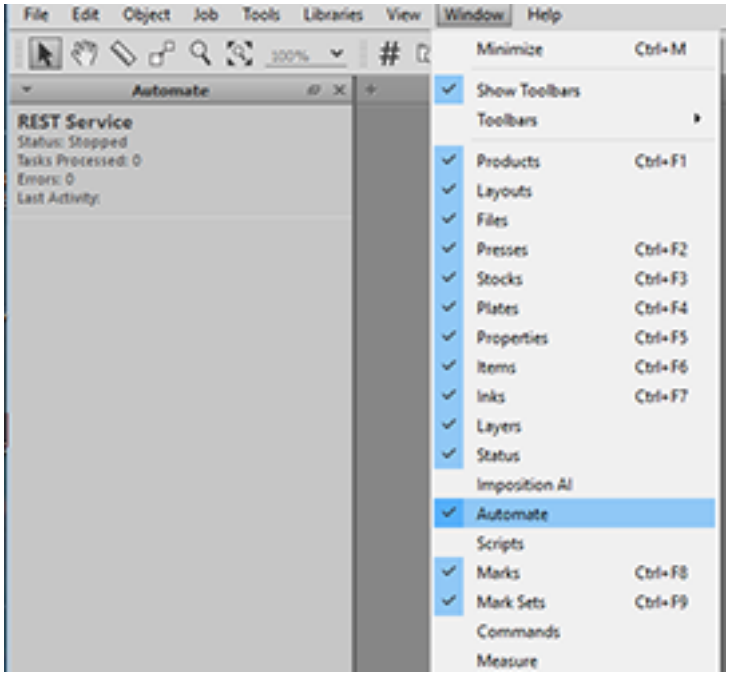
3.2.1. Phoenix REST API Overview



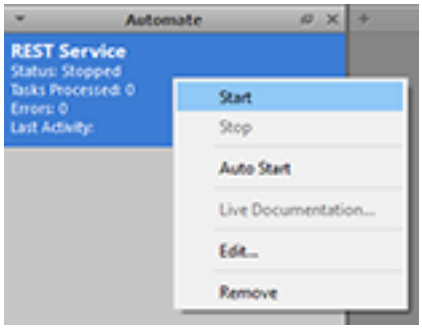
The Phoenix REST web service is the most powerful and flexible way of automating Phoenix, with support from all modern programming languages. The REST API includes hundreds of methods automating nearly every feature in Phoenix, from imposition and planning to library management. The service is fully documented with a live interactive web client and comprehensive Open API live documentation.

Starting the REST Service

To use the REST API, open Phoenix and navigate to the Automate Panel. If it's not already visible, simply go to the Window menu and choose **Automate**. From there, if the REST Service isn't listed, add it by clicking the dropdown menu in the Automate Panel and choosing "Add REST Service."



Right click on the REST Service entry in the Automation Panel and click "Start" to start the service. Once the REST Service says "Running", it's up and ready to start receiving HTTP requests.



The service runs on port 8022 on the host system, however this is editable via the **Edit** option in the right click menu. You can reach the service on any system that has access to this system and port on the network, provided your network security settings and firewall are configured appropriately.

Simply access *http://hostname:8022/phoenix* in your web browser, where HOSTNAME is the hostname or IP address of your computer.

Note:

Accessing Locally:

If you are accessing the service from the same computer you can use localhost as the hostname, e.g.: *http://localhost:8022/phoenix*

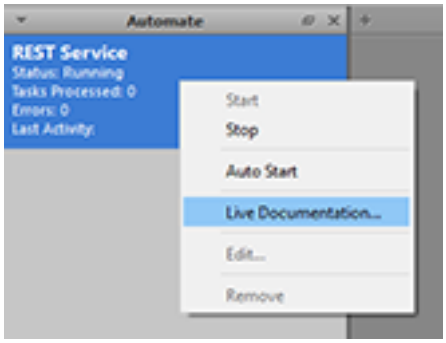
Note:

Auto Start:

If you would like the REST Service to start automatically when Phoenix launches, select "Auto Start" from the context menu.

Live Documentation Page

To open the interactive documentation for the REST API in your default browser, start the REST Service as described above and wait until Status has changed to "Started". Next, right click on the REST Service entry again and click on "Live Documentation..."



The "Phoenix REST API" web page should appear in your browser. Click on an operation name to expand. You can then fill in the JSON to form a request along with parameters in the URL. Clicking on "Trying it out!" will make the actual call to the REST Service at which point you will see the response coming back. This is a great tool for testing and diagnostic purposes.

3.2.2. REST API Examples

Below are example workflows that can be automated with the REST API.

The first two workflows, Impose and Plan, utilize the Imposition AI tools in the Jobs API. These tools can be used for estimating cost as well as generating optimized print-ready layouts. The third workflow shows how to add new stocks and sheets to the Phoenix library via the Libraries API

3.2.2.1. Phoenix Plan Example

The quickest way to get started with the Phoenix API is to use the 'Plan' endpoint to auto-generate imposed layouts. The Plan Imposition AI tool will search across multiple press and sheet/roll combinations to find the best overall job, which might have two or more layouts.

Plan does not require a sheet to be present in the job. Instead, the Plan operation accepts a list of presses and sheets to be used in the evaulation of the most cost-effective imposed solution.

Step 1 - Create New Job

For the full list of available properties, see *POST Job* in the API documentation.

New Job

```
POST /jobs
{
  "id": "000123"
}
```

Important: "id" is the only required property when creating a new job. Other properties can be defined as well.

Job from template

To create a new job from an existing job template (PHXT) define the path of the template.

```
POST /jobs
{
  "id": "000123",
  "template": "/Users/tyler/Desktop/phoenixAPI/template-1.phxt"
}
```

Important: If Phoenix is running on Windows OS, a backslash ("\") in the path requires an escape character ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Step 2 - Add Products

For the full list of available properties, see *POST Job* in the API documentation.

Empty Product

Create empty flat products by defining width and height

```
POST /jobs/000123/products
{
  "name": "Product-A",
  "ordered": 35000,
    "stock": "14pt Glossy",
  "width": "6in",
  "height": "4in",
  "bleed-margin": ".125in"
}
```

From Artwork

Create a product from artwork files directly

In this example the die shape is derived from the paths in the PDF if spot colors or layers match line type mappings defined in Phoenix. If no paths match, then the PDF TrimBox or image size is used.

Phoenix will accept virtually any type of graphic file input *(PDF, AI, TIFF, JPG, PNG, etc...)*!

```
POST /jobs/000123/products
{
  "name": "Product-B",
  "ordered": 3500,
    "stock": "14pt Glossy",
  "artwork": "/Users/tyler/Desktop/phoenixAPI/artwork/jj-label.pdf",
  "bleed-margin": ".125in"
}
```

Tip: You can tell Phoenix to use the "dieshape-source" field to explicitly control how the die shape is defined in the product. For example, if you set "dieshape-source" to ArtworkTrimbox it will use the PDF TrimBox or image size regardless of line type mappings.

From CAD

Create a product from 1-up design in CAD file (CFF2, DDES, DXF)

The main difference here is the addition of the "cad-file" property in the body. When this property is specified, Phoenix will use the specified CAD file as the source of the dieline. The artwork will be either auto-snap (if inks exist in artwork) or center the artwork in the CAD shape when the product is created.

```
POST /jobs/000123/products
{
  "name": "Product-C",
  "ordered": 3500,
    "stock": "14pt Glossy",
  "cad-file": "/Users/tyler/Desktop/phoenixAPI/cad/quackers-carton.cf2",
  "bleed-margin": ".125in"
}
```

Tip: When using a CAD file as the shape of the cutpath for the product, the spacing-margins can still be utilized to determine the spacing required between products on the sheet.

From Die Design

Create a product from a 1-up design in your Phoenix Die Design library

You can import your die designs into the Die Design library in Phoenix and then reference them by their name when creating products from the designs using the "die-design" field.

```
POST /jobs/000123/products
{
    "name": "Product-D",
    "ordered": 3500,
    "stock": "14pt Glossy",
    "die-design ": "CRTN-1158",
    "bleed-margin": ".125in"
}
```

Tip: When using a Die Design as the shape of the cutpath for the product, the spacing-margins can still be utilized to determine the spacing required between products on the sheet.

Advanced Product Options

Advanced properties that can be used to control the Plan results: Setting additional properties during product creation allows you to have full control of how a product is imposed.

```
POST /jobs/000123/products
{
    "name": "Product-E",
    "ordered": 3500,
    "stock": "14pt Glossy",
    "artwork": "/Users/tyler/Desktop/phoenixAPI/artwork/jj-label.pdf",
    "marks": ["CODE128_PR_NAME", "PATCH"], // Pass a list of marks to attatch to the
 product
```

```
    "max-overruns": "10%", // Specify a max allowed overrun per product
    "min-overruns": "-10%", // Specify a min allowed overrun per product
    "spacing-type": "Margins", // Control gutters by specifying margins
    "spacing-margins": { // Set 0in to allow knife-to-knife
        "left": "0in",
        "top": "0in",
        "right": "0in",
        "bottom": "0in"
    },
    "rotation": "None" // Control the allowed rotation per product
}
```

Important: Notice the Job 'id' ***000123*** from Step 1 is being used in the URL.

Important: If Phoenix is running on Windows OS, a backslash ("\") in the path requires an escape character ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Tip:

As an alternative to creating products one-by-one directly with the API, you can create several products in one shot by importing a CSV file describing each product using the *CSV import API* endpoint:

```
POST /jobs/000123/products/import/csv
{
    "path": "/Users/tyler/Desktop/phoenixAPI/products-1.csv"
}
```

See lessons for examples on the standard CSV format in Phoenix. Alternatively, you can define your own CSV format, create a corresponding preset in Phoenix, and reference this preset by name using the "preset" field.

Step 3 - Run Plan

After all of the products have been successfully added to the job, run 'Plan' by specifying the presses, stocks, and defining the settings to be used for the Plan tool. Keep in mind this endpoint is asynchronous.

For the full list of available properties, see *POST Plan* in the API documentation.

Run Plan (simple)

```
POST /jobs/000123/plan/start
{
    "profiles": ["Default"],
    "presses": [
        "CD 102",
        "HP Indigo 10000",
        "HP Indigo 7900",
        "HP 7600",
    ],
    "sheets": [],
    "rolls": []
}
```

Run Plan (Advanced)

With the Plan endpoint, you can completely customize the Imposition AI Profile 'on-the-fly' to control every aspect of the imposition algorithm.

```
POST /jobs/000123/plan/start
{
    "presses": [
        "CD 102",
        "HP Indigo 10000",
        "HP Indigo 7900",
        "HP 7600",
    ],
    "stocks-inline": [
        {
            "name": "14pt Glossy"
        }
    ],
    "profiles-inline": [
        {
            "name": "Sequential",
            "strategies": {
                "horizontal-cut": "true",
                "vertical-cut": "false",
                "die-table-cut": "false",
                "free-nesting": "false",
                "grid-nesting": "false",
                "strip-nesting": "false",
                "horizontal-strip": "false",
                "vertical-strip": "false",
                "templates": "false"
            },
            "strip-options": {
                "strip-rule": "None",
                "template-rule": "None",
                "alignment": "TopLeft",
                "gutter": "0mm",
                "gutter-rule": "Always"
            },
            "layout-options": {
                "sheet-fill": "Min",
                "allow-bleed-in-gripper": "false",
                "user-derived-sheets": "false",
                "ordered-placement": {
                    "favor-ordered-placement": "true",
                    "start-corner": "BottomLeft",
                    "order-method": "HorizontalSnake"
                }
            },
            "plan-options": {
                "plan-mode": "Sequential",
                "allow-product-spanning": "true"
            }
        }
    ],
    "templates": []
}
```



Tip: Leaving a list property empty ([]) *(for example, 'sheets')* tells Phoenix to test all applicable sheet sizes in the Stocks library.



Important: The Phoenix Plan endpoint will run the Plan algorithm searching legal combinations of devices and sheet sizes until either all permuations are exhausted, a maximum specified amount of time has lapsed (use the "stop-minutes" property to define the max amount of time to run plan), or a manual stop occurs by using to the '/jobs/{projectid}/plan/stop' endpoint.

Step 4 - Get Plan Status

Due to the ASYNC nature of the Plan tool, you can check the current status of Plan. The status will let you know the current state of the Plan algorithm in real-time *(data such as: number of results, lowest waste percentage, lowest number of layouts)*.

You can also see how long plan has been running as well as view errors and/or warnings.

For the full list of available properties, see *GET Plan Status* in the API documentation.

```
GET /jobs/000123/plan/status
```



Tip: You can continue asking for the status of Plan to quickly understand the current lowest cost result, lowest waste result, and the lowest number of layouts in a result.

Step 5 - Get Plan Results

Results will contain information on the quality of each plan generated by Plan as well as statistics on each layout within the plan. Optionally, you can sort, paginate, and request additional details about the Plan results such as thumbnails of the layouts, dielines, etc...

For the full list of available properties, see *GET Plan Results* in the API documentation.

Get Plan Results (Simple)

```
GET /jobs/000123/plan/results
```

Get Plan Results (advanced)

```
GET /jobs/000123/plan/results?
limit=5&start=1&sorting=Cost&layouts=true&thumb=true&plan-thumb=true&thumb-
width=200&thumb-height=200&render-mode=Artwork
```



Tip: See the *GET Plan Results* for a full list of query parameters you can use to control the data that is returned from this call.

Step 6 - Apply a Plan Result

After determining which Plan result you would like to use from the list of plan results, simply 'apply' the specific Plan result index to the job.

For the full list of available properties, see *POST Apply Plan* in the API documentation.

Apply the first result

```
POST /jobs/000123/plan/result/1/apply
```

Apply the third result

```
POST /jobs/000123/plan/result/3/apply
```

Step 7 - Export Layout PDF Print File

After applying the result, you can export the PDF print file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

For the full list of available properties, see *POST Export PDF* in the API documentation.

```
POST /jobs/000123/export/pdf
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_imposed.pdf"
}
```

Important:

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Step 8 - Export Layout PDF Cut File

After applying the Plan result, you can export the PDF cut/die file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

For the full list of available properties, see *POST Export PDF* in the API documentation.

```
POST /jobs/000123/export/die/pdf
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_imposed_CUT.pdf"
}
```

Important:

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\PhoenixOutput\ \imposed.pdf

Step 9 - Export JSON Report

After applying the Plan result, you can export a JSON Report file. This JSON report file provides all of the details about the imposition plan (# of sheets, costing, overruns, etc...). This report can be used by an external MIS or ERP system to eliminate production data entry.

Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

```
POST /jobs/000123/export/report/json
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_report.json"
```

```
}
```

Step 10 - Export Phoenix Job File

After applying the Plan result, you can save the job (PHX) file. The Phoenix job file is useful for when additional 'manual' steps need to be performed using the Phoenix application.

For example, prepress may need to manually place a special sheet or product mark for the press.

```
POST /jobs/000123/save
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123.phx"
}
```



Tip: Saving a Phoenix job file is also a good way to visualize results inside of Phoenix when debugging API workflows.

Step 11 - Close/Delete Job

DELETE /jobs/{jobid}

```
DELETE /jobs/000123
```



Important: '{jobid}' is the only required url param when removing/deleting a job. In the above example, the 'jobid' = '000123'



Important: It is best practice to remove/delete the job after tasks are completed to alleviate unnecessary memory consumption by the Phoenix API.

3.2.2.2. Phoenix Impose Example

The Impose algorithm is used to determine the most cost-effective Single** gang layout based on the current list of products, a specified press, and a specified sheet size. The 'Impose' Imposition AI tool differs from the 'Plan' Imposition AI tool as 'Plan' will return results containing *potentially* **many** layouts.

Using Impose is useful when you would like Phoenix to evaluate one or many products to be ran on one single press run.

Step 1 - Create New Job

For the full list of available properties, see *POST Job* in the API documentation.

New Job

```
POST /jobs
{
  "id": "000123"
```

```
}
```

Important: "id" is the only required property when creating a new job. Other properties can be defined as well.

Job from template

To create a new job from an existing job template (PHXT) define the path of the template.

```
POST /jobs
{
  "id": "000123",
  "template": "/Users/tyler/Desktop/phoenixAPI/template-1.phxt"
}
```

Important: If Phoenix is running on Windows OS, a backslash ("\") in the path requires an escape character ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Step 2 - Add Products

For the full list of available properties, see *POST Product* in the API documentation.

Empty Product

Create empty flat products by defining width and height

```
POST /jobs/000123/products
{
  "name": "Product-A",
  "ordered": 35000,
    "stock": "14pt Glossy",
  "width": "6in",
  "height": "4in",
  "bleed-margin": ".125in"
}
```

From Artwork

Create a product from artwork files directly

In this example the die shape is derived from the paths in the PDF if spot colors or layers match line type mappings defined in Phoenix. If no paths match, then the PDF TrimBox or image size is used.

Phoenix will accept virtually any type of graphic file input *(PDF, AI, TIFF, JPG, PNG, etc...)*!

```
POST /jobs/000123/products
{
  "name": "Product-B",
  "ordered": 3500,
    "stock": "14pt Glossy",
  "artwork": "/Users/tyler/Desktop/phoenixAPI/artwork/jj-label.pdf",
  "bleed-margin": ".125in"
}
```

Tip: You can tell Phoenix to use the "dieshape-source" field to explicitly control how the die shape is defined in the product. For example, if you set "dieshape-source"

to ArtworkTrimbox it will use the PDF TrimBox or image size regardless of line type mappings.

From CAD

Create a product from 1-up design in CAD file (CFF2, DDES, DXF)

The main difference here is the addition of the "cad-file" property in the body. When this property is specified, Phoenix will use the specified CAD file as the source of the dieline. The artwork will be either auto-snap (if inks exist in artwork) or center the artwork in the CAD shape when the product is created.

```
POST /jobs/000123/products
{
  "name": "Product-C",
  "ordered": 3500,
    "stock": "14pt Glossy",
  "cad-file": "/Users/tyler/Desktop/phoenixAPI/cad/quackers-carton.cf2",
  "bleed-margin": ".125in"
}
```

Tip: When using a CAD file as the shape of the cutpath for the product, the spacing-margins can still be utilized to determine the spacing required between products on the sheet.

From Die Design

Create a product from a 1-up design in your Phoenix Die Design library

You can import your die designs into the Die Design library in Phoenix and then reference them by their name when creating products from the designs using the "die-design" field.

```
POST /jobs/000123/products
{
    "name": "Product-D",
    "ordered": 3500,
    "stock": "14pt Glossy",
    "die-design ": "CRTN-1158",
    "bleed-margin": ".125in"
}
```

Tip: When using a Die Design as the shape of the cutpath for the product, the spacing-margins can still be utilized to determine the spacing required between products on the sheet.

Advanced Product Options

Advanced properties that can be used to control the Plan results: Setting additional properties during product creation allows you to have full control of how a product is imposed.

```
POST /jobs/000123/products
{
    "name": "Product-E",
    "ordered": 3500,
    "stock": "14pt Glossy",
    "artwork": "/Users/tyler/Desktop/phoenixAPI/artwork/jj-label.pdf",
    "marks": ["CODE128_PR_NAME", "PATCH"], // Pass a list of marks to attatch to the
 product
    "max-overruns": "10%", // Specify a max allowed overrun per product
    "min-overruns": "-10%", // Specify a min allowed overrun per product
    "spacing-type": "Margins", // Control gutters by specifying margins
```

```
    "spacing-margins": { // Set 0in to allow knife-to-knife
        "left": "0in",
        "top": "0in",
        "right": "0in",
        "bottom": "0in"
    },
    "rotation": "None" // Control the allowed rotation per product
}
```

Important: Notice the Job 'id' ***000123*** from Step 1 is being used in the URL.

Important: If Phoenix is running on Windows OS, a backslash ("\") in the path requires an escape character ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Tip:

As an alternative to creating products one-by-one directly with the API, you can create several products in one shot by importing a CSV file describing each product using the *CSV import API* endpoint:

```
POST /jobs/000123/products/import/csv
{
    "path": "/Users/tyler/Desktop/phoenixAPI/products-1.csv"
}
```

See lessons for examples on the standard CSV format in Phoenix. Alternatively, you can define your own CSV format, create a corresponding preset in Phoenix, and reference this preset by name using the "preset" field.

Step 3 - Assign Sheet to Job

For the full list of available properties, see *POST Set Layout Sheet* in the API documentation.

If you created an empty job or your job template did not include a sheet, you will need to assign a sheet to the job before running Impose.

```
POST /jobs/000123/layouts/1/sheet
{
  "stock": "14pt Glossy",
  "grade": "300 gsm",
  "name": "36 x 28\" Long"
}
```

Tip: Notice a backslash ("\") in the 'name' property is required to escape the special character (") in the name of the sheet

Step 4 - Assign Press to Job

For the full list of available properties, see *POST Set Layout Press* in the API documentation.

Now, you will need to assign a press to be used before running Impose.

```
POST /jobs/000123/layouts/1/press
{
  "name": "CD 102"
```

```
}
```

Step 5 - Run Impose

For the full list of available properties, see *POST Run Impose Tool* in the API documentation.

Impose All Products

```
POST /jobs/000123/layouts/1/press
{
  "name": "CD 102"
}
```

Impose Specific Products

```
POST /jobs/000123/impose/1
{
  "profiles": ["Default"],
  "products": ["ProductName1","ProductName1","ProductName3"],
  "templates": []
}
```



Tip: Leaving a list property empty ([]) *(for example, 'products')* tells Phoenix to Impose using all available products in the job.

This will cause Phoenix to generate several ganged results for layout 1.



Attention: In addition to the Imposition AI profile, you can specify a subset of products from the job to impose, as well as a subset of templates when using template-based ganging. You can also have Phoenix stop running impose after a certain number of minutes using the "stop-minutes" property.

Step 6 - Get Impose Results

For the full list of available properties, see *GET Impose Results* in the API documentation.

Results will contain information on the quality of each imposed result generated by the Impose tool as well as statistics on each layout. Optionally, you can request thumbnails of the Impose results to display renderings of the layout with artwork, dieline, or layout with randomized colors.

Get Impose Results (simple)

```
GET /jobs/000123/impose/1/results
```

Get Impose Results (advanced)

```
GET /jobs/000123/impose/1/results?thumb=true&thumb-width=200&thumb-height=200&render-
mode=Artwork
```



Tip: See the *GET Impose Results* for a full list of query parameters you can use to control the data that is returned from this call

Step 7 - Apply an Impose Result

For the full list of available properties, see *POST Apply Impose Result* in the API documentation.

To apply an Impose result to the job, do the following:

Apply First Impose Result

```
POST /jobs/000123/impose/1/result/1/apply
```

This will apply the **first** result from the results list to the job.

Apply Third Impose Result

```
POST /jobs/000123/impose/1/result/3/apply
```

This will apply the **third** result from the results list to the job.

Step 8 - Export Layout PDF Print File

After applying the result, you can export the PDF print file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

For the full list of available properties, see *POST Export PDF* in the API documentation.

```
POST /jobs/000123/export/pdf
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_imposed.pdf"
}
```

Important:

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\Phoenix\\jj-label.pdf

Step 9 - Export Layout PDF Cut File

After applying the result, you can export the PDF cut/die file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

For the full list of available properties, see *POST Export PDF* in the API documentation.

```
POST /jobs/000123/export/die/pdf
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_imposed_CUT.pdf"
}
```

Important:

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\PhoenixOutput\\imposed.pdf

Step 10 - Export JSON Report

After applying the result, you can export a JSON Report file. This JSON report file provides all of the details about the imposition plan (# of sheets, costing, overruns, etc...). This report can be used by an external MIS or ERP system to eliminate production data entry.

Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

```
POST /jobs/000123/export/report/json
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123_report.json"
}
```

Step 11 - Export Phoenix Job File

After applying the result, you can save the job (PHX) file. The Phoenix job file is useful for when additional 'manual' steps need to be performed using the Phoenix application.

For example, prepress may need to manually place a special sheet or product mark for the press.

```
POST /jobs/000123/save
{
  "path": "/Users/tyler/Desktop/phoenixAPI/000123.phx"
}
```



Tip: Saving a Phoenix job file is also a good way to visualize results inside of Phoenix when debugging API workflows.

Step 12 - Close/Delete Job

DELETE /jobs/{jobid}

```
DELETE /jobs/000123
```



Important: '{jobid}' is the only required url param when removing/deleting a job. In the above example, the 'jobid' = '000123'

Important: It is best practice to remove/delete the job after tasks are completed to alleviate unnecessary memory consumption by the Phoenix API.

3.2.2.3. Managing Stocks Library

Stocks contain one or more grades which define thickness and/or weight. Each grade in turn contains the lists of sheets and rolls that are available.

Step 1 – Create a New Stock

For this example, we will create a new stock called "Cougar Cover Cream Uncoated" and add three sheet sizes for this stock to the library.

For the full list of available properties, see *POST Add Stocks* in the API documentation.

```
POST /libraries/stocks
  {
    "name": "Cougar Cover Cream Uncoated",
    "description": "Description of stock",
    "notes": "Additional Notes",
    "external-id": "A reference ID to link to external databases",
    "vendor": "Cougar",
    "grades": [
        {
            "caliper": "18pt",
            "name": "130# Cover",
            "weight": "130",
            "weight-units": "Lb",
            "weight-type": "Cover",
            "sheets": [
                {
                    "dimension1": "40in",
                    "dimension2": "28in",
                    "cost": "1670",
                    "cost-units": "Per1000Lb",
                    "grain": "Long"
                },
                {
                    "dimension1": "29in",
                    "dimension2": "20in",
                    "cost": "1660",
                    "cost-units": "Per1000Lb",
                    "grain": "Long"
                },
                {
                    "dimension1": "19in",
                    "dimension2": "13in",
                    "cost": "1660",
                    "cost-units": "Per1000Lb",
                    "grain": "Long"
                }
            ]
        }
    ]
  }
```

Upon success this call returns the URL of the newly created stock which contains the auto-generated ID.

```
RESPONSE
{
    "type": "responseEntity",
    "success": true,
    "status-code": 200,
    "errors": [],
    "warnings": [],
```

```
    "resources": [
        "http://localhost:8022/phoenix/libraries/v2/stocks/704a1cee-46c7-4ba7-be2f-
adc19611d4ea"
    ]
}
```

Step 2 – Add a New Sheet Size

It is common for your business system (MIS or ERP System) or stock inventory management system to add a new sheet size or change the stock pricing for a certain vendor. Let's see how we can update a stock to make Phoenix aware of changes from an external system.

For this example, we will add a new sheet size (40" x 26") to the stock we created above in Step 1 called "Cougar Cover Cream Uncoated".

Below you can see we are passing the stock 'id' (704a1cee-46c7-4ba7-be2f-adc19611d4ea) from the Step 1 response when we initially added the stock (PUT /libraries/v2/stocks/704a1cee-46c7-4ba7-be2f-adc19611d4ea). When updating the stock, pass the most recent information from the business system to update the stock. In our case, you can see we added a new sheet size in the 'sheets' list (40" x 26").

For the full list of available properties, see *PUT Stocks* in the API documentation.

```
PUT /libraries/v2/stocks/704a1cee-46c7-4ba7-be2f-adc19611d4ea
{
  "name": "Cougar Cover Cream Uncoated",
  "description": "Description of stock",
  "notes": "Additional Notes",
  "external-id": "A reference ID to link to external databases",
  "vendor": "Cougar",
  "grades": [
      {
          "caliper": "18pt",
          "name": "130# Cover",
          "weight": "130",
          "weight-units": "Lb",
          "weight-type": "Cover",
          "sheets": [
              {
                  "dimension1": "40in",
                  "dimension2": "28in",
                  "cost": "1670",
                  "cost-units": "Per1000Lb",
                  "grain": "Long"
              },
              {
                  "dimension1": "29in",
                  "dimension2": "20in",
                  "cost": "1660",
                  "cost-units": "Per1000Lb",
                  "grain": "Long"
              },
              {
                  "dimension1": "19in",
                  "dimension2": "13in",
                  "cost": "1660",
                  "cost-units": "Per1000Lb",
                  "grain": "Long"
              },
              {
                  "dimension1": "40in",
                  "dimension2": "26in",
                  "cost": "1660",
                  "cost-units": "Per1000Lb",
                  "grain": "Long"
              }
          ]
      }
  ]
  }
```

Step 3 – Remove a Stock from Library



Note: ## Note you use the stock ID returned from step 1 to refer to the stock and grade in the URL.

For the full list of available properties, see *DELETE Stocks* in the API documentation.

```
DELETE /libraries/v2/stocks/704a1cee-46c7-4ba7-be2f-adc19611d4ea
```

3.2.2.4. Tiling Graphics Example

In this tiling example, we are asking Phoenix to auto-generate horizontal tiles that will be less than or equal to the maximum width of our roll material (60") so that the resulting print files will fit properly on the roll material. In the example below, we will use the API to generate the horizontal tiles, while setting the vertical tiling to None *(typical use-case from our roll-based printers)*.

Step 1 - Create new Project

Create a new Phoenix project by posting an id to the endpoint.

You will use the ID in the upcoming calls to reference back to your project when adding products, nesting, and exporting.

```
POST /jobs
{
     "id":"Project Name"
}
```

"id" is the only required property when creating a new project. Other properties can be defined as well. See API Swagger documentation (http://localhost:8022/) Method: POST

Step 2 – Add a tiled product to the job

For each tiled product, create an associated product in the Phoenix project. Specify the width, height, artwork path, and tiling settings of the product. You can set different tiling setups for horizontal and vertical tiling. In our example, we are asking Phoenix to autogenerate tiles that are less than or equal to the maximum width of our roll material (60") and setting the vertical scale to None (typical use-case from our roll-based printers)

```
POST /jobs/{projectid}/products
{
"name": "Tiled Product 1",
"type": "Tiled",
"ordered": "1",
"stock": "Roll",
"width": "90in",
"height": "70in",
"rotation": "Orthogonal",
"bleed-type": "Margins",
"bleed-margins": {
    "bottom": ".125in",
    "left": ".125in",
    "right": ".125in",
    "top": ".125in"
},
"min-overruns": "0",
"max-overruns": "0",
"marks": [],
"tiling": {
    "type": "StandardTiling",
    "start": "Top Left",
```

```
    "order": "Snaking Horizontal",
    "horizontal-rule": {
        "type": "FixedSize",
        "size": 4320
    },
    "horizontal-method": {
        "type": "Overlap",
        "overlap-rule": "Top",
        "overlap": 72
    }
},
"front-inks": ["C","M","Y","K"],
"back-inks": ["C","M","Y","K"]
}
```



Tip: It's good to point out the tiles entity (tile size & tile overlap values) uses points (1 inch == 72 points).

When creating tiled products, you can specify a specific number of tiles and Phoenix will automatically compute the tile sizes.

You can also pass a customized list of tiles for Phoenix to use when generating tiles. For example, you can pass the X,Y cordinates to precisely define the tiles that Phoenix will produce.

Step 3 – Run Plan

After all of the products have been successfully added to the job, run 'Plan' by specifying the presses, stocks, and defining the settings to be used for the Plan tool. Keep in mind this endpoint is asynchronous.

The Phoenix Plan endpoint will run the Plan algorithm searching all legal combinations of devices and sheet sizes until either all permuations are exhausted, a maximum specified amount of time has lapsed (use the "stop-minutes" property to define the max amount of time to run plan), or a manual stop occurs by using to the '/jobs/{projectid}/plan/stop' endpoint.

```
POST /jobs/{{projectId}}/plan/start
{
 "presses": [
  "HP Latex 3100"
 ],
"profiles-inline": [
    {
        "name": "Roll Nesting",
        "strategies": {
            "horizontal-cut": "true",
            "vertical-cut": "false",
            "die-table-cut": "false",
            "free-nesting": "false",
            "grid-nesting": "false",
            "strip-nesting": "false",
            "horizontal-strip": "false",
            "vertical-strip": "false",
            "templates": "false"
        },
        "strip-options": {
            "strip-rule": "None",
            "template-rule": "None",
            "alignment": "TopLeft",
            "gutter": "0mm",
            "gutter-rule": "Always"
        },
        "layout-options": {
            "sheet-fill": "Min",
            "allow-bleed-in-gripper": "false",
            "user-derived-sheets": "false",
            "ordered-placement": {
                "favor-ordered-placement": "true",
                "start-corner": "BottomLeft",
                "order-method": "HorizontalSnake"
```

```
            }
        },
        "plan-options": {
            "plan-mode": "Sequential",
            "allow-product-spanning": "true"
        }
    }
],
"templates": [
]
}
```

Step 4 – Get Plan status

```
GET /jobs/{{projectId}}/plan/status
```

Due to the ASYNC nature of the Plan tool, it may be required to check the current status of Plan. The status will let you know the current 'state' of the Plan algorithm in real-time. You can see how long plan has been running as well as view errors or warnings.

By creating a loop, you can continue asking for the status of Plan to quickly understand the current lowest cost result, lowest waste result, and the lowest number of layouts in a result.

Step 5b. – Stop plan tool if currently running (if needed)

To manually STOP the Plan algorithm in a specific Phoenix job, simply call this endpoint to STOP Plan at its current state.

```
/jobs/{{projectId}}/plan/stop
```

Step 5a. – Get list of most recent results

```
Method: GET
/jobs/{{projectId}}/plan/results?
limit=5&start=1&sorting=Cost&layouts=true&thumb=true&plan-thumb=true&thumb-
width=200&thumb-height=200&render-mode=Artwork
```

Results will contain information on the quality of each plan generated by Plan as well as statistics on each layout within the plan.

You can limit the results, sort results, and ask for thumbnails of the results to display in your application for the end-user.

See the Live Documentation for a full list of query parameters you can use to control the data that is returned from this call.

Query Params

Param	value
limit	5
start	1
sorting	Cost
layouts	true
thumb	true
plan-thumb	true
thumb-width	200

Param	value
thumb-height	200
render-mode	Artwork

Step 6 – Apply a Plan result

After determining which Plan result you would like to use, simply 'apply' the specific Plan result to the job by doing the following:

```
POST /jobs/{{projectId}}/plan/results/1/apply
```

This will apply the *first result* from the Plan results list of the job. Before applying a result, use sorting params in the GET request to determine the best result to apply.

The first result is not always the "best" result, it is important to iterate through the results to apply the result that fits your need.

To apply the third Plan result from the Plan results list, make a POST call to the endpoint POST /jobs//plan/results/3/apply Method: POST

```
{{baseUrl}}/jobs/01234567/plan/results/1/apply
```

Step 7 – Get all products of current project

```
GET /jobs/{{projectId}}/products?thumb=false&thumb-width=200&thumb-height=200&render-mode=Colors
```

After applying the Plan result, you can GET the products in the job to pull information about the product such as number of times the product is placed on the layout and the layout index (if multiple layouts are created by Plan) for which the product is imposed on.

See the Live Documentation for a full list of query parameters you can use to control the data that is returned from this call.

Query Params

Param	value
thumb	false
thumb-width	200
thumb-height	200
render-mode	Colors

Step 8 – Export the layout PDF print file

After applying the Plan result, you can export the PDF print file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

```
POST phoenix/jobs/{{projectId}}/export/pdf
{
  "path": "D:\\Users\\tyler\\Desktop\\PhoenixDebug\\{{projectId}}_PRINT.pdf"
}
```

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\PhoenixOutput\\imposed.pdf

Step 9 – Export the layout PDF Cut file

After applying the Plan result, you can export the PDF cut file. Keep in mind the 'path' property is the full unc path which needs to be accessible by the Phoenix computer.

```
POST phoenix/jobs/{{projectId}}/export/die/pdf
{
  "path": "D:\\Users\\tyler\\Desktop\\PhoenixDebug\\{{projectId}}_CUT.pdf"
}
```

When using a backslash ("\") in the path, don't forget to escape the backslash character with a backslash ("\\"). For example: C:\\Users\\tyler\\Desktop\\PhoenixOutput\\imposed.pdf Method: POST

Step 10 – Export Phoenix Project File

From here you can save the project (PHX) file.

```
POST /jobs/{{projectId}}/save
{
  "path": "D:\\Users\\tyler\\Desktop\\PhoenixDebug\\{{projectId}}.phx"
}
```

Step 11 – Export Tiling Installation Report

Phoenix will auto-generate a tiling report PDF for installation purposes. This can be used for installers to know the order/sequence of the tiles that have been shipped.

```
POST /jobs/{{projectId}}/save
{
  "path": "D:\\Users\\tyler\\Desktop\\PhoenixDebug\\{{projectId}}_InstallReport.pdf"
}
```

Step 12 – Close the Phoenix job

```
DELETE /jobs/{{projectId}}
```

"{projectId}" is the only required url param when removing/deleting a job.

It is best practice to remove/delete the job after tasks are completed to alleviate unnecessary memory consumption by the Phoenix API.

3.2.3. REST API Live Docs (Open API)

The REST API Live Docs (Open API) can be found *here*

3.3. Hot Folders

Hot Folders automation allows you to drive Phoenix without human interaction using input and output folders. A total of 35 actions are available, supporting several workflows in Phoenix

including die template, artwork imposition and the powerful Imposition AI tools: Impose, Populate, Optimize, and Plan. In addition, all export and report formats found in Phoenix are supported.

Hot folders are driven by XML files. In addition, scripting is available using a pre-defined JavaScript interface to support non-XML inputs (PDF, CSV, etc), custom logic, notifications for success and error cases, and much more.

Real-time activity for each hot folder can be monitored with Hot Folder View. This view displays a list of log messages detailing all actions that have taken place as well as an overview of all successful and failed jobs. Search filtering is available to find jobs with specific IDs, log entries related to specific actions, and more

3.3.1. Configuring Hot Folders

Hot folders are created, edited and removed in the Automate Panel. To access the Automate Panel, go to the Windows menu and select "Automate". The Automate Panel shows all hot folders you have created and shows status, processed task and error counts.

To create a new hot folder, click on the dropdown icon in the upper-left corner of the Automate Panel and select "New Hot Folder..." from the menu. For detailed info on the parameters for setting up a hot folder, see the *Automate* on page 179 section of the User Guide.

To edit hot folder settings, the hot folder must first be stopped. Next, right click on the hot folder in the Automate Panel and select "Edit...". This will launch the Hot Folder Dialog where changes can be made to any parameter of the hot folder.

If you made changes to the Actions XML or Script file and want to reload them, you can do so by editing the hot folder and re-loading. Alternatively, you can just right click on the hot folder in the Automate Panel and select "Reload Actions/Script" which will reload the files in one step.

Hot Folder View

Overview: For each hot folder you can get a real-time activity view by entering Hot Folder View. To enter Hot Folder View, double click on the hot folder in the Automate Panel or right click on the hot folder and select "Hot Folder View".

Hot Folder View is opened in the Artboard as a separate tab. This means you can open multiple Hot Folder Views simultaneously and switch between them and active jobs by using the Artboard tabs.

Main Log: Within Hot Folder View, the main list of log entries takes up the right side of the view. Logs are updated in real time. Log entries containing paths are hyperlinked to quickly open the file. This is especially useful for export or report actions and the Save Job action where clicking on the saved job path will open the job directly in Phoenix.

Search: Above the log table is a Search text box. Entering text into the Search box and pressing enter will filter the list of log entries to those entries containing the search text. To clear search and view all log entries again, click the 'X' icon on the far-right side of the Search text box.

Tasks List: In the upper left panel of Hot Folder View is the Tasks List. This is a high-level view of the tasks that completed with success or errors. Double clicking on a task in this list will filter the log entries to logs generated by this task.

Actions List: In the lower left panel of Hot Folder View is a list of all actions in the Hot Folder. Double clicking on an action in this list will filter the log entries to logs related to the given action.

Starting/Stopping Hot Folders

To start or stop a hot folder, right click on the hot folder in the Automate Panel and select "Start" or "Stop" respectively. You can also click on the start or stop icons in the upper-left corner of Hot Folder View for the given hot folder. For starting or stopping all hot folders, click on the dropdown icon in the upper-left corner of the Automate Panel and select "Start All" or "Stop All" respectively.

3.3.2. How Hot Folders Work in Phoenix

There are two related concepts at the heart of hot folders: **actions** and **resources**.

Actions define what a hot folder does. **Actions** are described in an Actions XML file that is associated with the hot folder at setup time. This means the same list of actions is performed for each task coming through the hot folder.



Note: For the list of available actions, please see *Actions* on page 443

Resources define the inputs and outputs of the actions. A Resources XML file is dropped into the hot folder to kick off new work when the hot folder is running. This file can contain job ID, paths of file(s) to import, presses, marks, export paths, preset names and more. Resources have a one-to-one relationship to the actions defined in the hot folder Actions XML file. Alternatively, resources can be built up programmatically using the scripting interface to support virtually any format as input to the hot folder.

For each action, there is a corresponding resource. In XML, the corresponding resource element for a given action always appends "-resource" to the action element name.

For example, in the Create Job action, the XML element name for the action is "<create-job>". The corresponding resource element name is "<create-job-resource>".

3.3.3. Defining Resources

Resources for actions can be specified a number of different ways:

Defined entirely in the Resources XML coming into the hot folder

For Import Product CSV action, the corresponding XML will look something like this:

Actions XML:

```
<import-product-csv id="4" />
```

Resources XML:

```
<import-product-csv-resource idref="4">
    <preset>MIS X Preset</preset>
    <path>/Users/user1/products.csv</path>
</import-product-csv-resource>
```

Partially defined in the Actions XML file

This is useful when certain parameter(s) of an action's resource are static and others are dynamic. For example, if the same preset is always used in our Import Product CSV example but the input

path changes, the corresponding XML can look something like this to avoid always specifying preset name in the Resources XML file:

Actions XML:

```
<import-product-csv id="4">
    <import-product-csv-resource>
        <preset>MIS X Preset</preset>
    </import-product-csv-resource>
</import-product-csv>
```

Resources XML:

```
<import-product-csv-resource idref="4">
    <path>/Users/user1/products.csv</path>
</import-product-csv-resource>
```

Wholly defined in the Actions XML file itself

This is useful for actions that do not change parameters from job to job. For example if you are always using the same press, "B1 Press" on every job in the hot folder you can define the press in the Actions XML. At that point you do not need a corresponding resource in the Resources XML.

Actions XML:

```
<set-press id="2">
    <set-press-resource>
        <name>B1 Press</name>
    </set-press-resource>
</set-press>
```

Wholly or partially defined in Javascript code.

Using the scripting interface of hot folders, you can build up the list of resources programmatically, giving you more dynamic control and the ability to support file formats other than Resources XML such as PDF/AI/TIFF, CSV, etc. The returned list of resources is merged with any resources defined in the Actions XML in the same way as using the Resources XML directly, so only dynamic parameters need to be defined in your scripts.

```
// Create list of resources for this task
var resources = [];
var createJob = new CreateJobResource(1);
createJob.id = filename;
createJob.notes = "Hot Folder " + date;resources.push(createJob);
…
return resources;
```

3.3.3.1. Combining Resources

When an action's resource is defined in both the Actions XML and in the incoming Resources XML, the resource is combined. In the example B) in the previous section, the hot folder will take the preset "MIS X Preset" defined in the Actions XML and the path from the Resources XML and perform the import action with both these parameters.

In cases where the same parameter is defined in the Actions XML and the incoming Resources XML, the Resources XML value is used. This is useful if you want to define default values in the Actions XML that can be optionally overridden on-the-fly in the Resources XML file.

3.3.3.2. Mapping Resources to Actions

Since each action has a unique resource type, resources defined in incoming Resources XML files are simply mapped to the corresponding action in the Actions XML by default.

On top of this, you can optionally define IDs to correlate actions and resources. While not required, it is recommended to use IDs since mapping is explicit. Also, several actions can be defined more than once in an Actions XML file (e.g. Apply Mark action) so using IDs removes ambiguity in the mapping process.

For ID mapping, you start by assigning unique ID numbers to the actions you define in the Actions XML. Each action XML element has an optional "id" attribute for this purpose:

```
<create-job id="1">
...
```

Each resource XML element has an optional "idref" attribute that refers to the corresponding action's ID.

```
<create-job-resource idref="1">
…
```



Note: For resources defined with the action in the Actions XML file, the idref attribute is ignored since the resource is always associated with its parent action in that case.

3.3.4. Actions XML Format

Actions XML file is a standards compliant XML 1.0 file. When not specified, the default character set is assumed to be UTF-8. Please refer to the Actions XML schema file included with this documentation for the formal definition of the Actions XML format.



Note: For the list of available actions, please see *Actions* on page 443

All Actions XML files have the following structure where "action1" through "actionN" elements are replaced with valid actions defined in Section 4 below:

```
<?xml version="1.0" encoding="UTF-8"?>
<phoenix-actions version="1.0">
    <action1 id="1">...</action1>
    ...
    <actionN id="N">...</actionN>
</phoenix-actions>
```

Action Order: When automating jobs, actions are run in order from top to bottom. The first action in the Actions XML file must always be the Create Job action, i.e. <\create-job>.

File Type: The input file type in hot folders is an XML resource file by default, but you can configure the hot folder to expect a different format such as PDF or CSV. Most often this is used

in conjunction with scripting to convert incoming files to a list of resources. See the Scripting section for more details. In these scenarios, you need to add the "file-type" attribute to the < \phoenix-actions> and specify the file extension of the input file. For example, if the incoming file is CSV, the <\phoenix-actions> element will look like this:

```
<phoenix-actions version="1.0" file-type="csv">
```

3.3.5. Resources XML Format

As with Actions, the Resources XML file is a standard XML 1.0 file with default character set of UTF-8. Please refer to the Resources XML schema file included with this documentation for the formal definition of the Resources XML format.

All Resources XML files have the following structure where "action1-resource" through "actionN-resource" elements are replaced with valid resources defined in Section 4 below corresponding to the actions defined in the Actions XML for the given hot folder.

```
<?xml version="1.0" encoding="UTF-8"?>
<phoenix-resources version="1.0">
    <action1-resource idref="1">...</action1-resource>
    ...
    <actionN-resource idref="N">...</actionN-resource>
</phoenix-resources>
```

Output Paths in Resources

Output file paths for job save, export, and report actions can be an absolute path like:

```
<path>/Users/prepress/job-1023/imposed.pdf</path>
```

If an Output Folder has been specified in the hot folder, relative paths are also supported. Relative paths will based off of the Output Folder. For example, if the Output Folder is /Users/prepress and the Export PDF action resource path is:

```
<path>job-1023/imposed.pdf</path>
```

Then the PDF will be exported to the path:

```
/Users/prepress/job-1023/imposed.pdf
```

Library Names in Resources

Library names in resources such as presses or marks are folder based. If the library item being referenced is in a folder or sub-folder, the folders are listed with '/' path separator.

For example, the 'CAL 4C SLUR' mark is in the Calibration folder within the Defaults folder.

In the Apply Mark action resource XML, it's library name would look like this:

```
<apply-mark-resource>
    <name>Defaults/Calibration/CAL 4C SLUR</name>
</apply-mark-resource>  -->
```

3.4. Actions

Below is a list of all actions that can be automated using hot folders and their corresponding resources. All fields are optional unless otherwise indicated in the field description.

3.4.1. Opening/Creating Jobs

A new job can be created or an existing job can be opened in hot folders. One of these actions must be the first action defined in the Actions XML file.

Create Job Action

Description: Creates a new job

XML Element: <create-job>

Resource Format:

```
<create-job-resource><id>Job ID</id> ID of job to create
    <name>Job Name</name> Name of job to create
    <template-path>Path</template-path> Path of PHXT template to create job with
    <contact>Contact</contact> Name of contact person
    <phone>Phone</phone> Phone number of contact person
    <client>Client</client> Client name
    <notes>Notes</notes> Job notes
    <default-bleed>Scalar</default-bleed> Default product bleed offset
    <units>Units</units> Units of job, defaults to preferences
</create-job-resource>
```



Note: Using job templates via the <template-path> element can be a powerful way of creating jobs. Phoenix templates (PHXT) can include everything in a job except artwork. For example, new jobs with imported CAD layouts, resolved bleed overlaps, pre-defined media, properties, marks, etc. can be loaded in this single action using templates.

Open Job Action

Description: Opens an existing job

XML Element: <open-job>

Resource Format:

```
<open-job-resource><path>Path</path> Path of the PHX job to be opened (required)
    <id>ID</id> ID to give to the opened job
</open-job-resource>
```

3.4.2. Adding and Editing Layouts

Add Layout Action

Description: Adds a layout to the job

XML Element: <add-layout>

Resource Format:

```
<add-layout-resource><name>Name</name> Optional layout name, when specified overrides
 default name
</add-layout-resource>
```

Edit Layout Action

Description: Edits properties of an existing layout in the job

XML Element: <edit-layout>

Resource Format:

```
<edit-layout-resource><name>Name</name>Optional layout name, when specified edits the
 current layout name
    <workstyle>Workstyle</workstyle> Workstyle of layout, when specified changes
 current layout workstyle: FlatWork, Sheetwise, or Perfecting
    <run-length>Run length</run-length> Layout run length, when specified overrides
 the current layout run length
</edit-layout-resource>
```

3.4.3. Setting Media

The "Hot Folders" module offers three actions for setting media in a job: Set Press, Set Plate, and Set Sheet.

Set Press Action

Description: Sets the press to use in the job layout

XML Element: <set-press>

Resource Format:

```
<set-press-resource><name>Press Name</name> Name of press in Press Library (required)
</set-press-resource>
```

Note

If the press referenced has default plate and/or sheet defined, the plate or sheet will be added to the layout automatically. This is the same behavior as dragging and dropping the press into a layout within Phoenix.

Set Plate Action

Description: Sets the plate to use in the job layout

XML Element: <set-plate>

Resource Format:

```
<set-plate-resource><name>Plate Name</name> Name of plate in Plates Library (required)
</set-plate-resource>
```

Set Sheet Action

Description: Sets the sheet to use in the job layout

XML Element: <set-sheet>

Resource Format:

```
<set-sheet-resource><stock>Stock Name</stock> Stock name in Stocks Library (required)
    <grade>Grade Name</grade> Grade name within that Stock (required)
    <name>Sheet Name</name> Sheet name within that Grade (required)
</set-sheet-resource
```

Resize Sheet Action

Description: Resizes the current sheet in the job layout

XML Element: <resize-sheet>

Resource Format:

```
<resize-sheet-resource><width>Sheet width</width> New width of current layout sheet
 (required)
    <height>Sheet height</height> New height of current layout sheet (required)
</resize-sheet-resource>
```

3.4.4. Adding Products

There are two actions for adding new products to the job: Add Products and Import Product CSV.

Add Products Action

Description: Adds variable number of products to the job defined in the corresponding resource

XML Element: <add-products>

Resource Format:

```
<add-products-resource><products> (required)
        <product> (required)
          <name>Product Name</name> Name of product to create (required)
          <ordered>Number</ordered> Ordered amount of product
          <stock>Stock Name</stock> Name of stock product is to be printed on
          <grade>Grade Name</grade> Name of grade product is to be printed on
          <grain>Direction</grain> Grain direction: Horizontal, Vertical, None
          <rotation>Rotation</ rotation> Rotation type to allow in product: An,
 Orthogonal, None, or Custom
          <allowed-rotations>Rotations</allowed-rotation> List of custom rotations to
 allow
          <width>Scalar</width> Width of product (empty product or scaling)
          <height>Scalar</height> Height of product (empty product or scaling)
          <artwork>Path</artwork> Path of artwork file to use to create product or
 snap into product if die defined
          <page>Number</page> Page number of artwork file to use forfront of product,
 defaults to page 1
          <back-artwork>Path</back-artwork> Path of artwork file to use for back of
 product
          <back-page>Number</back-page> Page number of artwork file to use forback of
 product, defaults to page 1
          <group>Group Name</group> Group that the product belongs to
          <front-inks> Inks to use for front of product
            <ink>Ink Name</ink> First Ink (required)
            <ink>...</ink> Additional Ink(s)
          </front-inks><back-inks> Inks to use for back of product
            <ink>Ink Name</ink> First Ink (required)
            <ink>...</ink> Additional Ink(s)
          </back-inks><due-date>Date</due-date> Product due date
          <priority>Priority</priority> Optional priority of product 1 being highest
          <dieshape-source>Source</dieshape-source> Dieshape source: CAD,
 ArtworkPaths, ArtworkTrimbox, CustomSize, DieDesignLibrary
```

```
          <cad-file>Path</cad-file> Path of CAD file to use when defining product
based on 1-up design in a CAD file
          <cad-design>Design Name</cad-design> Design name of 1-up CAD design in the
CAD file, defaults to first 1-up in the CAD file when not defined
          <die-design>Design Name</die-design> Design name of 1-up design in the die
designlibrary
          <spacing-type>Type</spacing-type> Spacing Type: Margins, Uniform, Bleed
          <spacing-margin>Scalar</spacing-margin> Single scalar margin when type is
Uniform
          <spacing-margins> Spacing margins when type is Margins
            <left>Scalar</left> Left spacing margin
            <top>Scalar</top> Top spacing margin
            <right>Scalar</right> Right spacing margin
            <bottom>Scalar</bottom> Bottom spacing margin
          </spacing-margins><bleed-type>Type</bleed-type> Bleed Type: Margins,
Contour, CAD, None
          <bleed-margin>Scalar</bleed-margin> Single scalar margin when type is
Contour
          <bleed-margins> Bleed margins when type is Margins
            <left>Scalar</left> Left bleed margin
            <top>Scalar</top> Top bleed margin
            <right>Scalar</right> Right bleed margin
            <bottom>Scalar</bottom> Bottom bleed margin
          </bleed-margins><offcut-margins> Offcut margins
            <left>Scalar</left> Left offcut margin
            <top>Scalar</top> Top offcut margin
            <right>Scalar</right> Right offcut margin
            <bottom>Scalar</bottom> Bottom offcut margin
          </offcut-margins><min-overruns>Number</min-overruns> Minimum percentage of
overruns
          <max-overruns>Number</max-overruns> Maximum percentage of overruns
          <bundle-size>Number</bundle-size> Product bundle size, i.e. the allowed
multiples of the product that can be produced
          <description>Description</description> Product description
          <notes>Notes</notes> Product notes
          <marks> Optional product marks to apply to this product
            <mark>Mark name</mark> First mark to apply
            <mark>…</mark> Additional marks to apply
          </marks><templates> List of templates to restrict this product to
            <template>Template name</template> First template
            <template>…</ template> Additional templates
          </templates ><autosnap-ink>Ink Name</autosnap-ink> Spot ink name to use for
autosnap in imported artwork
          <back-autosnap-ink>Ink Name</back-autosnap-ink> Spot ink name to use for
autosnap on back of imported artwork
          <autosnap-layer>Layer Name</autosnap-layer> PDF layer name to use for
autosnap in imported artwork
          <back-autosnap-layer>Layer Name</back-autosnap-layer> PDF layer name to use
for autosnap on back of imported artwork
          <cut-ink>Ink Name</cut-ink> Spot ink name to use for cut lines in Imported
artwork (deprecated)
          <crease-ink>Ink Name</crease-ink> Spot ink name to use for crease lines in
imported artwork (deprecated)
          <bleed-ink>Ink Name</bleed-ink> Spot ink name to use for bleed lines in
imported artwork (deprecated)
          <cut-layer>Layer Name</cut-layer> PDF layer name to use for cut lines in
imported artwork (deprecated)
          <crease-layer>Layer Name</crease-layer> PDF layer name to use for crease
lines in imported artwork (deprecated)
          <bleed-layer>Layer Name</bleed-layer> PDF layer name to use for bleed lines
in imported artwork (deprecated)
       </product><product>
         …Additional product(s) to create
       </product></products></add-products-resource>
```



Note: As with product CSV import, one of the following is required to create a product: height/width, artwork, or a die design. If none of these fields are present, the shape of the product cannot be determined and Add Products action will fail.

Import Product CSV Action

Description: Add products from CSV file

XML Element: <import-product-csv>

Resource Format:

```
<import-product-csv-resource><path>Path</path> Path of CSV file (required)
        <preset>Preset Name</preset> Name of preset to import, defaults toStandard
 Preset when not specified
        <base-folder>Folder name</base-folder> Optional base folder to use for
 relative paths
</import-product-csv-resource>
```



Note: For non-standard CSV formats, you will need to create a preset beforehand in the Import Product CSV dialog in Phoenix and use the saved preset name in the <preset> element.

3.4.5. Importing and Placing Dies, and Assigning Artwork

The hot folder feature includes actions for importing and placing CAD die templates into layouts, auto-snapping artwork into dies, and assigning artwork files to products automatically.

Import Die Template Action

Modules: CAD **Description:** Import die template from existing CAD file

XML Element: <import-die-template>

Resource Format:

```
<import-die-template-resource><path>Path</path> Path of CAD file (required)
        <preset>Preset Name</preset> Name of preset to import, defaults to preset
 defined in preferences for given CAD format when not specified
</import-die-template-resource>
```



Note: CAD file format is detected automatically. For PDF-based CAD die templates, the Structural PDF feature included in Phoenix Pro is required.

Place Die Template Action

Modules: CAD **Description:** Place imported die template

XML Element: <place-die-template>

Resource Format:

```
<place-die-template-resource><name>Template Name</name> Name of Template to be placed
        <x>Number</x> X-value of coordinates where template is placed
        <y>Number</y> Y-value of coordinates where template is placed
</place-die-template-resource>
```

Assign Artwork Files Action

Description: Automatically assign artwork files in a given folder to products in the jobs based on file name matching

XML Element: <assign-artwork-files>

Resource Format:

```
<assign-artwork-files-resource><path>Path</path> Path of artwork files (required)
        <include-sub-folders>Boolean</include-sub-folders> Whether to include artwork
 in subfolders
</assign-artwork-files-resource>
```

Autosnap Action

Description: Autosnap variable list of artwork files into specific die locations or products in the job

XML Element: <autosnap>

Resource Format:

```
<autosnap-resource><artworks><artwork><path>Path</path> Path of artwork file
 (required)
            <front-page>Number</front-page> Front page number to snap, defaults to 1
            <back-page>Number</back-page> Number of back page to snap, defaults to
 none meaning no snap to back side
            <cut-ink>Ink Name</cut-ink> Name of spot cut line ink. Automatically
 detected when not specified
            <products> List of product names to snap artwork into
                <product>Name</product> First product name
                <product>...</product> Additional product name(s)
            <products><dies> List of dies in layout to snap artwork into
                <die number="N" layout="L" /> First die to snap artwork into. Die
 number attribute "number" is required. Layout number attribute "layout" is the layout
 that the die is found on and defaults to layout 1
                <die number="..." layout="..." />Additional die(s) to snap artwork
 into
                …
            <dies></artwork><artwork>Additional artworks(s) to snap
            ...
            </artwork></artworks></autosnap-resource>
```



Note: For each <artwork> element, at least one <product> or <die> is needed. You cannot however define both products and dies in the same <artwork> element.

3.4.6. Applying Marks

There are two actions for adding marks to a job in hot folders: Apply Mark and Apply Mark Set. Both actions support all Smart Mark types. Manual Marks are not supported in automation.

Apply Mark Action

Description: Apply a smart mark from the Marks library to the job

XML Element: <apply-mark>

Resource Format:

```
<apply-mark-resource><name>Mark Name</name> Name of mark in Marks Library (required)
</apply-mark-resource>
```

Apply Mark Set Action

Description: Apply a mark set from the Mark Set library to the job

XML Element: <apply-mark-set>

Resource Format:

```
<apply-mark-set-resource><name>Mark Set Name</name> Name of mark set in Mark Set
 Library (required)
</apply-mark-set-resource>
```

Step and Repeat Action

Description: Step and repeat a given product in a layout

XML Element: <step-repeat>

Resource Format:

```
<step-repeat-resource><product-name>Product Name</product-name> Name of product to
 step and repeat (required)
    <x>X position</x> Optional X position to place repeat group in sheet. This value
 is ignored if an auto-fill option is defined in settings in horizontal direction.
    <y>Y position</y> Optional Y position to place repeat group in sheet. This value
 is ignored if an auto-fill option is defined in settings in vertical direction
    <settings> Settings controlling how step and repeat group is generated (required)
        <rows>Number</rows> Number of rows in step and repeat grid when vertical-fill
 is not set or is None
        <columns>Number</columns> Number of columns in step and repeat grid when
 horizontal-fill is not set or is None
        <head-turn>Head turn</head-turn> Head turn rotation to apply on every other
 row and/or column (None, Row, Column, or ColumnRow)
        <initial-rotation>Number</initial-rotation> Initial rotation to apply to
 product when building step and repeat grid
        <horizontal-gap-type>Gap type</horizontal-gap-type> Horizontal gap type
 defining how gap(s) are interpreted. (Center, Edge, or Smart) Default: Edge
        <vertical-gap-type>Gap type</vertical-gap-type> Vertical gap type defining how
 gap(s) are interpreted. (Center, Edge, or Smart) Default: Edge
        <horizontal-gap>Scalar Value</horizontal-gap> Horizontal gap scalar value
 (required)
        <vertical-gap>Scalar value</vertical-gap> Vertical gap scalar value (required)
        <even-horizontal-gap>Scalar value</even-horizontal-gap> Optional even
 horizontal gap scalar value. When set, horizontal-gap is used for odd horizontal gap
 spacing while this gap value is used for even rows
        <even-vertical-gap>Scalar value</even-vertical-gap> Optional even vertical gap
 scalar value. When set, vertical-gap is used for odd vertical gap spacing while this
 gap value is used for even columns
        <stagger>Stagger type</stagger> Type of stagger to apply to rows or columns.
 If not specified no stagger is applied. (None, Horizontal, or Vertical)
        <stagger-amount>Number</stagger-amount> Stagger amount when stagger is not
 None
        <stagger-restart>Number</stagger-restart> Number of rows or columns before
 staggeramount is restarted back to 0. If not defined, stagger value continues to be
 applied to each subsequent row or column indefinitely.
        <horizontal-fill>Fill type</horizontal-fill> Whether to automatically fill the
 sheet as much as possible in the horizontal direction. By default horizontal-fill is
 off (None) in which case the columns field needs to be defined. (None, Pack, Expand,
 or Wrap)
        <vertical-fill>Fill type</vertical fill> Whether to automatically fill the
 sheet as much as possible in the vertical direction. By default horizontal-fill is
 off (None) in which case the rows field needs to be defined
        <sheet-margins> When specified, these margins are applied to the sheet to
 define the area to be used for auto fill. If not set the current sheet content
 margins are used.
            <left>Scalar</left> Left sheet margin
            <top>Scalar</top> Top sheet margin
            <right>Scalar</right> Right sheet margin
            <bottom>Scalar</bottom> Bottom sheet margin
        </sheet-margins><bleed-offset>Scalar</bleed-offset> When set, a bleed
 offset is applied to each in the step and repeat group and rectangular bleeds are
 automatically resolved. If not set, product bleed masks are used.
```

```
    </settings></step-repeat-resource>
```

3.4.7. Imposition AI

All four Imposition AI tools in Phoenix are available as hot folder actions when the Imposition AI module is included in your license.

Impose Action

Modules: Imposition AI **Description:** Run Impose tool on the job with selected products and profile and apply the most cost-efficient result automatically.

XML Element: <impose>

Resource Format:

```
<impose-resource><products> Products to include, when not specified all products in
 the job are included
        <product>Product Name</product> First Product
        <product>...</product> Additional product(s)
    </products><profiles><profile>Profile Name</profile> Profile to use, when not
 specified Default profile is used
    </profiles><templates> Templates to use, when not specified all templates matching
 products in the job and Templates library are included
        <template>Template Name</ template > First template
        <template >...</template> Additional template(s)
    </templates ><stop-minutes>Number</stop-minutes> Max time to allow Impose to run
 in minutes
</impose-resource>
```

Populate Action

Modules: Imposition AI **Description:** Run Populate tool on the job with selected products and profile, and apply the first result automatically.

XML Element: <populate>

Resource Format:

```
<populate-resource><products> Products to include, when not specified all products in
 the job are included
        <product>Product Name</product> First Product
        <product>...</product> Additional product(s)
    </products><profiles><profile>Profile Name</profile> Profile to use, when not
 specified Default profile is used
    </profiles><stop-minutes>Number</stop-minutes> Max time to allow Populate to run
 in minutes
</populate-resource>
```

Optimize Action

Modules: Imposition AI **Description:** Run Optimize tool across the given sheet and press combinations and apply the most cost-effective layout automatically to the job.

XML Element: <optimize>

Resource Format:

```
<optimize-resource><products> Products to include, when not specified all products in
 the job are included
        <product> Product Name</product>First Product
        <product>...</product> Additional product(s)
```

```
    </products><profiles><profile>Profile Name</profile> Profile to use, when not
 specified Default profile is used
    </profiles><presses> Presses to use from Press library, when not specified all
 presses in library are used
        <press>Press Name</press> Name of first press
        <press>...</press> Name of additional press(es)
        ...
    </presses><sheets> Sheets to use, when not specified all sheets in all product
 stocks are used
        <sheet> First sheet
            <stock>Stock Name</stock> Name of stock to use (required)
            <grade>Grade Name</grade> Name of grade within that Stock
            <name>Sheet Name</name> Name of sheet within that Grade (required)
        </sheet><sheet> Additional sheet(s)
        …
        </sheet></sheets><rolls> Rolls to use, when not specified all rolls in all
 product stocks are used
        <roll> First roll
            <stock>Stock Name</stock> Name of stock to use (required)
            <grade>Grade Name</grade> Name of grade within that Stock
            <name>Sheet Name</name> Name of roll within that Grade (required)
        </roll><roll>Additional roll(s)
        …
        </roll></rolls><templates> Templates to use, when not specified all templates
 matching products in the job and Templates library are included
        <template>Template Name</template> First template
        <template>...</template> Additional template(s)
    </templates><stop-minutes>Number</stop-minutes> Max time to allow Optimize to run
 in minutes
</optimize-resource>
```

Plan Action

Modules: Imposition AI **Description:** Run Plan tool across the given sheet and press combinations and apply the most cost-effective plan automatically to the job.

XML Element: <plan>

Resource Format:

```
<plan-resource><products> Products to include when running Optimize, when not
 specified all products in the job are included
        <product>Product Name</product> First Product
        <product>...</product> Additional product(s)
    </products><profiles><profile>Profile Name</profile> Profile to use when running
 Optimize, when not specified Default profile is used
    </profiles><presses> Presses to use from Press library, when not specified all
 presses in library are used
        <press>Press Name</press> Name of first press
        <press>...</press> Name of additional press(es)
        ...
    </presses><sheets> Sheets to use, when not specified all sheets in all product
 stocks are used
        <sheet> First sheet
            <stock>Stock Name</stock> Name of stock to use (required)
            <grade>Grade Name</grade> Name of grade within that Stock
            <name>Sheet Name</name> Name of sheet within that Grade (required)
        </sheet><sheet> Additional sheet(s)
            …
        </sheet></sheets><rolls> Rolls to use, when not specified all rolls in all
 product stocks are used
        <roll> First roll
            <stock>Stock Name</stock> Name of stock to use (required)
            <grade>Grade Name</grade> Name of grade within that Stock (required)
            <name>Sheet Name</name> Name of roll within that Grade (required)
        </roll><roll> Additional roll(s)
            …
        </roll></rolls><templates> Templates to use, when not specified all templates
 matching products in the job and Templates library are included
        <template>Template Name</template> First template
        <template >...</template> Additional template(s)
    </templates ><stop-minutes>Number</stop-minutes> Max time to allow Plan to run in
 minutes
```

```
</plan-resource>
```

3.4.8. Saving and Exporting Jobs

Save Job Action

Description: Save current job to a given path

XML Element: <save-job>

Resource Format:

```
<save-job-resource>
    <path>Path</path> Path to save job to (required)
    <embed-artwork>Boolean</embed-artwork> Whether to embed artwork files into the
 saved job (PHX), defaults to preferences
</save-job-resource>
```

Save Job Template Action

Description: Save current job as a template to a given path

XML Element: <save-job-template>

Resource Format:

```
<save-job-template-resource>
    <path>Path</path> Path to save template to (required)
</save-job-template-resource>
```

Export PDF Action

Description: Export imposed PDF

XML Element: <export-pdf>

Resource Format:

```
<export-pdf-resource>
    <path>Path</path> Path to save imposed PDF to (required)
    <preset>Preset Name</preset> Name of PDF Export Preset to use, defaults to Factory
 Default PDF Export
</export-pdf-resource>
```

Export JDF Action

Description: Export absolute path, relative path, or MIME JDF depending on JDF Export Preset used.

XML Element: <export-jdf>

Resource Format:

```
<export-jdf-resource>
    <path>Path</path> Path to save imposed JDF to (required)
    <preset>Preset Name</preset> Name of JDF Export Preset to use, defaults to Factory
 Default JDF Export
</export-jdf-resource>
```

Export Vector Separation Action

Description: Export imposed vector separation file

XML Element: <export-vector-separation>

Resource Format:

```
<export-vector-separation-resource>
    <path>Path</path> Path to save separation PDF to (required)
    <preset>Preset Name</preset> Name of Export Vector Separation Preset to use
 (required)
</export-vector-separation-resource>
```

Export Cover Sheet Action

Description: Export Cover Sheet PDF

XML Element: <export-cover-sheet>

Resource Format:

```
<export-cover-sheet-resource>
    <path>Path</path> Path to save cover sheet to (required)
    <preset>Preset Name</preset> Name of PDF Export Preset to use, defaults to Factory
 Default PDF Export
</export-cover-sheet-resource>
```

3.4.9. Exporting Die Layouts

The hot folders feature supports four actions for exporting jobs layouts as dies or cutting data for post-press: Export CFF2 Layout, Export PDF Layout, and Export Cutting JDF.

Export CFF2 Layout Action

Description: Export job layout in CFF2 CAD layout format

XML Element: <export-cff2-layout>

Resource Format:

```
<export-cff2-layout-resource>
    <path>Path</path> Path to save CFF2 layout file to (required)
    <preset>Preset Name</preset> Name of CFF2 Export Preset to use, defaults to CF2
 Default Preset
</export-cff2-layout-resource>
```

Export PDF Layout Action

Description: Export job layout die lines as PDF file

XML Element: <export-pdf-layout>

Resource Format:

```
<export-pdf-layout-resource>
    <path>Path</path> Path to save PDF Die Layout file (required)
    <preset>Preset Name</preset> Name of PDF Die Layout Preset to use, defaults to PDF
 Default Preset
</export-pdf-layout-resource>
```

Export Cutting JDF Action

Description: Export cutting JDF file, i.e. CIP4 cutting data.

XML Element: <export-cutting-jdf>

Resource Format:

```
<export-cutting-jdf-resource>
    <path>Path</path> Path to save Cutting JDF file to (required)
    <preset>Preset Name</preset> Name of PostScript Die Layout Preset to use, defaults
 to PostScript Default Preset
</export-cutting-jdf-resource>
```

3.4.10. Reports

Hot folder automation supports all three Phoenix report formats: PDF, XML, and JSON. PDF reports are ideal for sharing job estimates with colleagues or clients, while text-based XML and JSON formats are designed to pass job and product information back to the MIS and/or workflow system.

Export PDF Report Action

Description: Export PDF job report

XML Element: <export-pdf-report>

Resource Format:

```
<export-pdf-report-resource>
    <path>Path</path> Path to save PDF report to (required)
    <preset>Preset Name</preset> Name of PDF job report preset to use, defaults to PDF
 Report Default Preset
</export-pdf-report-resource>
```

Export XML Report Action

Description: Export XML job report

XML Element: <export-xml-report>

Resource Format:

```
<export-xml-report-resource>
    <path>Path</path> Path to save XML report to (required)
    <preset>Preset Name</preset> Name of XML job report preset to use, defaults to XML
 Report Default Preset
</export-xml-report-resource>
```

Export JSON Report Action

Description: Export JSON job report

XML Element: <export-json-report>

Resource Format:

```
<export-json-report-resource>
    <path>Path</path> Path to save JSON report to (required)
    <preset>Preset Name</preset> Name of JSON job report preset to use, defaults to
 JSON Report Default Preset
```

```
</export-json-report-resource>
```

3.5. Scripting

With scripting, anything is possible.

Phoenix can use scripts in multiple places to automate and empower you to do more than ever:

- Use *scripts in Hotfolders* to take them to the next level
- Use *scripts in Impostion AI* to iterate through layout results
- Use *scripts in Script Marks* to create any mark you can think of
- Use **scripts in file exports** to enable advanced customization of the reports
- Use **Action Scripts** to script the UI

For even more on scripting, our entire scripting library is available for you in the scripting folder in the nav bar on the left.



Note:

GitHub Repo

We've shared some scripting examples and files on our github page! Check out *tilia-phoenix-scripts (opens new window)* as we continue to build out our examples and share ideas and suggestions for things you want to see!

An overview of all classes can be found *here*

3.5.1. HotFolder Scripting

Hotfolders automation includes an optional scripting interface, providing an unprecedented amount of customization during automation. Scripting is done in the popular JavaScript language.

There are several uses for scripting in hot folders. Below are some of the more common examples:

- Support input files with formats other than the standard Resources XML format described in this document. For example, another XML format, CSV spreadsheet, or other text-based format containing information about the job to be automated.
- Waiting for a certain number of input files to come into the hot folder or a certain duration before performing actions.
- Analyzing the results of ganging tools to remove layouts that do not meet certain criteria such as sheet usage or waste and moving products from these layouts back into the input file to be ganged with more incoming files.
- Customized notification when a job has succeeded or failed. Provided utility methods in the scripting environment make it easy to send email alerts or record error details in local files.

- Convert image files to PDFs or breaking up large PDFs into tiles using the PDFUtils utility methods.

3.5.1.1. Scripting Hooks

Hot folder scripting has three entry points that you can implement to add custom behavior to hot folders: onStart(), onSuccess(), and onFail(). All three functions are optional, but at least one of these functions needs to be implemented in a script when it is loaded into a hot folder.

onStart()

Description: Initial hook when a file comes into the hot folder. This function is called before any actions are processed to convert the incoming file into a list of resource objects needed by the actions in the hot folder, perform tiling or image to PDF conversion, delay processing based on a custom trigger event, and more. **Trigger Event:** Called when a file comes into the hot folder with file extension matching the file-type attribute in <phoenix-actions> element, or .xml if file-type is not specified.

Arguments:

- **state** (FolderState): Hot folder state
- **inputs** (InputFile List): List of InputFiles
- **Return Type:** A JavaScript array of resource objects needed by actions. These are the same resource objects that are normally represented in Resources XML files. **Note:** As mentioned in the Actions XML Format section, by default hot folders watch for files with the .xml extension. If the file format you are processing in onStart() does not have a .xml extension you need to specify the expected extension in the Actions XML file in the <phoenix-actions> element attribute called "file-type". For example, if the incoming file in the hot folder is a CSV file with extension .csv, the Actions XML needs to specify the csv extension:

```
<phoenix-actionsversion="1.0"file-type="csv">
```

onSuccess()

Description: Hook called when all actions in the hot folder have completed successfully. This hook is useful for sending notification emails, adding custom logging, moving per-layout export files into folders organized by presses/stocks, moving products in sub-par layouts back into the input folder, and more. **Trigger Event:** All actions in the hot folder have completed successfully for a given task.

Arguments:

- **state** (FolderState) – Hot folder state (see section 3.5.2)
- **inputs** (InputFile List) -List of InputFiles (see section 3.5.3)
- **job** (JobEntity) – Job object representing detailed information about the job that completed. Job entity format is the same as the JSON job report. You can find the formal schema definition in this guide under the Schemas folder. **Return Type:** None

onFail()

Description: Hook called when an error occurred during hot folder processing. This hook is useful for sending notification emails or recording the event by other means. **Trigger Event:** An error occurred during processing for a given task. **Arguments:**

- **state** (FolderState) – Hot folder state (see section 6.2)

- **inputs** (InputFile List) -List of InputFiles (see section 6.3)
- **report** (ErrorReport) – Error report listing errors and warnings that occurred during task processing. Error Report format formal schema definition in this guide under the Schemas folder. **Return Type:** None

3.5.1.2. Classes

FolderState Class

Method	Description	Arguments	Return Type
getName()	Returns the HotFolder name	None	Hotfolder name as a String
getTaskId ()	Method for getting the task ID. Task IDs are automatically generated unique IDs used for tracking and logging.	None	Task Id as a string
getOutputFolder()	Method for getting the output folder	None	Configured output folder path as a string
getData()	Method for retrieving values from the data store for this hot folder. Data store can be used in scripting to record state across scripting hook calls	**key (String)** – the key for the desired value	Data value as a string
setData()	Method for recording values in the data store	**key (String)** – the key to associate with the value **value (String)** - value being added to the map	None
removeData()	Method for removing values from the data store	**key (String)** – the key for the value being removed	None
debug()	Method for adding a debug message to this hot folder's logs. Log messages will appear in Hot Folder View.	**message (String)** – message to be added	None
info()	Method for adding a info message to this hot folder's logs	**message (String)** – message to be added	None
error()	Method for adding a error message to this hot folder's logs	**message (String)** – message to be added	None

InputFile Class

Input file class representing a single input file in a hot folder

Method	Description	Arguments	Return Type
isProcessed()	Method returning whether the file was processed	None	Boolean. Returns true if the file has been processed
getName()	Method gets file name	None	File name as a String
getPath()	Method gets file path	None	File path as a String
getLastModified()	Method gets time stamp of when the file arrived in the input folder	None	Long (Time Stamp)
moveToProcessed()	Method to move an input file to the processed state and corresponding processed folder	None	Boolean, returns true if file is successfully moved
moveToErrors()	Method to move file to Errors Folder	None	Boolean, returns true if file is successfully moved
moveToInput()	Method to move file to Input Folder	None	Boolean, returns true if file is successfully moved

Mail Class

Method	Description	Arguments	Return Type
getHostname()	Gets the Hostname	None	Hostname as a string
setHostname()	Sets the Hostname	**hostname (String)**	None
getSmtpPort()	Gets the SMTP port number	None	SMTP port number as a string
setSmtpPort()	Sets the SMTP port number	**number (Int)** – SMTP port number	None
setAuthentication()	Sets the username and password for authentication	**username (String)** **password (String)**	None
setFrom()	Sets the from address	**address (String)** – From address	None
setSubject()	Sets the email subject	**subject (String)**	None
setMessage()	Sets the email message text	**message (String)**	None
addTo()	Adds a recipient address	**address (String)**	None
addCc()	Adds a Cc address	**address (String)**	None

Method	Description	Arguments	Return Type
addBcc()	Adds a Bcc address	**address (String)**	None
send()	Sends the email	None	None
setUseTls()	Sets the use of Transport Layer Security (TLS)	useTls (Boolean)	None
setUseSsl()	Sets the use of Secure Sockets Layer (SSL)	useSsl (Boolean)	None
getSslSmtpPort()	Gets the SSL SMTP port number	None	SSL SMTP port number as a string
setSslSmtpPort()	Sets the SSL SMTP port number	**Number (Int)** – SSL SMTP port number	None
addHeader()	Adds a header to the email	**name (String)** – Header name **value (String)** – Header value	None

Document Class

Document class representing a PDF document

Method	Description	Arguments	Return Type
pageCount()	The page count of the document	None	Number – The number of pages in the document
page()	Page in the document	**pageNumber (Number)** – page number to return	Page class – Page for the page number specified
pages()	Pages in the document	None	Array of pages
save(String path)	Save the document	**Path (String)** – Path to save document to	None
close()	Close the document	None	None

Page Class

Page class representing a page of PDF document

Method	Description	Arguments	Return Type
getMediaBox()	Gets the mediaBox Rect of the PDF page	None	Rect
setMediaBox()	Sets the mediaBox Rect on the PDF page	mediaBox (Rect)	None
getCropBox()	Gets the cropBox Rect of the PDF page	None	Rect

Method	Description	Arguments	Return Type
setCropBox()	Sets the cropBox Rect on the PDF page	cropBox (Rect)	None
getTrimBox()	Gets the trimBox Rect of the PDF page	None	Rect
setTrimBox()	Sets the trimBox Rect on the PDF page	trimBox (Rect)	None
getBleedBox()	Gets the bleedBox Rect of the PDF page	None	Rect
setBleedBox()	Sets the bleedBox Rect on the PDF page	bleedBox (Rect)	None
getArtBox()	Gets the artBox Rect of the PDF page	None	Rect
setArtBox()	Sets the artBox Rect on the PDF page	artBox (Rect)	None

Rect Class

Input file class representing a single input file in a hot folder

Method	Description	Arguments	Return Type
getX()	Returns the x value of the Rect position	None	Double
setX()	Sets the x value of the Rect position	x (Double)	None
getY()	Returns the y value of the Rect position	None	Double
setY()	Sets the y value of the Rect position	y (Double)	None
getWidth()	Returns the width of the Rect	None	Double
setWidth()	Sets the width of the Rect	width (Double)	None
getHeight()	Returns the height of the Rect	None	Double
setHeight()	Sets the height of the Rect	height (Double)	None

3.5.1.3. Utility Classes

Several utility classes are provided within the scripting environment for moving and parsing files, working work PDFs, sending email notifications and more.

JobUtils

Method	Description	Arguments	Return Type
open()	Opens a Phoenix job (PHX) at the given path and returns the full Job entity for that job	**path (String)** – File path	Job Entity object representing opened job or thrown exception on failure
artworkFiles()	Opens a Phoenix job (PHX) at the given path and returns all original artwork file paths referenced in the job	**path (String)** – File path	**Array (String)** of artwork files path

FileUtils

Method	Description	Arguments	Return Type
tempPath()	Returns the standard system temporary directory		File directory as a string
tempFile()	Creates a temporary file and returns the full path		File path as a string
mkDir()	Create a new local directory with the given path	**Path (String)** File path	Boolean returns true if directory was successfully created
filename()	Retrieves the file name	**path (String)** – File path	File name as string excluding parent folders
basename()	Retrieves the base file name	**path (String)** – File path	Base file name as string
directory()	Retrieves the file's directory	**path (String)** – File path	File directory as a string excluding file name
isDirectory()	Check if path is a directory	**path (String)** – File Path	Boolean returns true if path is a directory
isFile()	Check if path is a file	**path (String)** – File Path	Boolean returns true if path is a File
copyFile()	Copies file from 'source' to 'destination'	**source (String)** – The source file **destination (String)** – The destination of the file being copied	Boolean, returns true on successful copy
moveFile()	Moves 'source' file to 'destination'	**source (String)** – The source file	Boolean, returns true on successful move

Method	Description	Arguments	Return Type
		destination (String) – The destination of the file	
concat()	Appends the file name to the base path	**base path (String)** **filename (String)**	Returns combined base path and file name as a string
text()	Extracts all text from a file into a single string	**path (String)** – File path **encoding (String)** – Optional text encoding, defaults to UTF-8 if omitted	file text as a string
lines()	Extracts all text from a file into a list of strings for each line in the file	**path (String)** – File path **encoding (String)** – Optional text encoding, defaults to UTF-8 if omitted	File text as a list of strings
files()	Lists all files of given types in the specified directory	**directory (String)** – Directory to search in **extensions (String)** – Optional extension of file types to include, defaults to all file types **recurse (Boolean)** – Optional search for files recursively in sub-folders	List of file paths
csv()	Generates a list of string arrays from a CSV file's values with each array representing a row of the CSV file	**path (String)** – Path of CSV file	CSV values as a list of arrays of string cell values
xml()	Reads an XML file into a DOM object	**path (String)** – Path of XML file	DOM Object
find()	Retrieves file with 'filename' in given 'directory' searching recursively into child directories	**directory (String)** – File directory **filename (String)** – File name	Absolute path of the file as a string
delete()	Deletes a file	**path (String)** – Path of file to be deleted	None

MailUtils

Method	Description	Arguments	Return Type
create()	Creates a new email	**hostname (String)** – Server host name **port (Int)** – Port number (optional), defaults to 25	Mail Object

PDFUtils

Method	Description	Arguments	Return Type
Open()	Opens a PDF document	**path (String)** – Path to the PDF document	Document
createFromImage()	Create PDF document from an image	**path (String)** – Image file path	Document
createFromImage()	Create PDF document from an image	**path (String)** – Image file path **width (String)** – Document width in points **height (String)** - Document height in points	Document
createTiles()	Create tiled PDF document	**path (String)** – Path of Document to be tiled **rects (Rects List)** – Tile rects **bleed (String)** – Tile bleed	Document
createTiles()	Create tiled PDF document	**document (String)** – Document to be tiled **rects (Rects List)** – Tile rects **bleed (String)** – Tile bleed	Document
impose()	Impose a multi-page artwork file using a given folding pattern and binding method, saving the resulting PDF file to a given output path with option to separate cover	**artwork (String)** – Input artwork file **foldingPattern (String)** – Name of folding pattern in Folding library to use while imposing artwork pages	None

Method	Description	Arguments	Return Type
		bindingMethod (String) – Name of binding method being used **pageMargins (Margins)** – Sheet margins to add **faceTrim (String)** – Amount of face trim **headTrim (String)** – Amount of head trim **footTrim (String)** – Amount of foot trim **spineSize (String)** – Size of book spine **separateCover (String)** – If set to "true" exports the cover pages of the artwork to a separate file with "-cover" postfix added to output path **output (String)** – Output path to save imposed PDF to	
saveSubSet()	Opens a PDF file at inputPath and saves all the pages between startPage and endPart inclusively to an outputPath as a new PDF	**path (String)**- Path of Document **Name (String)** Output name **Start(Int)** start page **End(Int)** end page	Document

GeomUtils

Method	Description	Arguments	Return Type
rect()	Creates new Rect	None	Rect
rect()	Creates a Rect at position (x,y) of dimensions ('width' X 'height')	**x (Double)** – x value of the Rect **y (Double)** – y value of the Rect **width (Double)** – Rect width	Rect

Method	Description	Arguments	Return Type
		height (Double) – Rect height	

3.5.1.4. Example Hotfolder Scripts

Below you'll find some example scripts and snippets to help you understand how scripting works, as well as help with some common scripting needs

Find a product's custom property

You can access a product's default properties fairly simply, by using product.index or product.name. If you want to access a custom property, however, they are stored in a properties list inside of the product. An easy way to find your property is to loop through the custom properties and return the value if the property name matches the one you're looking for:

```
// Grab first product to find product properties
// required for file naming. Could place this in
// a loop to look through all products

var product = job.products.get(0);

// Loop through all of this product's properties,
// saving StoreNum property values
for (var i=0; i<product.properties.size(); i++) {
    var property = product.properties.get(i);

    if (property.name == "StoreNum"){
        var store = property.value;
    }
}
```

3.5.2. Imposition AI Scripting

Imposition AI provides the option to run scripts when layout results are applied, providing some powerful tools to evaluate layouts, modify them, and access items within the layouts.

3.5.2.1. Example Imposition AI Script

Below you'll find an example script to help you understand how scripting works, as well as help with some common scripting needs. More examples will be added over time, so check back later for more examples. Keep in mind that Tilia Labs does offer solution services for building custom marks, so *reach out to your salesperson* to inquire about scripting today!

Find the layout template, and save it as a product property

This script looks through each layout and finds the template used in the layout. Then it adds the layout name as a custom product property to the first product. The use case for this one is that the user needed to add a custom barcode mark to each layout with the template name. This wasn't easily possible in version 7 so this script solved the problem: After Imposition AI was run, a barcode mark was applied to the layout using the keyword <layout.product.1.LayoutTemplate>.

This script is delivered as is to help share scripting concepts and is not designed to be used in production.

```
/*
 * Tilia Labs Inc.
 * Copyright (c) 2012-*, All Rights Reserved
 * Script author: david@tilialabs.com
 */

var PROPERTY_NAME = "LayoutTemplate";

function run(context) {
  // Get the job we are currently operating on
  var job = context.job;

  // Get the jobs api for performing actions on jobs
  var jobs = context.jobs;
  // Loop over each layout in the job
  var layoutIndex;
  for (layoutIndex = 0; layoutIndex < job.layouts.size(); layoutIndex++) {
    var layout = job.layouts.get(layoutIndex);
    var template = layout.templates.get(0).name

    // Get the list of products placed on this layout
    var products = context.layoutProducts(layout.index);
    if (products != undefined && products != null) {
      // Loop over each layout placed in the layout
      var productIndex;
      var product = products.get(0);
      jobs.setProductProperty(
        job.id,
        product,
        PROPERTY_NAME,
        //SET NEW PRODUCT PROPERTY VALUE BELOW,
        template
      );
    }
  }
}
```

3.5.3. Mark Scripting Example

Below you'll find some example scripts and snippets to help you understand how scripting works, as well as help with some common scripting needs

Find a product's custom property

This script looks through all items in a layout, and finds products in the layout. Then it finds the products location and index property, and draws the index on top of the product. This script is delivered as is to help share scripting concepts and is not designed to be used in production.

```
/*
 * Tilia Labs Inc.
 * Copyright (c) 2012-*, All Rights Reserved
 * Script author: david@tilialabs.com
 *
 * Product Index Mark - 2021-02-05
 *
 * This script looks through all items in a layout, and finds
 * products in the layout. Then it finds the products location
 * and index property, and draws the index on top of the product.
 * This script is delivered as is to help share scripting
 * concepts and is not designed to be used in production.
 *
 */

// Create array to store layout items
var items = [];
```

```
function run(context){
    // find items on the layout
    var products = findProducts(context,context.root)
    for (var i=0;i<items.length;i++) {
        var product = items[i]
        // Set product name
        var productName = product.name
        // Find product location on sheet
        var productX = product.globalRect.left;
        var productY = product.globalRect.bottom;
        // Find product width and height
        var productHeight = getProductHeight(context, productName)
        var productWidth = getProductWidth(context, productName)

        // Find product property
        var productIndex = getProductIndex(context, productName);

        // Create a drawable painter from the mark context
        var painter = new Painter(context.data);
        // Create color to be used in mark
        var ink = new Color(100, 0, 100, 0);
        // Clear the pen so there will be no stroke
        painter.clearPen();
        painter.clearBrush();
        // Set brush (fill) color
        painter.setBrush(ink);
        // Set font and style
        var titleFont = new Font("Times New Roman");
        titleFont.style = "Bold";
        // Set title text and font
        var title = new Text(productIndex);
        title.font = titleFont;
        title.size = 72;
        // Set title location
        title.point = new Point(
            productX,
            productY
        );
        painter.draw(title);
    }
    return true;
}

function findProducts(context,item) {
    // if item is a product, store it in array
    if (item.type === Type.Product) {
  context.log("Found***")
        items.push(item)
    }
    // continue to look through additional items and loop
    // back in to see if there are more product items
    var children = item.children;
    for (var index = 0; index < children.size(); index++) {
      var child = findProducts(children.get(index));
      if (child !== undefined) {
        return;
      }
    }
    return;
  }

function getProductHeight(context, productName) {
    // take product item and see if its name matches
    // a job product. If so, return height
    for(var i=0;i<context.job.products.size();i++) {
        var product = context.job.products.get(i);
        if (product.name == productName) {
            return product.height;
        }
    }
}

function getProductWidth(context, productName) {
    // take product item and see if its name matches
    // a job product. If so, return width
    for(var i=0;i<context.job.products.size();i++) {
```

```
        var product = context.job.products.get(i);
        if (product.name == productName) {
            return product.width;
        }
    }
}

function getProductIndex(context, productName) {
    // take product item and see if its name matches
    // a job product. If so, return product index.
    // this function can be modified to get any product
    // property
    for(var i=0;i<context.job.products.size();i++) {
        var product = context.job.products.get(i);
        if (product.name == productName) {
            return product.index;
        }
    }
}
```

3.6. Phoenix2Switch App

Phoenix automation offers seamless integration with the popular Enfocus Switch workflow solution via the Phoenix2Switch app, available in the Enfocus AppStore. This app provides two modes for automating the Plan Imposition AI tool in Phoenix: through CSV import and directly from artwork files. In both modes, you have full control over all product properties, Plan settings, and export actions through Switch properties.

A full explanation of the Phoenix2Switch app, can be found *here*

3.7. CERM Connector

Phoenix automation includes seamless integration with the popular *CERM MIS System (opens new window)*. In this integration, Phoenix is driven completely by CERM through its user interface. This combination is especially compelling for sheet-fed label ganging.

3.7.1. Requirements

Automation of Phoenix within CERM requires the **Automate** and **Imposition AI** modules in Phoenix. Phoenix version 8.0 or higher is required to work with CERM 7.28 and above.

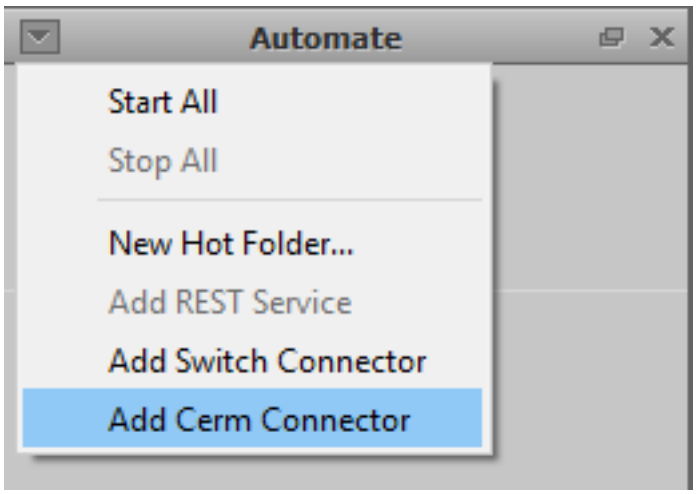
3.7.2. Using the CERM Connector

The steps for getting started are similar to other automation options in Phoenix.

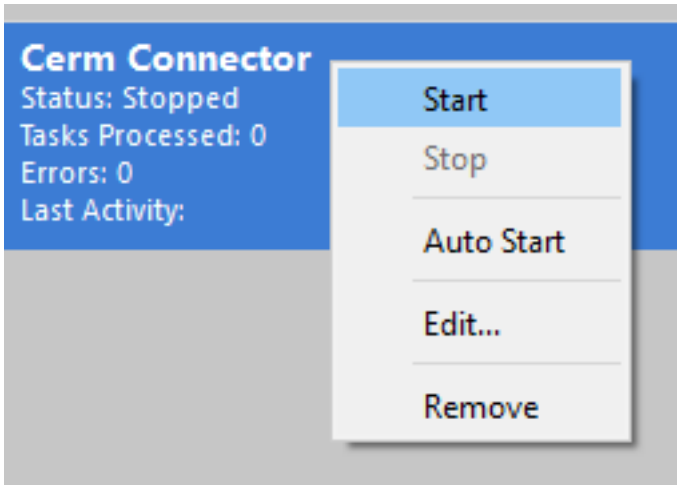
1. **Open the Automate Panel in Phoenix**

   Go to the Windows menu and click on "Automation". The Automation Panel should appear on the left side of the Phoenix window.
2. **Start CERM Connector in Phoenix**

If the Automate panel does not include the CERM Connector, click on the upper left corner of the panel and select "Add CERM Connector" from the dropdown menu.



Right click on the CERM Connector entry in the Automation Panel and click "Start" from the context menu to start the service. CERM MIS can now access Phoenix automation.



Note: If you would like the CERM Connector to start automatically when Phoenix launches, select "Auto Start" from the context menu. This is strongly recommended when you are mostly driving Phoenix from CERM.