

# DeskPack Essentials 20

User Manual

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## 2. About DeskPack Essentials

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The 'DeskPack Essentials for Illustrator' bundle offers essential prepress functionality: adding barcodes, do preflighting, import PDF files, adding white underprint, view your artwork.

It combines the following plug-ins:

- [Data Exchange](#) on page 33 (Free)
- [boostX](#) on page 97
- [Dynamic Barcodes](#) on page 125
- [PDF Import](#) on page 210
- [Preflight](#) on page 218
- [Viewer](#) on page 245
- [White Underprint](#) on page 267



## 3. Data Exchange

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### 3.1. Introduction to Data Exchange

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The Esko **Data Exchange** plug-in for Adobe® Illustrator® combines several plug-ins into one package for easier installation. The combined plug-ins are:

- [The PDF Export Plug-In](#) on page 33
- [The Structural Design Plug-in](#) on page 55
- [The Ink Manager Plug-in](#) on page 43
- [The Page Box Plug-in](#) on page 78
- [Messages](#) on page 86
- [The WebCenter Connector Plug-In](#)

Along with a combined installation, there are new features in the updated plug-ins:

- Support for OPI (Open Press Interface) server mapping in PDF Export
- A combined **Preferences** dialog for PDF Export, and TrimBox/MediaBox that also works with Shuttle and Launch Task in client-server configurations
- The ability to always save (or not save) XMP data in Illustrator documents when you save them.
- Esko Document Setup

#### 3.1.1. Data Exchange Preferences

**Update XMP on Document Save** directly on the **Preferences > Esko** menu controls if the document's XMP data is updated when the document is saved in the .AI format or as Adobe PDF with preserved Illustrator editing capabilities, and is turned on by default. Deselecting this option results in slightly faster document saves

## 3.2. The PDF Export Plug-In

---

### 3.2.1. Introduction

The **PDF Export** plug-in allows you to directly export your Illustrator files to **Normalized PDF** or to **PDF+**, depending on the setting in the **Ink Manager**: see [Normalized PDF or PDF+](#) on page 44

### 3.2.2. Saving a File as Normalized PDF or PDF+

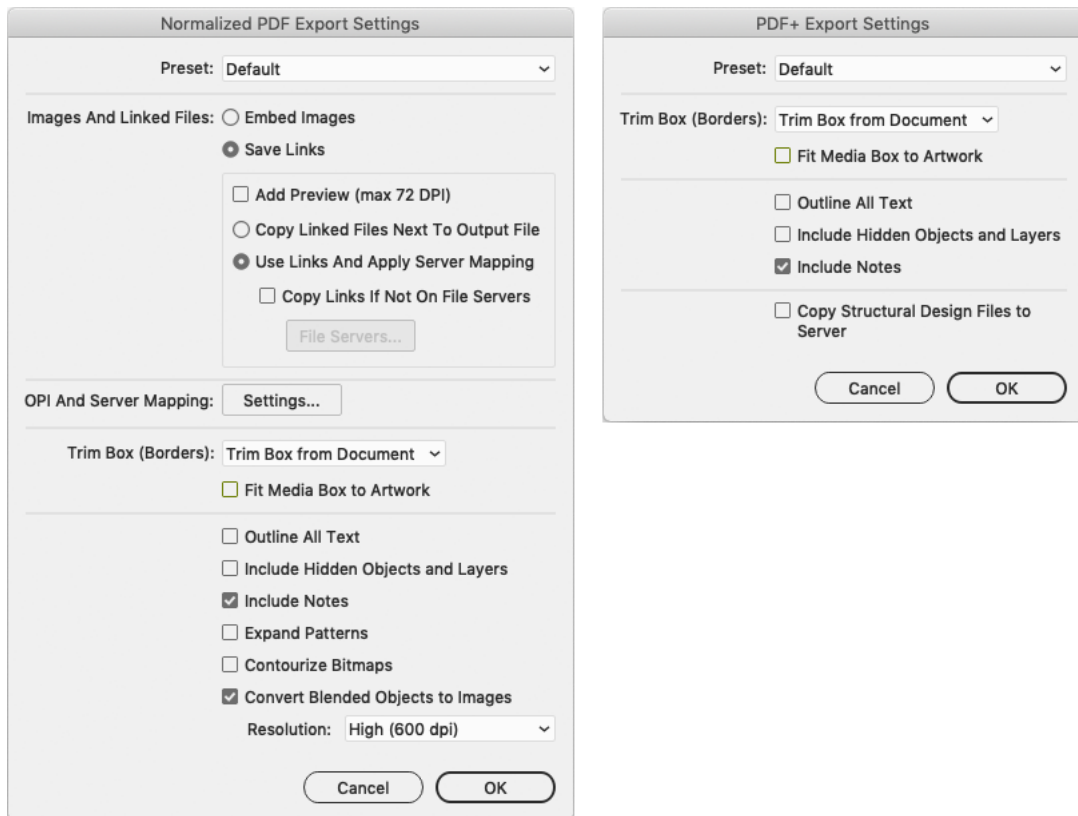
To save your Illustrator file as Normalized PDF or PDF+ using **PDF Export**:

1. Go to **File > Export...**

2. In the dialog that opens, choose your file's name and location, and choose the **Esko PDF (pdf)** format.
3. Click **Export**.
4. In the **PDF Export Settings** dialog that opens, fill in the export settings (see [PDF Export Settings](#) on page 34).
5. Click **OK** to export the file.

### 3.2.3. PDF Export Settings

When exporting your files to Normalized PDF or PDF+ format, you need to set the PDF Export Settings. The settings are different when exporting Normalized PDF (left) or PDF+ (right), and depend on the setting in the Ink Manager. See [Normalized PDF or PDF+](#) on page 44



#### Preset

Using **Presets** you can store and reuse the settings for the PDF Export dialog.

You can save the current settings as a Preset by selecting **Save...** and entering a name. The location for the Presets is defined in the PDF Export Preferences. See [PDF Export Preferences](#) on page 41

You can load a Preset by selecting it in the dropdown.

If you set the Preset to **Default**, the parameters as set in the **PDF Export Preferences** will be used. See [PDF Export Preferences](#) on page 41.

If the current settings are not saved as a setting, the **Preset** dropdown will show "Custom".

### Images and Linked Files (only for Normalized PDF)

1. In the **Images and Linked Files** group, choose to either **Embed Images** in the Normalized PDF, or **Save Links** to the images.

- If you choose to embed the images, you don't have any more preferences to fill in and you can just click **OK**.

**Note:** This doesn't save the images' link information (except for linked ArtiosCAD graphics, see [Linked ArtiosCAD Graphics for Normalized PDF export](#) on page 43).

2. Enable **Add Preview (max 72 DPI)** if you want your Normalized PDF to have a low resolution preview of the linked images.

This preview allows you to view the linked images when opening your file in Acrobat™ for example.

3. Choose where to copy the linked images:

- Choose **Copy Images Next To Output File** to copy them next to the folder in which you will save the Normalized PDF (so other applications like **ArtPro** or **PackEdge** can still open them when the links are broken).
- Choose **Use Links And Apply Server Mapping** to keep the images where they are but update the links (for example if the images are in a shared folder located on a different machine).

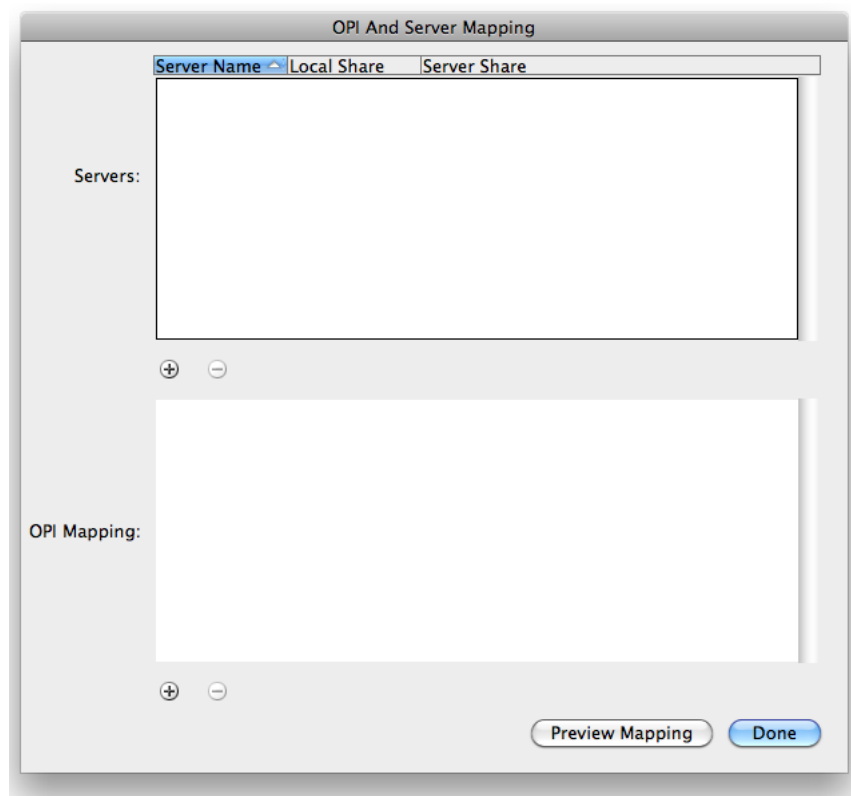
4. When choosing **Use Links And Apply Server Mapping**, fill in a Server Mapping if the share names on the client machine and on the other server do not match.

- a) When checked, **Copy Links If Not On File Servers** verifies if linked images are already on file servers and if they are not, copies them along with the exported Normalized PDF file. Choosing this option also enables the **File Servers...** button where you add the machines that store linked images so that Esko workflow servers can find them.

For more information, see [What is a Server Mapping?](#) and [Adding a Server Mapping](#).

### OPI and Server Mapping (only for Normalized PDF)

When you click the **OPI and Server Mapping Settings** button, either in the **PDF Export Settings** or in the **PDF Export Preferences**, the **OPI and Server Mapping** dialog appears:



**Note:**

This dialog is available only when you have chosen to Save Links in exported Normalized PDF files. When you export a Normalized PDF, OPI Mapping is applied first and then Server Mapping.

**Servers**

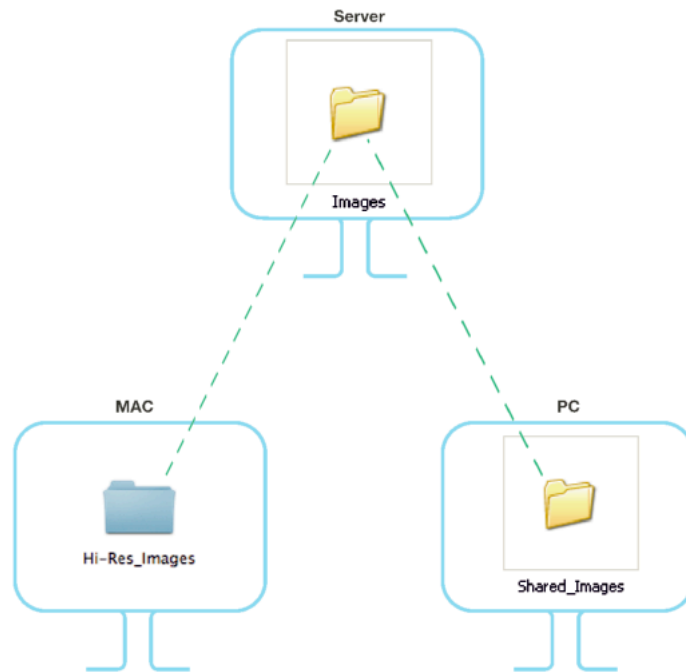
The top pane of the dialog configures **Server Mappings**. You need to use Server Mappings when the Normalized PDF you output:

- has linked images that are located on a different machine (file server),
- will be used on another machine (not your local machine or the file server).

Server Mappings allow you to map the image links from one share name to another automatically on output. This ensures that the links are not broken when the Normalized PDF is used on another machine.

For example:

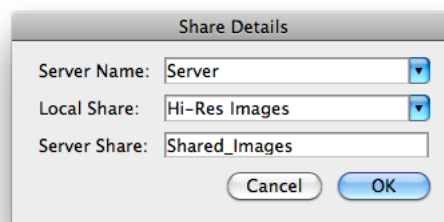
- the linked images are saved on a file server called "Server", in a shared folder called "Images",
- your copy of Illustrator with PDF Export is on a Mac, and the shared folder containing the images is mounted as "Hi-Res\_Images".
- the Normalized PDF you export will be used on a PC, where the shared folder containing the images is mounted as "Shared\_Images".



The link to an image called "My\_Image.psd" is "Server/Hi-Res\_Images/My\_Image.psd" on the Mac, and should be "\\Server\Shared\_Images\My\_Image.psd" on the PC.

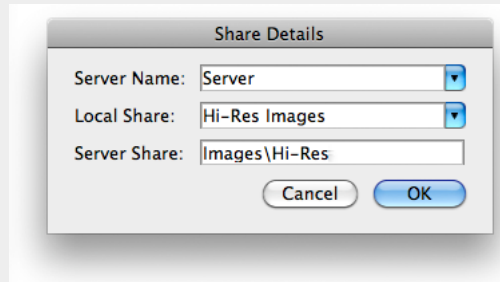
When adding the Server Mapping in the **OPI And Server Mapping** dialog, you should enter the **Share Details** as follows by:

- name of the file server in **Server Name**,
- name of the shared folder containing the images as seen from your local Mac in **Local Share**,
- name of the shared folder containing the images as seen from the other PC in **Server Share**.

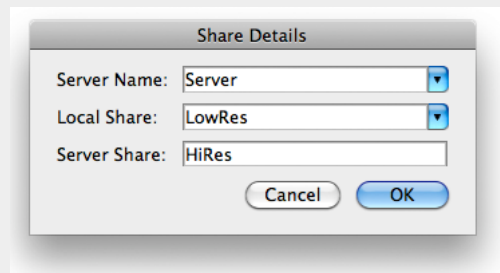


**Note:**

- You can use subfolders in a Server Mapping.

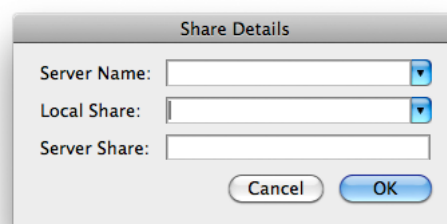


- You can also use Server Mappings to replace images (for example to swap low-resolution for high-resolution images **when the low-resolution and high-resolution images have identical separations**).

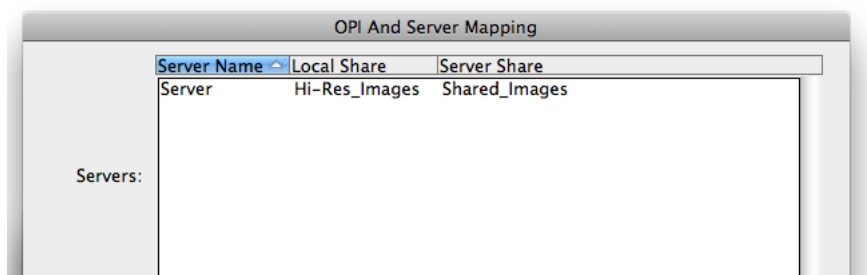


To add the Server Mapping, do the following:

1. In the **OPI And Server Mapping** dialog, click the plus sign button to the lower left of the Servers pane. This opens the **Share Details** dialog.



2. Enter or choose the name of the file server containing your linked images in **Server Name**.
3. Enter or choose the name of the file server's share containing your linked images **as it appears on your local machine** in **Local Share**.
4. Enter the name of the file server's share containing your linked images **as it appears on the other machine that will use your Normalized PDF** in **Server Share**.



5. If you want to add another Server Mapping (to use your Normalized PDF on yet another machine), repeat steps 1 to 4.

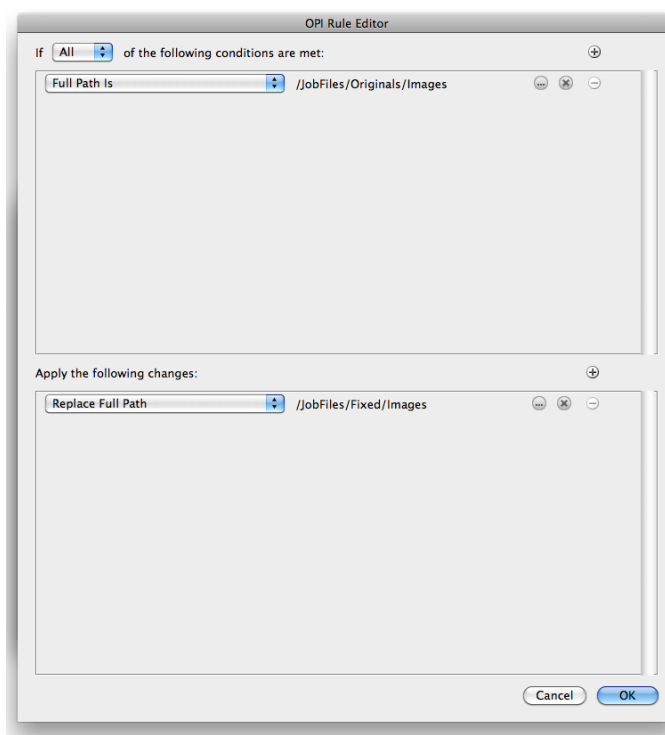
To edit a Server Mapping, double-click it. To remove a Server Mapping, select it and click the minus button to the lower left of the Servers pane.

### OPI Mapping

The lower half of the **OPI And Server Mapping** dialog configures **OPI Mapping**, which defines the rules for image substitution when exporting a Normalized PDF in a more specific way than Server Mapping. OPI stands for Open Press Interface.

To add an OPI mapping, do the following:

1. Click the plus sign to the lower left of the list pane. This opens the **OPI Rule Editor** dialog.



2. After the word **If**, decide how many conditions that must be true for this mapping rule to take effect: **All**, **Any**, or **None**.
3. For the condition In the top pane of the dialog, choose the element of the image file's path to examine in the first field. Image paths are in URI (Uniform Resource Identifier) format, such as file://mymac/MacHD/images/lowres/tests/Spacebar\_CMYK.eps. As you select elements, further

controls appear on the same line to refine the condition. For example, if you choose Full Path Is, you can click ... to browse for a folder, or click **x** to revert to the previous folder. To add a condition, click **+**; to remove a condition, click **-**.

4. Once you have defined the conditions, define the changes to the path in the lower pane of the window. Use the same process to define the changes as you did to define the conditions: choose the change, then set its options on the same line. To add a change, click **+**; to remove a change, click **-**.
5. Click **OK** to finish defining the rule.
6. To add another rule, click **+**; to remove a rule, click **-**.

Consider again this example URI file name: `file://ImageServer/LOWRES/images/lowres/tests/Spacebar_CMYK.eps`.

- The condition **Extension, Is Equal To, EPS** will match.
- **Folder Name, Starts With, lowres/** will match. You can specify the text ending with `/` to state that it must be the entire Folder name and to make sure that directories starting with (for example) `lowres plus/` will not match.
- **Server Name, Is Equal To, imageserver** will also match as the case is not compared.

When you use more than one condition in a rule, the **Replace 1st Matching Part Of Path** and **Replace 2nd Part Of Matching Path** changes become effective.

Consider this file: `file://Serv/SharedImg/LORESIMAGES/ANIMALS/LOWRES/myimage.eps`

- with conditions of **Folder Name, Contains, LORESIMAGES**, and **Folder Name, Contains, LOWRES**.
- and changes of **Replace 1st Matching Part Of Path, HIGHRESIMAGES**, and **Replace 2nd Part Of Matching Path, HIGHRES**.

The first change will replace `LOWRESIMAGES` with `HIGHRESIMAGES` (since it was first), and the second change will replace `LOWRES` with `HIGHRES`.

### Notes and Restrictions

To copy the OPI settings between computers so they all are the same, copy `AE10-OPISettings.prefs`. In Windows, that file can be at `C:\Documents and Settings\username\AppData\Roaming\Adobe\Adobe Illustrator CSx Settings`, but its exact location depends on the type of login (local or domain) and Illustrator version (CSx where x is a number). On the Mac, this file is normally in `Users/username/Library/Preferences/Adobe Illustrator CSx Settings/`. Copy the file to the same location on the target machines.

There are a few restrictions when using OPI Mapping:

- The high-resolution images must be accessible from the client workstation.
- Ink Manager will not show extra inks that are present in the high-resolution images.
- When exporting the file using Shuttle, only the inks from Ink Manager are shown, not any extra ones present in the high-resolution images.
- PDF Export, Viewer for Illustrator, and PowerTrapper Client and Standalone will use the high-resolution images and will know about any extra inks.

### Trim Box and Other Settings

In the **Trim Box (Borders) group** of the **PDF Export Preferences** dialog, the **Trim Box (Borders)** drop-down list lets you choose how the edge of the exported PDF file is chosen: using the **Trim Box from Document**, using the **Current Artboard**, or by using the **Artwork Bounding Box**.

**Fit Media Box to Artwork** expands or shrinks the Media Box as appropriate.

**Outline All Text** converts all text to outlines.



**Include Hidden Objects and Layers** includes hidden objects when the PDF file is exported.

**Include Notes** allows to include annotations in the PDF. This option is only available in combination with the PDF Import plug-in.

#### **Copy Structural Design files to Server (only PDF+)**

If the **Copy Structural Design files to Server** option is enabled, when you export your PDF+ to an Automation Engine server, the Structural Design files used in your document will be exported next to your PDF+ file.

#### **Other (only Normalized PDF)**

If **Expand Patterns** is selected, patterns will be replaced by actual objects. The path containing the pattern fill, will then be filled with the objects as defined in the pattern.

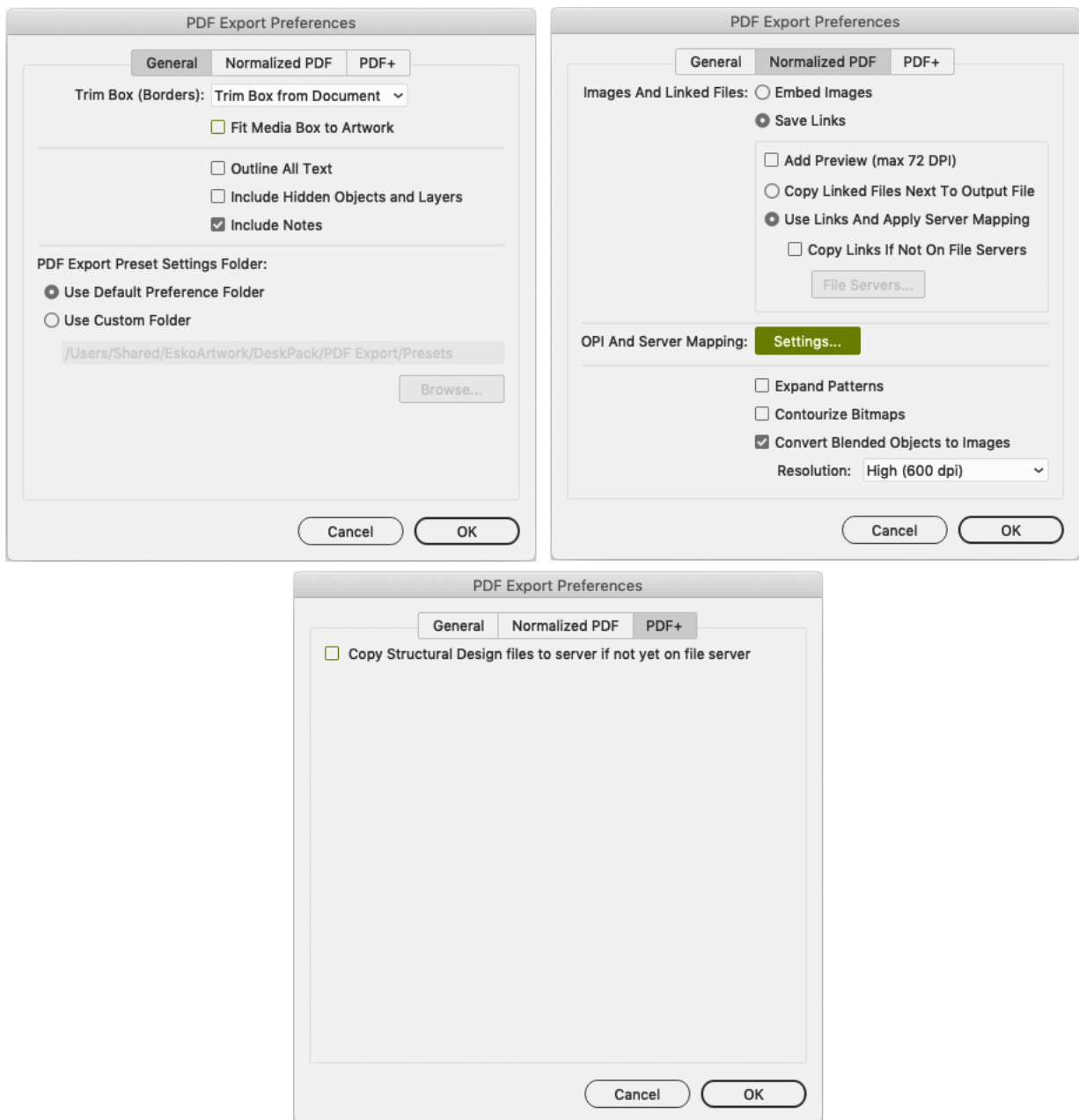
**Contourize Bitmaps** will convert 1-bit images (linked or embedded) into vectors.

**Convert Blended Objects to Images** will convert blended objects to images. You can set the resolution for this images to High (600dpi), Medium (300dpi) or Low (150dpi)

**Note:** In case of converting blended objects with different overprint setting (one is overprinting, the other is not), the conversion might change the final result. The following message is shown: "Rasterized Blend combines art in overprint and not in overprint mode. Rasterization may have caused changed appearance."

### **3.2.4. PDF Export Preferences**

You can open the PDF Export Preferences by choosing **Illustrator > Preferences > Esko > PDF Export Preferences**



The main part of the Preferences contain the same settings as the PDF Export Settings: the **General** tab contains settings used for Normalized PDF and PDF+, the **Normalized PDF** tab contains settings only used when exporting Normalized PDF, and the **PDF+** tab contains settings only used when exporting PDF+.

The settings in the Preferences will be used if the "Default" preset is selected. See [PDF Export Settings](#) on page 34

The **PDF Export Preset Settings Folder** defines the location where the Presets are saved: either the Default Preference Folder, or a custom folder you can select by clicking the **Browse...** button. See also [Preset](#) on page 34

### 3.2.5. Linked ArtiosCAD Graphics for Normalized PDF export

When you export a document with linked ArtiosCAD graphics to Normalized PDF, the graphics are treated slightly differently:

**When choosing “Embed Images” in the Preferences:**

- The ArtiosCAD graphics are embedded in your Normalized PDF.
- The original link information is **saved** in your Normalized PDF.

**When choosing “Save Links” in the Preferences:**

- The ArtiosCAD graphics are **embedded** in your Normalized PDF.
- They are also **copied** to the location you define: **Next To Output File** or on another server (according to a **Server Mapping** if defined).
- The link to the copied graphics is saved in your Normalized PDF.

## 3.3. The Ink Manager Plug-in

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### 3.3.1. Using the Ink Manager palette

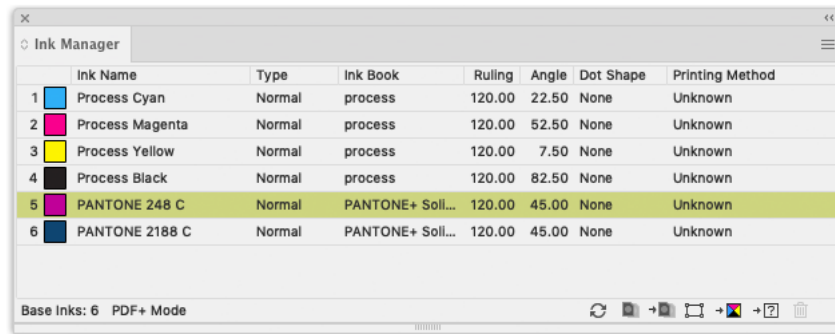
The Ink Manager palette is a powerful pre-press color editing and proofing tool. Easily identify where Pantone colors are used within a document or where custom spot colors can be found, then convert these colors to a custom spot color or to process colors.

The Ink Manager palette also allows you to specify crucial ink parameters such as the ink type, angle and lineature. Once defined, these parameters are saved inside the Illustrator document.


**Note:**


Screening for Illustrator allows you to make exceptions to these ink parameters. With Screening for Illustrator objects can have different settings for ruling, angle and dotshape. Please refer to the Screening for Illustrator documentation for more information.


To use the Ink Manager palette, choose **Window > Esko > Ink Manager**. The Ink Manager palette appears.




**Mode:** in the bottom left corner, you can see if you are working in PDF+ Mode or Normalized PDF Mode. See [Normalized PDF or PDF+](#) on page 44

 **Delete Ink Variant.** To delete an Ink Variant made with Screening for Illustrator, select the ink variant which needs to be removed and click the 'Delete Ink Variant' button. The objects will get the ink settings of the parent ink.


 **Refresh.** To update the lists of inks used within your document, click the Refresh button. After modifying a document, click the refresh button to update the list of used inks.

 **Select.** To identify objects containing specific inks within a job, select the ink you wish to search for and click the 'Select' button. It is possible to select more than one ink at a time.

 **Convert to Other.** To convert a selected ink from your document Ink list to another ink, click 'Convert to other'. More than one ink can be selected at a time.

**Note:**

Converting an ink will affect only line art. However, if you have the Channel Mapping or Color Engine plug-in installed and licensed, converting an ink will also result in the corresponding channel mapping for all images. See the Channel Mapping documentation for more information.

 **Convert to CMYK.** To convert a selected Spot Color from your document Ink list to a Process Color Mix, CMYK, click 'Convert to CMYK'. More than one ink can be selected at a time.

**Note:**

Convert to Other and Convert to CMYK are only available if you have a license for boostX, Channel Mapping or Color Engine Plugin.

  **Show Processing Steps Palette** and **Move to Processing Step** (only available when working in PDF+ Mode. See [Processing Steps](#) on page 50

### 3.3.2. Normalized PDF or PDF+

In the Ink Manager, you can switch between working in Normalized PDF or PDF+ mode. This mode determines what type of PDF file you want to export your document to.

If you open a document that contains Technical Inks or Varnish Inks, the mode will be set to Normalized PDF.

If you open a document that contains Processing Steps, the mode will be set to PDF+

If you open any other document, the mode will be set according to the default setting in the Ink Manager Preferences. See [Ink Manager Preferences](#) on page 53

You can switch freely between Normalized PDF and PDF+ mode. However, if you switch, specific functionality might get lost. If you for example switch from PDF+ to Normalized PDF, all Processing Step information will get lost, and switching back to PDF+ will not bring it back.

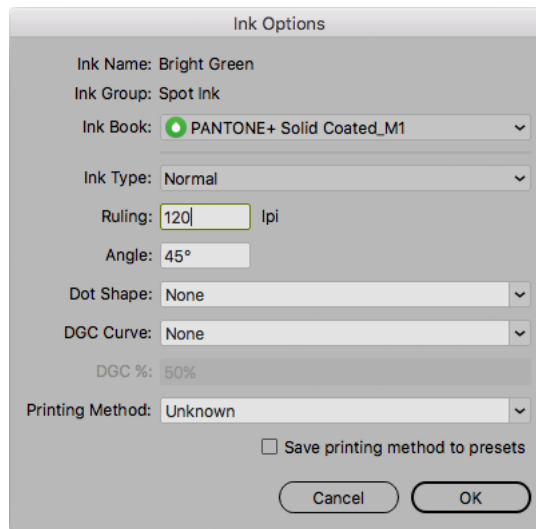
### What is the difference between regular PDF, PDF+, and Normalized PDF

Both PDF+ and Normalized PDF are to a large extent regular PDF files that you can open and edit in any other PDF editor or reader. However, PDF+ and Normalized PDF files also contain additional information, available to any Normalized PDF or PDF+ compatible editor. Both file formats also implement specific limitations and specifications.

What	PDF+	Normalized PDF
Ink order stored in file	✓	✓
Non-printing data (Cut, Die, ...) and special processing steps (varnish, ...)	Processing Step Layers	Technical Inks & Varnish
Ink Types	Normal, Opaque	Normal, Opaque, Technical, Varnish
Document Profile as output intent	Obligated. If none is present, the default profile will automatically be added when saving.	
Screening	Optional object based screening	Default screening is applied to all unscreened objects when saving.
Group and Barcode metadata	✓	✓
Marks	PDF+ Marks can be applied in ArtPro+	✗ ArtPro+ does not support SmartMarks
Images	Images can be <ul style="list-style-type: none"> <li>• <b>Embedded</b></li> <li>• <b>Linked &amp; Embedded.</b> If a PDF+ file contains image links, a full resolution embedded version of the image will still be saved in the file.</li> </ul>	Images can be <ul style="list-style-type: none"> <li>• <b>Embedded</b></li> <li>• <b>Linked</b></li> </ul>
Placed Art (PDF)	✓	✗

What	PDF+	Normalized PDF
Structural Design	✓	✓ Limited to one Structural Design file, and always using the default Profile

### 3.3.3. Ink Options



Double-click an Ink from the list to open the associated Ink Options dialog. There you can specify the Ink Type, Lineature, Angle and Dotshape of the selected ink.

If you have multiple inks selected, you can change the properties of all the inks at the same time. The dialog will show "≠" for settings that have different values.

The **Ink Book** dropdown contains all Ink Books that have the current ink defined. By default the last used ink book is shown.

When working in PDF+ Mode, the available **Ink Types** are Normal and Opaque. When working in Normalized PDF Mode, also Varnish and Technical are available. The ink type for process inks cannot be changed. The ink type is always normal. The following Pantone inks are always opaque inks: Pantone 8003 C, Pantone 8021 C, Pantone 8062 C, Pantone 8100 C, Pantone 8201 C, Pantone 8281 C, Pantone 8321 C, Pantone 871 C, Pantone 872 C, Pantone 873 C, Pantone 874 C, Pantone 875 C, Pantone 876 C, Pantone 877 C. The ink type of these inks cannot be changed.

**Note:** If you change an Ink to **Technical** or **Opaque**, the ink will be moved to the bottom of the Ink list. If you change the ink order afterwards, this new order will be respected.

**Dotshape** shows a list of all dotshapes available for the FlexRip. However, it is possible to enter any dot that is available on your rip instead of the proposed dotshapes. Only use a dotshape that is installed on the rip that will be used to expose the document.

**Note:** Entering a dotshape is not compatible with Nexus RIP.

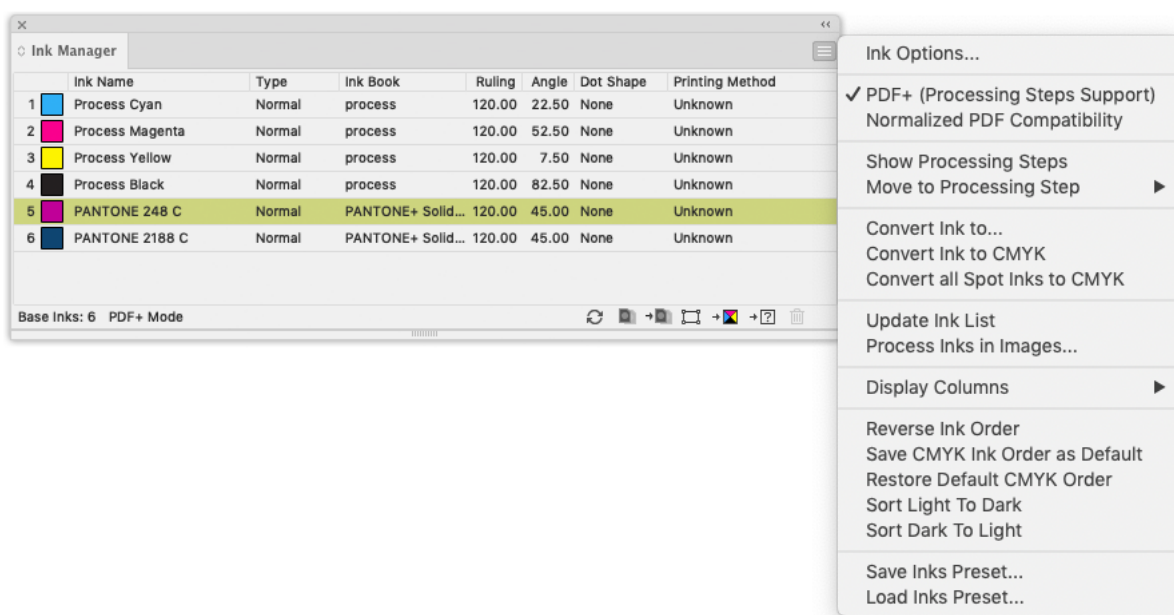
You can define a DGC Curve and a DGC percentage. See [DGC Curve](#) on page 50



You can define the **Printing Method**. See [Printing Method](#) on page 49

You can define the **DGC Curve**. See [DGC Curve](#) on page 50

These Ink options are stored in the Illustrator document and are used by other DeskPack plug-ins like PowerTrapper Client, PowerLayout Client, etc. For example, PowerTrapper Client will ignore varnish and technical inks and will take the opaqueness of inks in account when determining trap directions.

### 3.3.4. The Ink Manager flyout menu



- **Ink Options...** opens the ink options dialog.
- **PDF+ (Processing Steps Support)** or **Normalized PDF Compatibility**: see [Normalized PDF or PDF+](#) on page 44
- **Show Processing Steps** and **Move to Processing Step**: see [Processing Steps](#) on page 50
- **Convert Ink to...** has the same functionality as the 'Convert to Other' button 
- **Convert Ink to CMYK** has the same functionality as the 'Convert to CMYK' button 
- **Convert all Spot Inks to CMYK** converts all the spot inks in the document to their CMYK equivalent.

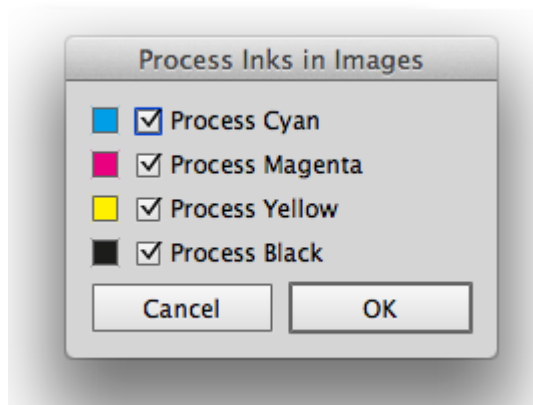
**Note:**

Keep in mind that this function will also convert white objects created by the White Underprint plugin, using a special spot ink.

- **Update Ink list** refreshes the ink list.
- **Process Inks In Images...** The plug-in uses Illustrator to determine which inks are used in external images. Illustrator has some limitations:

- With linked EPS images it is not possible to detect whether CMYK was used in the linked image. Ink Manager will assume that CMYK is present in the linked EPS images, unless the user has specified otherwise.
- TIFF images with spot channels always have CMYK channels, even if those channels are empty.

So with externally linked images, the plug-in doesn't really know whether CMYK is used. "Process Inks in Images" offers a manual solution. If you click this option, the "Process Inks in Images" dialog box appears:



By default all toggles are switched on, which means that the plug-in will assume that external images contain cyan, magenta, yellow and black.

If you know that there is no cyan in the externally placed images, you can switch Process Cyan off. Click 'Apply' and at the bottom of the Ink Manager the indication "Disabled in Images: C" will appear.

The plug-in will assume that only magenta, yellow and black were used in the externally placed images. If cyan is used in other objects of the document, it will be listed in ink manager.

- Using **Display Columns** you can set what columns of the Ink Manager should be shown: the Ink Type, Ink Book, Screening Details (LPI, Angle and dotshape), DGC Curve (see [DGC Curve](#) on page 50), Printing Method (see [Printing Method](#) on page 49) and Job Setup (see [Job Setup](#) on page 49)
- **Reverse Ink Order** will turn the order of the inks upside down.
- By default, the process colors are in Cyan - Magenta - Yellow - Black order. If you change this order and apply **Save CMYK Ink Order as Default**, the changed order will be used as default order. By selecting **Restore Default CMYK order**, the original default order is restored.
- By using **Sort Light To Dark** or **Sort Dark To Light**, you can rearrange the order of inks based on the luminosity. Note that Opaque and Technical inks are placed at the bottom of the list, but also sorted light to dark or dark to light.
- If you have to reuse the same Ink Parameters frequently, you can use **Save Ink Preset ...** to save all ink parameters, including Ink Name, Type, Ink Book, Ruling, Angle, Dotshape, DGC and Printing Method. You can **Load Ink Preset...** to overwrite all ink parameters in the current document with the parameters you saved earlier. You can set the location for the saved Ink Presets in the Preferences. See [Ink Manager Preferences](#) on page 53
- By enabling **Use Properties from Job Setup**, the inks and ink parameters defined in the Job Setup will be enforced. See [Job Setup](#) on page 49



### 3.3.5. Printing Method

You can set the **Printing Method** for every ink.

The **Printing Method** information can be used in SmartNames, or for Automation Engine task that handle the printing method.

By default, the Printing Method column is hidden. By selecting **Show Printing Method** in the fly-out menu you can make it visible.

You can change the Printing Method in the Ink Manager palette.

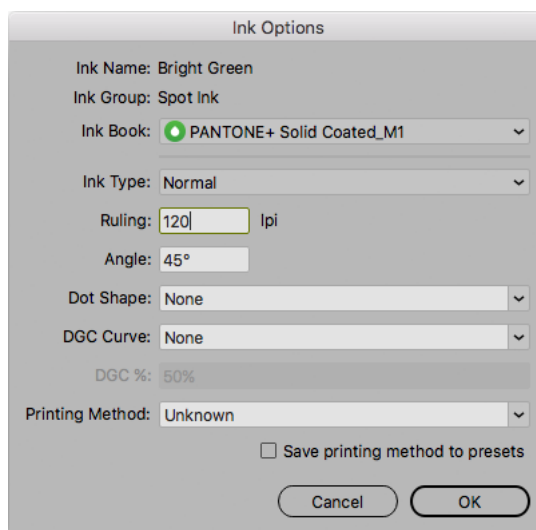
You can select one of the predefined printing methods, or create a new printing method.

#### Presets

As from version 12.1.2, when connected to an Automation Engine Server, the list of Printing Methods is loaded from the Automation Engine server.

**Note:** This implies that Printing Methods saved in earlier versions of Deskpack are no longer visible and will need to be redefined.


Printing Methods can be saved in the Automation Engine Configure tool, or in the Ink Options by selecting **Save to presets**



If there's no connection to an Automation Engine, the presets are saved locally in the Adobe Illustrator Preferences.




### 3.3.6. Job Setup

When a document is opened from an Automation Engine Job using **File > Job Folder > Open from Job Folder ...**, you can force Ink Manager to use the ink parameters defined in the Job Setup, overwriting



the current Ink Parameters, by enabling **Use Properties from Job Setup**, either from the fly-out menu or by clicking the button in the Ink Manager palette 

The **Job** column will appear automatically. You can change its visibility under **Display Columns** in the fly-out menu.

The column will give a status icon for every ink:

-  : the ink is defined in the Job Setup. The parameters defined in the Job Setup will be used.
-  : the ink is not in the Job Setup but is used in the document
-  : the ink is defined in the Job Setup but not used in the document. The line will be greyed out, and have no number.

If **Use Properties from Job Setup** is enabled, the Ink Options dialog for inks defined in the Job Setup will show status icons for every parameter:

-  : the parameter is taken from the Job Setup, so it can't be modified.
-  : the parameter is not defined in the Job Setup, so it can be set freely.

### 3.3.7. DGC Curve

You can set the **Dot Gain Compensation (DGC) Curve** for every ink.

By default, the DGC Curve column is hidden. By selecting **Show DGC Curve** in the fly-out menu you can make it visible.

You can change the Dot Gain Curve in the Ink Manager palette.

You can select one of the predefined Dot Gain Curves, or type in the name to use a custom DGC. When selecting a PressSync curve, you can enter the percentage for the curve in the **DGC%** field.

The DGC is saved in the Adobe Illustrator document, when exporting to Normalized PDF, and when saving Ink Presets (see [The Ink Manager flyout menu](#) on page 47).

**Note:** DGC is not a part of the Job Setup. This means using **Use Properties from Job Setup** will not change the DGC, nor does changing the DGC influences the status of the job.

### 3.3.8. Processing Steps

Ever since PDF became the preferred file format in the graphic industry, PDF files were used not only to store the artwork to be printed, but also as a container for information related to the production process: cutting lines, dimensions, etc.

How the information was stored in the PDF file, depends on the application that was used to generate the PDF, and the preferences of the user. For example the die cut lines can be in a separation called "Die", or in a layer named "Cut". Obviously, this leads to a multiple of ad hoc methods, which leads to interoperability problems, and a complex and error-prone situation.

ISO 19593 defines a new mechanism to store objects and metadata corresponding to such processing steps in a PDF file in a standardized way.

Based on this ISO norm, the use of Processing Steps was introduced in DeskPack as **Processing Steps**.

**Keep in mind however that these Processing Step Layers are only available when working in PDF+ mode. Normalized PDF mode use Technical Inks instead.** See [Normalized PDF or PDF+](#) on page 44

### Objects in Processing Step Layers


Processing Step Layers contain objects in your PDF file (a path, a text object, ...) that are associated with a specific Processing Step.

The type of Processing Step Layer can influence the properties of the PDF objects. For example, a PDF object in a Structural Processing Step Layer has to be colored in a spot color (to visualize in viewing and proofing applications). Because the objects in these Processing Step Layers should not have any influence on the final printed version (and on the plate making), this spot color should not be used for "normal" PDF objects, nor should the objects knock out other objects, or participate in transparency blending with other "normal" artwork objects.

### Types of Processing Step Layers

- **Structural Data:** a collection of contours that describe how the printed product will be finished to produce a 3D end product from a flat substrate, such as cutting lines, crease lines, etc.
- **Braille:** braille characters that are applied after printing, e.g. by a die cutter or inkjet device.
- **Legend:** job related data outside the boundaries of the actual printed products.
- **Dimensions:** indications of the physical sizes
- **Positions:** objects that indicate intended, allowed or forbidden positions for certain types of elements, e.g. allowed positions for content on a flap of a carton.
- **White:** white ink to be printed on a transparent or metallic substrate.
- **Varnish:** indicating the application of varnish after printing.

### The Processing Steps palette

You can open the **Processing Steps palette** by clicking the Show Processing Steps button  or select **Show Processing Steps** in the fly-out menu of the Ink Manager palette.



All the **Processing Steps** appear in the list, grouped per type, along with an "Artwork" entry. You can use the eye icon to make a processing step visible or invisible.

You can change any layer into a Processing Step Layer, or change the type of a Processing Step Layer by clicking the Edit Processing Steps button, by selecting **Edit Processing Steps...** in the fly-out menu, or by double-clicking an entry in the list.



You can change any layer into a Processing Step Layer, or change the type of a Processing Step Layer by selecting a Processing Step type from the dropdown.

You can change a Processing Step Layer into a normal layer by selecting **None**.

Unlike normal Artwork layers, Processing Step Layers come with a set of restrictions. If one of these restrictions is not met, a warning is shown in the Processing Steps palette.

You can select the paths causing the warnings in the list. If the **Select** option is enabled, clicking on one of the entries will select the corresponding object in the job. If the **Zoom** option is enabled, clicking an entry displays the selected object as big as possible in the active window. If the **Highlight** option is enabled, the selected objects will be highlighted.

**Note:** The list of ISO Standard Violations is not updated automatically. Use the **refresh** button to update the list.

You can prevent a number of these issues by using the **Move to Processing Step** function to create Processing Step Layers. See [Move to Processing Step](#) on page 53

## Colorants for Processings


Inks that are only used in Processing Steps are considered "Colorants": they can be used to color objects in the Processing Step Layers, but are not considered printing inks, as they should not appear on plates or on the final printed result.

Colorants for Processing Step Layers are represented in the Ink Manager using a round color patch.

**Note:** If an ink is used in at least one "normal" artwork object in an artwork layer, the separation is shown as a normal printing separation, with a square color patch. Since the use of a separation both as ink and as colorant usually presents a conflict, it is very likely that a message will appear in the Messages Side Drawer for any Processing Step Layer using such a colorant.

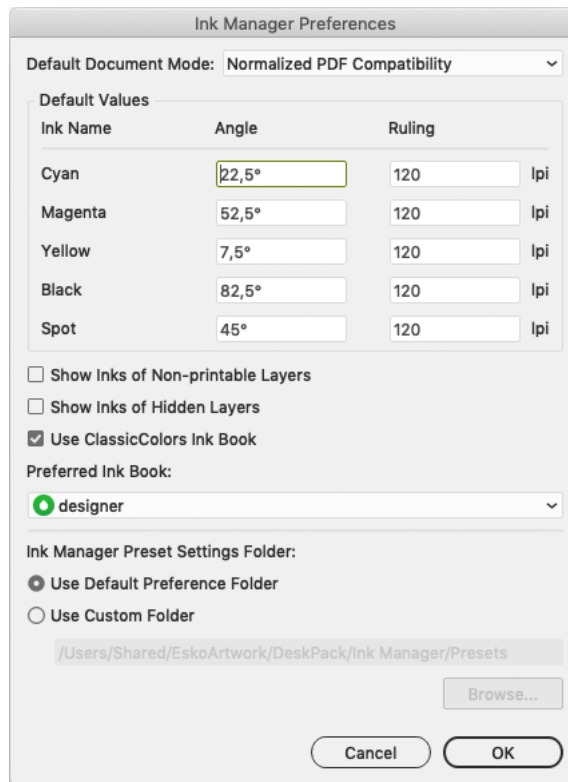
## Move to Processing Step

Using the **Move to Processing Step** function, you can move the objects using a specific ink into a Processing Step.

1. Select a spot color ink in the Ink Manager.
2. Select **Move to Processing Step** from the fly-out menu or click the **Move to Processing Step** button .
3. Select the **Processing Step Layer** you want to use.
4. All objects using the selected ink will be moved to the selected Processing Step Layer.
  - Objects in a flat color, only using the selected separation, will be placed in a Processing Step Layer, with the same name as the original artwork layer they were in (when available).
  - Other objects (e.g. objects in a mixed color, images, ...) will not be moved nor changed.
  - If the Ink is only used in the Processing Step Layers, it will become a Colorant. See [Colorants for Processings](#) on page 53

### 3.3.9. Ink Manager Preferences

The Ink Manager Preferences can be opened from **Illustrator > Preferences > Esko > Ink Manager Preferences...** (Mac OS) or **Edit > Preferences > Esko > Ink Manager Preferences...** (Windows)



With the **Default Document Mode** you can define if you want to use Normalized PDF mode or PDF + mode when opening a document that doesn't contain Varnish inks, Technical inks nor Processing Steps. See [Normalized PDF or PDF+](#) on page 44

In the rest of the Ink Manager Preferences, you can set the **Default Values** (angle and ruling) for CMYK inks.

You can also set the default angle and ruling to be used for new Spot inks. However, these defaults can be overruled when using a Spot ink that was used before, with a different Angle and Ruling value. The Angle and Ruling for all used spot inks are saved in the Preferences file

You can also define if inks that are only used in non-printable layers or hidden layers should be shown in the ink manager by setting the **Show inks of non-printable layers** and **Show inks of hidden layers** option.

**Note:**

The Remap Ink functionality also takes the **Show inks of non-printable layers** and **Show inks of hidden layers** option into account: When switched off, inks on non-printable or hidden layers will not be remapped.

Enable **Use ClassicColors Ink Book** to use the ClassicColors Ink Book. When using a ClassicColors Ink Book for your HP device, you can enable the Use ClassicColors Ink Book option, to avoid conflicts for inks using generic names, such as "White".

The **Preferred Ink Book** is the Ink book shown by default when opening the **Add Ink from Ink Book** dialog.

You can set the location to store **Ink Manager Preset Settings**: either in the default preferences folder, or in a custom folder you choose.

### 3.3.10. Known limitations

Since DeskPack Suite 10.1 Assembly 6 InkManager has been using different method for the ink converting.

The new method uses Illustrator's Appearance allowing multiple fills and stroke in a single object instead of creating temporary inks (BG Inks). Beside many advantages it brings a couple of limitations, having connection with the Illustrator limitations or behavior.

#### Re-mapping process inks to spot inks.

As it is impossible to simply change one of the process inks to the spot ink, the only solution is adding a new fill to the object with the new spot ink and use overprint to mix these fills together.

- Adding a brand new fill is not possible on text objects on the character level. Text objects using various inks on separate characters aren't mapped and an operator is warned.
- Re-mapping of process to spot inks on paths, using Effects on fill or stroke, will raise a warning, because adding a new fill could change the visual appearance.

#### Re-mapping inks in gradients

Re-mapping of the process ink to the spot ink generates a new fill due to the same reason as before.

- Let's have an example that the gradient already contains the target spot ink on one of its stops and another stop contains the process color being transformed. The re-mapping one of the process inks will add a new fill with the same gradient but with the target spot inks on the place of the process ink. In other cases the overprint will blend these two fills and produce expected visual appearance. In this particular case Illustrator will not blend these fills because both contain the same spot ink and Illustrator then ignores the overprint. An operator is informed about that.
- Similar issue comes when the object already contains two gradient fills. An operator is again warned.

## 3.4. The Structural Design Plug-in

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### 3.4.1. Introduction

#### Introducing Structural Design

Structural Design enables the Adobe Illustrator users to read in an ArtiosCAD ARD or ACD file, an Esko flexible .bag file and/or a Collada .dae or .zae file. This structural design can then be aligned to the graphics and this alignment will be maintained in the rest of the Esko workflow (e.g. ArtiosCAD, Visualizer, PackEdge, ArtPro, Plato, RIPS). On top of that, you can create a varnish plate from the bleed outline, from the Illustrator artboard or from the bounding box of the structure automatically excluding the coating free areas.

Structural Design Export allows an Adobe Illustrator user to export contours from Illustrator to native ArtiosCAD .ard format. It also allows adding and modifying cutout windows to a loaded ArtiosCAD file.

### Structural Design files in Normalized PDF or PDF+

When exporting your document to PDF+, a live link is maintained to each of the placed printable parts. However, if you export to Normalized PDF, only the printable part that is listed first in the layers palette will be kept live, other placed printable parts will be expanded. If you want to keep a live link to your printable parts while exporting to Normalized PDF, you should break up your multi-part design in different documents, so that each document contains one printable part, and the graphics for that printable part.

For more information on Normalized PDF and PDF+, see [Normalized PDF or PDF+](#) on page 44

**Note:**

ArtiosCAD ACD files can't be handled by PackEdge, ArtPro, Plato and Esko RIPs, and can't be preserved in PDF+ or Normalized PDF export.

You can export the ACD file to separate ARD files by choosing **File > Structural Design > Export** and selecting the name of the ACD file. If you choose the option "ARD Files (One per part)", each placed printable part of the ACD file will be replaced by a newly created ARD file. See [Structural Design Export](#) on page 65

## 3.4.2. Importing Structural Design files

### General Principles

The Structural Design plug-in enables you to open or place Structural Design files inside Adobe Illustrator. The imported Structural Design files are linked to the Adobe Illustrator (.ai) files, but they are not embedded.

### Structural Design Files and Printable parts

A Structural Design file describes a 3D scene, of which at least one part can be printed: the **Printable Part**. Different types of Structural Design files can be used:

- an **ARD** Structural Design file, created in ArtiosCAD or Studio Toolkit for Boxes, mainly used for boxes. For an ARD file, the entire box is one single printable part.
- an **ACD** Canvas file, created in ArtiosCAD, contains one or more printable parts.

**Note:** Copies of the 3D Shape in ArtiosCAD will share the same printable part. In order to apply different graphics on multiple shapes coming from the same ARD file, you should import this ARD file multiple times into the canvas file. That way, each shape will have its own printable part.

- .bag files created in older versions of Studio Toolkit for Flexibles. These .bag files are also one printable part.
- **Collada** files, containing one or more 3D shapes with at least one printable part (.dae or .zae files). For Collada files, a printable part is an Esko extension. A collada file can contain one or more printable parts, such as a flexible bag, one or more labels on a bottle, a shrink sleeve, .... A Collada file can also contain non-printable parts, such as the glass bottle itself. Collada files with one or more printable parts can be created in ArtiosCAD or Studio Toolkit.

**Note:** More technical information on Printable Parts in Collada files can be found in the white paper you can find in the Studio documentation: <https://www.esko.com/en/support/product?id=Studio>



With the Structural Design Import plug-in, you can place printable part(s) of a Structural Design file in an Illustrator document.

### Structural Design Layer

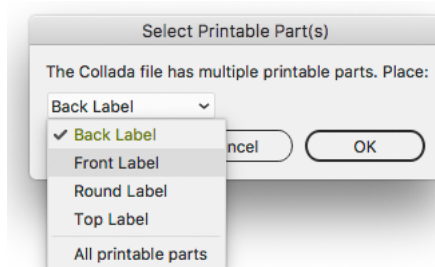
After opening or placing a structural design file, the file appears in the Adobe Illustrator layer palette. The Structural Design paths are special paths that cannot be modified accidentally. By default the Structural Design layer and its sublayers will be locked. You can unlock the Structural Design layers. This enables you to select individual Structural Design paths and use the Illustrator alignment tools to align graphics to the Structural Design paths.

### Open or Place an ARD, ACD, BAG, DAE, ZAE file

A dedicated **Place File** showing only Structural Design files is found in the **File** menu. Choose **File > Structural Design > Place File....**

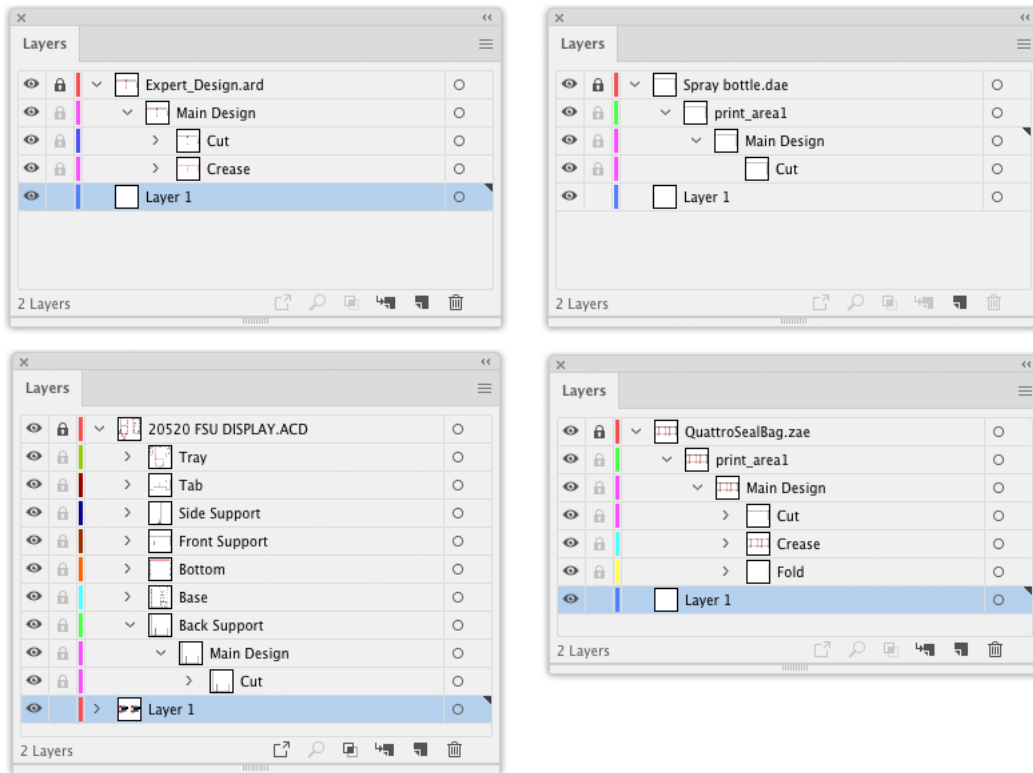
In case a Collada file is placed, a check is performed to see if the Collada file has a printable part defined. See [General Principles](#) on page 56

If a Collada file or ACD file contains multiple printable parts, a dialog will ask you to choose one or to place all. Choose the part(s) of which you want to create the graphics in Adobe Illustrator.

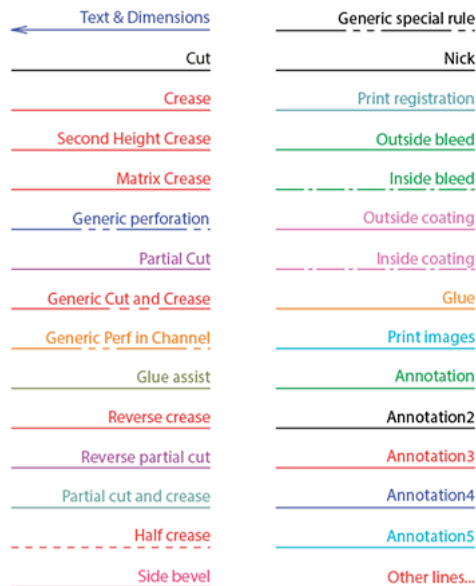


After opening a Structural Design file, the Structural Design objects are converted to special Illustrator objects.

The Structural Design layers are converted to locked Illustrator sublayers so they can't be changed accidentally. You can unlock these layers. They are grouped under a layer that gets the name of the Structural Design file.



The different Structural Design line styles (cuts, creases, bleed) are translated to hard-coded custom colors. All ArtiosCAD line styles are supported.



### Opening an Illustrator file with a placed Structural Design file

When an Illustrator file is opened that contains Structural Design data, two checks are performed.

1. First of all, the plug-in checks whether the Structural Design file still can be found in its original place. If that is not the case, the plug-in will look for the Structural Design file in the same directory where the Illustrator file is. If it finds the Structural Design file there, it will use this Structural Design file instead, otherwise, you will be asked to browse to the new location of the file.
2. A second check is performed to see if the Structural Design file has been modified since it was originally embedded in this Illustrator file. If so, the Illustrator document will be updated.

See also [Update the Structural Design File](#) on page 61

### Adding or replacing a Structural Design File

If a Structural Design file is already loaded and you place a new Structural Design file, the new Structural Design file will be placed next to the already loaded Structural Design file.

If you want to replace an already placed Structural Design file, choose **File > Structural Design > Replace**. See [Replace the Structural Design File](#) on page 61

### Placing or opening

The difference between placing and opening a Structural Design file is that when opening a Structural Design file, the artboard will adopt the size of the bounding box of the structure. When placing a Structural Design file, the artboard will not be changed.

### Large Canvas mode

In Adobe Illustrator versions before 24.2 (released June 2020), the maximum size of an Adobe Illustrator document was 5,779 by 5,779 meter or 227,52 by 227,52 inch ("standard size").

In Adobe Illustrator 24.2 and later, when creating an Adobe Illustrator document, you can use larger sizes. In that case, the document is in "Large Canvas Mode". The maximum size of an Adobe Illustrator document in Large Canvas mode is 10 times larger: 57,79 by 57,79 meter or 2270 by 2270 inch.

When opening a Structural Design file, the Adobe Illustrator document is created in regular mode. If the printable part you place doesn't fit the "standard size" canvas, you can choose to create a document in "Large Canvas Mode", and place the structural design file in the newly created large-sized Adobe Illustrator document.



#### Warning:

When you save or export the artwork created on a large-sized canvas to a legacy Illustrator document (lower than Illustrator 2020), the artwork will appear ten times smaller. In this case, the Structural Design Import plug-in will expand all structural design artwork. This means that the artwork will no longer be tagged as Structural Design objects, and will become regular Illustrator art. The structural design data will no longer be live in such a legacy document.

### Open or Place from Shapes

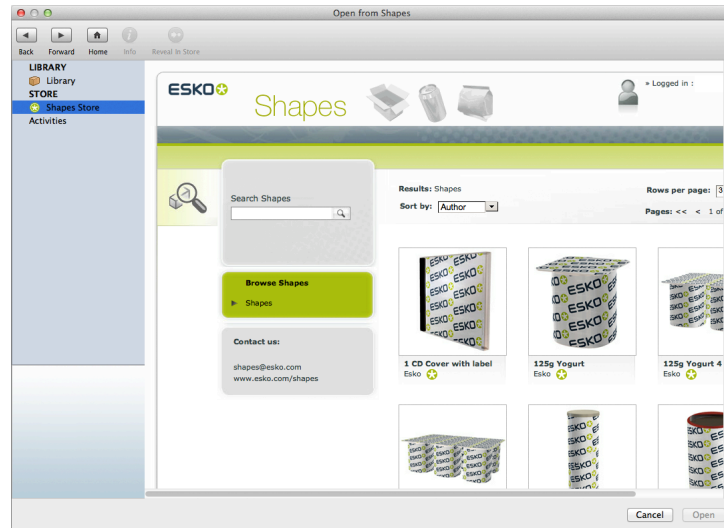
The **Shapes** Store is a constantly growing online collection of quality 3D models in Collada file format. If you have a subscription or maintenance contract for Studio or ArtiosCAD, you can download all available models. The section "free samples" are free for anyone with an Esko ID.

You can open files from Shapes directly or place them into existing Illustrator files by using the commands in **File > Structural Design**.

Opening and placing a file from Shapes follows the same general workflow. This example will show you how to place a Shapes file.

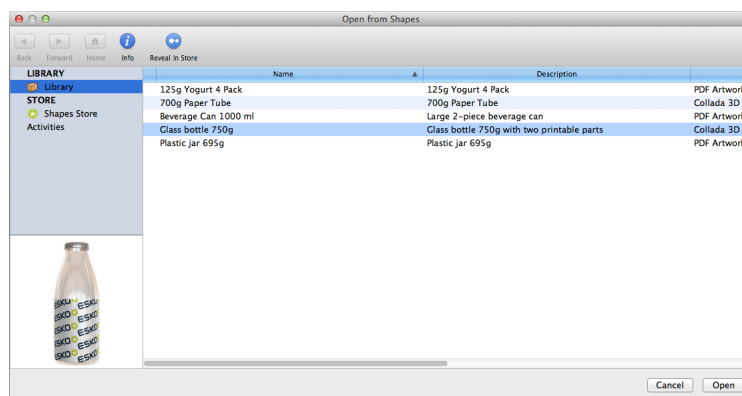
1. In an open Illustrator document, click **File > Structural Design > Place from Shapes....**

In order to access the Shapes store, you need to enter your Esko ID when opening the Shapes window for the first time. You can also enter it or change to a different Esko ID in the Shapes Preferences dialog in **Preferences > Esko > Shapes Preferences**.



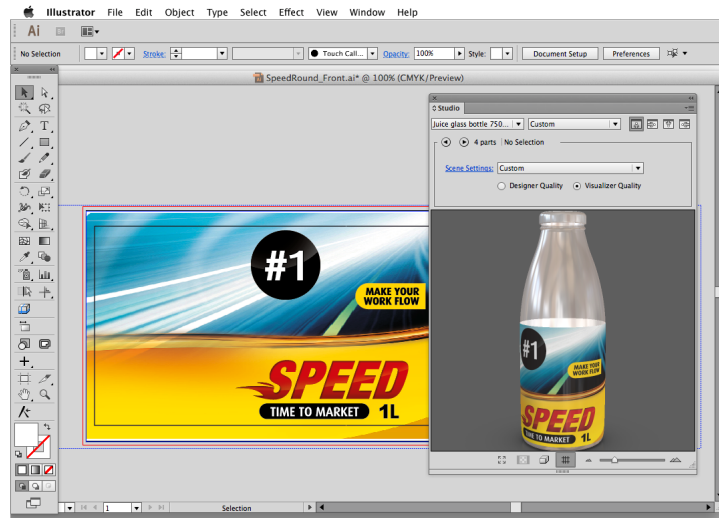
There is a "Shapes Store" section where you can browse all the models on the cloud, and a "Library" section, where you see all the assets that you have downloaded so far. When opening the Shapes window, the last used section will be active.

2. If you want to use a new Shape, choose it and download it. It gets downloaded to your local machine's Shapes Library.
3. If you downloaded a new Shape, the Shapes window should switch to the Shapes Library automatically. To use an existing Shape, click **Library** in the Shapes window. Select the desired Shape and click **Place**.



4. The Shape is either placed in the open Illustrator document or opened as a new document. Only the printable area of the Shape is visible in Illustrator. If you have one of the Studio products, use the Studio palette to view the Shape with the printable area.

Shown below is a bottle from Shapes with the label designed in Illustrator and with the 3D model shown in the Studio palette.



### Update the Structural Design File

If any of the Structural Design files has been modified while still editing the Illustrator file, an update of the Structural Design files can be forced. All Structural Design files placed in the current Illustrator document will be updated. Choose **File > Structural Design > Update All**

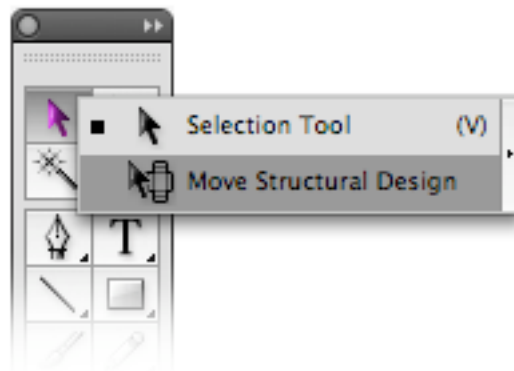
### Replace the Structural Design File

If you want to replace the placed printable parts of a Structural Design file while preserving the alignment between the technical drawing and the artwork, you can **replace** a Structural Design file.

Choose **File > Structural Design > Replace** and select the name of the file you want to replace

### Align Structure and Graphics

### Interactive Move Structural Design tool

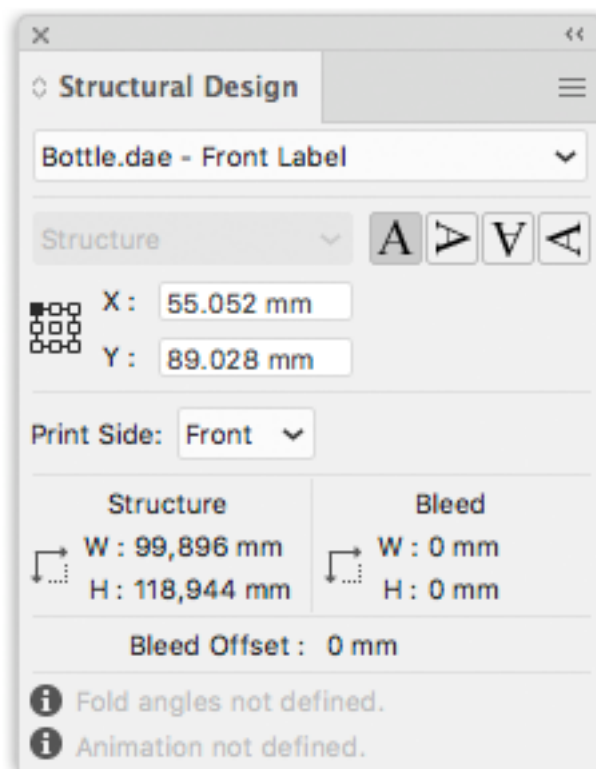


The **Move Structural Design** tool has been added underneath the Illustrator select tool. Select this tool to move the Structural Design interactively without unlocking the Structural Design layers. Hold down the mouse button and drag to move the Structural Design.

**Tip:**

If you choose **View > Smart Guides**, the Structural Design will snap to the graphics.

**Structural Design window**



The Structural Design palette provides information on the bleed and structure contours of the selected printable part. It allows you to rotate or numerically move the contours.

Open the palette by choosing **Window > Esko > Structural Design > Show Structural Design Window**.

If your document contains multiple printable parts, you can use the dropdown to select the printable part for which you want to see or change the information.

If your selected printable part contains a bleed contour, you can use the dropdown to choose whether you want to see the position of the bleed or of the structure bounding box.

The upper part gives you the coordinates of the (left, top) point of the bounding box around the structure (cut and crease) or bleed contours. The coordinates are relative to the origin of the Illustrator file. You can choose to see the coordinates of nine points on the bounding box. You can also choose to see the position of the bounding box around the bleed contour.

By entering a new value in the X and Y entry fields, you move the selected point to the new position.

It is possible to flip the Structural Design so that you can add graphics to the back of the Structural Design. This feature is enabled for ArtiosCAD files and for Collada files with a placed printable part that can have graphics applied to the back side.

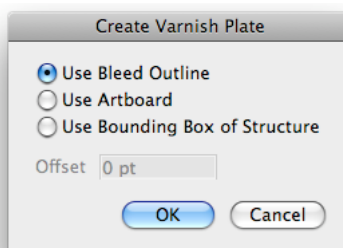
The lower part of the palette shows the width and height of the **Structure** and **Bleed** bounding boxes. **Bleed Offset** indicates the offset between the structure and the bleed contour.

The bottom part provides information whether or not fold angles and animation were defined in the structural design.

Click one of the **Rotation** icons to rotate the Structural Design contours. Rotation always happens around the center of the structure contour.

## Create Varnish Plate

Choose **Window > Esko > Structural Design > Create Varnish Plate...**



- If you choose **Use Bleed Outline** then the contour will be created from the bleed outline minus the coating free areas (if any).
- If you choose **Use Artboard**, then the contour will be created from the Artboard minus the coating free areas.
- If you choose **Use Bounding Box of Structure**, then the contour will be created from the Bounding Box of the structure minus the coating free areas.

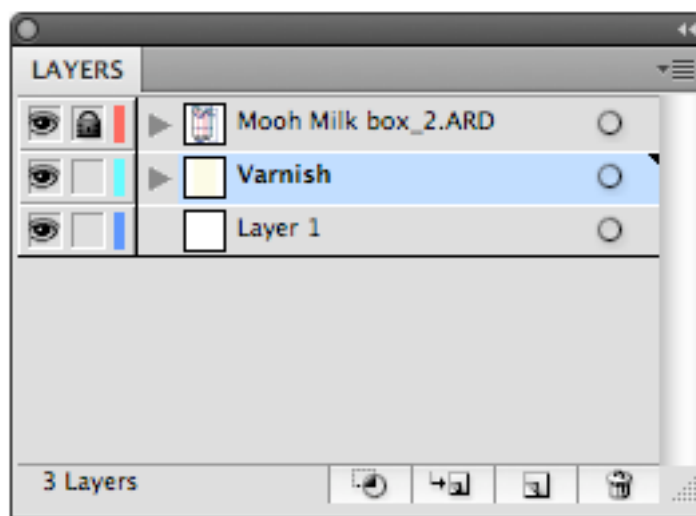
**Note:** When using **Use Bleed Outline** or **Use Bounding Box of Structure**, a varnish plate will be created for every printable part in the current Illustrator document.

When choosing **Use Artboard** or **Use Bounding Box of Structure**, you can specify a positive or negative offset. The resulting varnish plate will be enlarged or shrunk with the specified offset in relation to the artboard or the bounding box.

This tool outputs a contour filled with a light-yellow spot color. This contour will be put in a new layer named 'Varnish'. This layer will be inserted directly under the Structural Design layers.

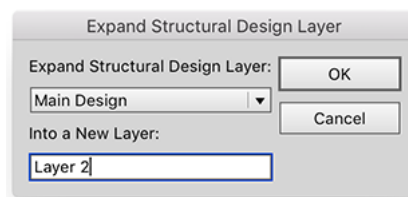
**Note:**

Create Varnish Plate will automatically exclude the coating free zones in the Structural Design file, if any.



### Expand Structural Design Layer

Choose **Window > Esko > Structural Design > Expand Structural Design Layer...**



Select the Structural Design layer that you want to expand into a new Illustrator layer. If there are multiple printable parts with a Structural Design layer with the same name, they will all be expanded.

All art on the Structural Design layer will be copied to the new Illustrator layer. The art on the new layer is no longer tagged as Structural Design objects.

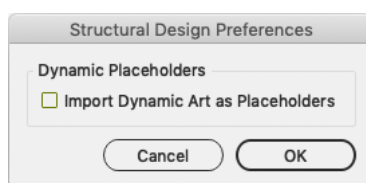


In Normalized PDF mode, the resulting objects are in the technical Structural Design inks. In PDF+ mode they will share the same processing step types of the corresponding layers in the Structural Design. See also [Normalized PDF or PDF+](#) on page 44 and [Processing Steps](#) on page 50.

One common use where you would use this tool is when you are interested in creating a clipping path from the bleed outline of the Structural Design file.

### Structural Design Preferences

You can open the Structural Design Preferences by choosing **Illustrator > Preferences > Esko > Structural Design Preferences...** on MAC or **File > Preferences > Esko > Structural Design Preferences...** on PC.



ArtiosCAD files can contain Dynamic Art placeholders. Using these placeholders, a structural designer can for example tell the graphics designer where the barcode should be placed on the design. If the option **Import Dynamic Art as Placeholders** is enabled, and you have the **Dynamic Art** plugin installed, a live Dynamic Art placeholder object will be created for every ArtiosCAD Dynamic Art. These placeholders can then be filled automatically with their content. For more information, we refer to the Dynamic Content documentation. See <https://www.esko.com/en/support/product?id=Dynamic%20Content%20Advanced>

## 3.4.3. Exporting Structural Design files

### Structural Design Export

The Structural Design Export saves a copy of the selected Structural Design file to a new location, The Illustrator file will link to the newly saved Structural Design file. Choose **File > Structural Design > Export** and select the Structural Design you want to export.

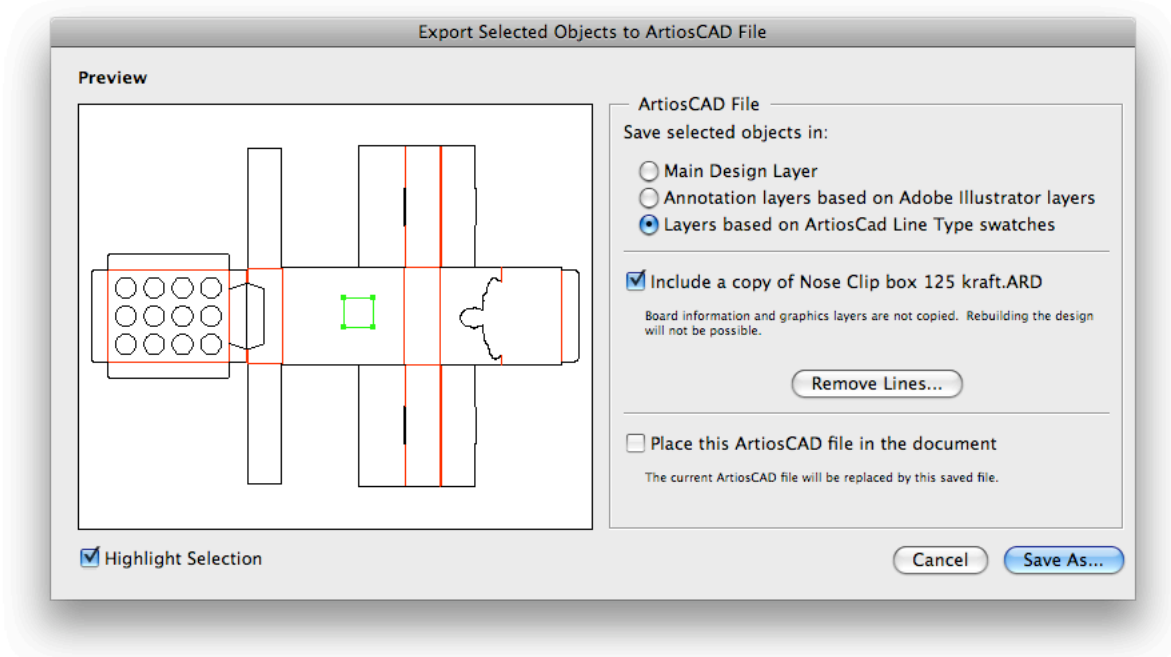
If you are exporting an Artios Canvas file (.acd) containing multiple printable parts, you can choose to export the ACD file as a single ACD file, or as multiple individual ARD files, one for each part.

### Export Selected Objects to ArtiosCAD File

ArtiosCAD Export adds the item **Export Selected Objects to ArtiosCAD File** to the **Structural Design** menu. Only ARD files can be included when exporting to a new ArtiosCAD file.

Select the contours to export to the ARD file and choose **File > Structural Design > Export Selected Objects to ArtiosCAD File**.

The **Export Selected Objects to ArtiosCAD File** dialog opens.



### Save selected objects in

You can choose to save the selected objects in the Main Design Layer or in Annotation Layers. If you save them in Annotation Layers, an ARD file will be created with annotation layers with the same name as the illustrator layers.

Next to this, you can choose **Layers based on ArtiosCAD Line Type swatches**. If the selected objects are stroked with a swatch color with an ArtiosCAD line type name (e.g. cut, crease, bleed), then this option will create layers depending on the stroke color name:

- Cut and crease lines will go to a Main Layer
- Outside Bleed lines will go to an Outside Bleed Layer
- Outside Coating lines will go to an Outside Coating Layer
- Dimensions and text will go to a Dimension Layer
- All other linetypes will go to an Annotation Layer

For convenience, a swatch library ArtiosCAD Line Types is included with the plug-in. You can display the swatch library by selecting **Window > Swatch Libraries > ArtiosCAD Line Types**. In this swatch library, all ArtiosCAD design line types have been predefined.

### Include a copy of \*\*\*\*.ARD

You can choose to include a copy of the ARD file that was loaded in the Illustrator document that is closest to the selected objects. The resulting ARD file will contain the selected objects AND what is in the CAD layers in Illustrator.

### Remove lines

It is possible to remove some lines of the original ArtiosCAD file. This is meant to modify cutout windows. Do not attempt to remove fold lines with this tool. If you do this, the original fold angles will be lost.

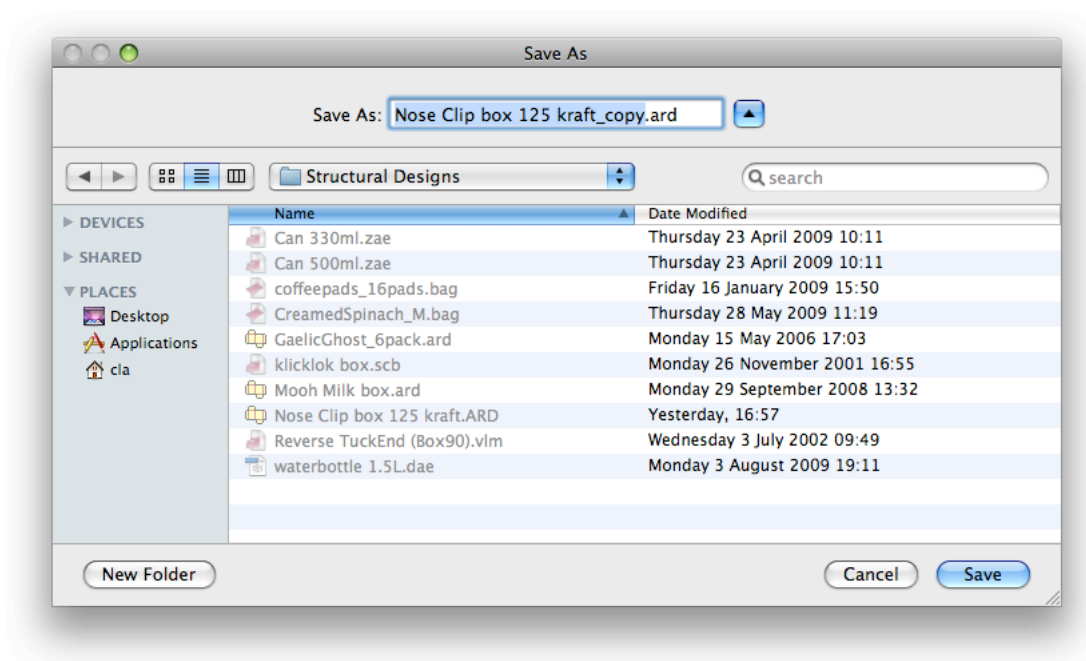
### Place this ArtiosCAD file in the document

If you switch this option on, the resulting ARD file will be placed in the Illustrator document. It will replace the Structural Design file that was loaded originally.

### Preview

In the preview window, you see a preview of what will be saved. You can highlight the selected contours by toggling on Highlight Selection. You then see the distinction between the contours that are newly added to the resulting ARD file and those contours that come from the original ARD file.

If you click **Save As**, the **Save As** dialog opens.



If you have an ArtiosCAD file loaded in your Illustrator document, the software suggests as file name the name of the loaded ArtiosCAD file followed by \_copy.

We recommend you not to overwrite the original ARD file as some functionality of the ARD file will be lost: graphics layers are not copied and it will not be possible to rebuild the created ARD file and text will be contoured.

**Note:**

Placed EPS objects and/or pixel-based objects cannot be copied to an ARD file. The fill color of the selected contours is not maintained in ArtiosCAD. Rather, the stroke color of the contour determines the line type in ArtiosCAD. If the selected contour is in the Main Design layer, the pointage of the contour will be 2. In all other cases, the pointage will be 0.

## ArtiosCAD - Copy to Clipboard

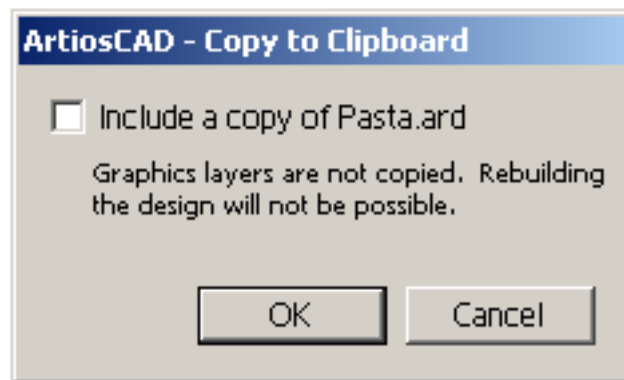
**Note:**

This function is only available on PC.

It can be found on the **Edit** menu:

**ArtiosCAD - Copy to Clipboard** copies the selected contours to the Windows Clipboard. They can directly be pasted into ArtiosCAD. If you have the same ArtiosCAD workspace open in ArtiosCAD and have not modified it since opening it in Illustrator, when you paste the contents of the clipboard into ArtiosCAD, they use the same placement as was used in Illustrator. This function is useful for ArtiosCAD users who need shapes from the graphics to be added to the box design.

**Copy to Clipboard** also offers you the possibility to add the ARD file that is currently loaded in the Illustrator document that is closest to the selected objects. Keep in mind that graphics layers are not copied. The resulting ARD file is also not rebuildable and text will be contoured.



**Note:**

Placed EPS objects and/or pixel-based objects cannot be copied to an ARD file. The fill color of the selected contours is not maintained in ArtiosCAD. The stroke color of the contour determines the line type in ArtiosCAD. If the selected contour is in the Main Design layer, the pointage of the contour will be 2. In all other cases, the pointage will be 0.

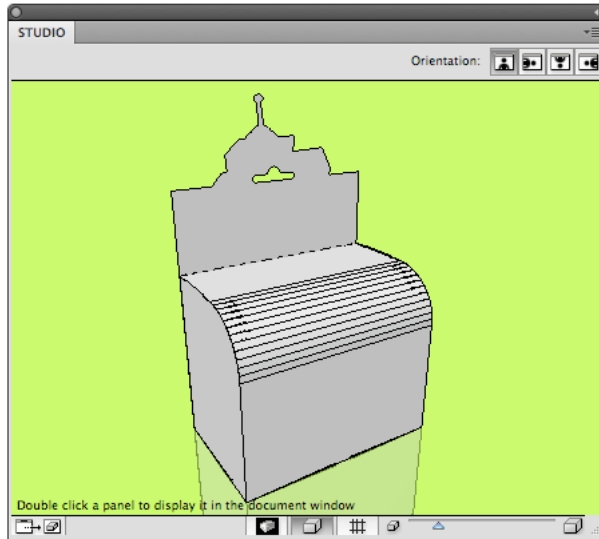
## Relationship between stroke color in Illustrator and line type in ArtiosCAD

If the contours are stroked with a swatch color with an ArtiosCAD line type name (e.g. cut, crease), then the corresponding items in ArtiosCAD will have the corresponding line type. For example, if you give your contour a stroke color with as name 'Annotation', the contour will be in line type 'Annotation' in ArtiosCAD. If the name is not an ArtiosCAD line type name, the contour will be a cut line. For convenience, a swatch library ArtiosCAD Line Types is included with the plug-in. You can display the swatch library by selecting **Window > Swatch Libraries > ArtiosCAD Line Types**. In this swatch library, all ArtiosCAD design line types have been predefined.

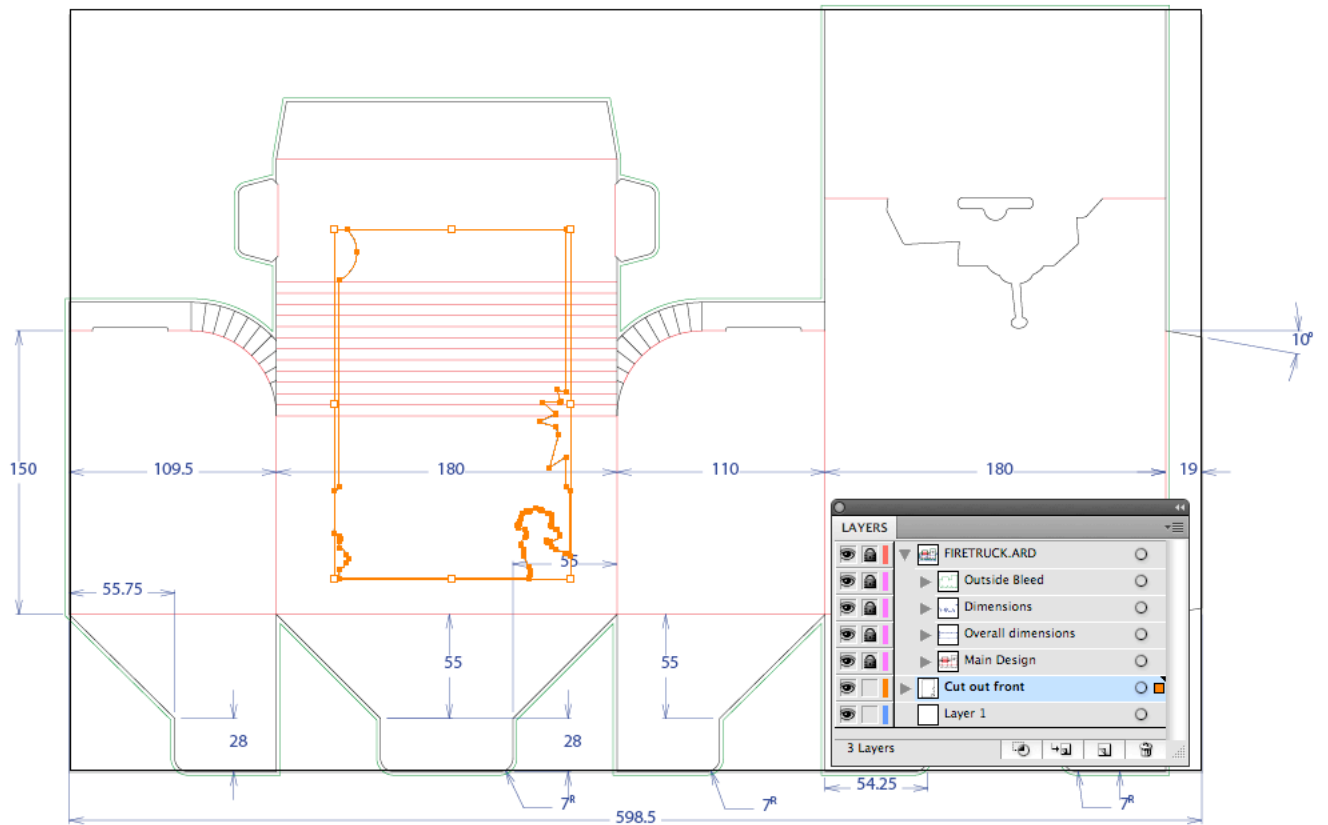
## How to add a cutout window to an existing ArtiosCAD file?

1. Open or place an ARD file.

If you also have Studio Designer, you will see a 3D view of your folded box in the Studio window.

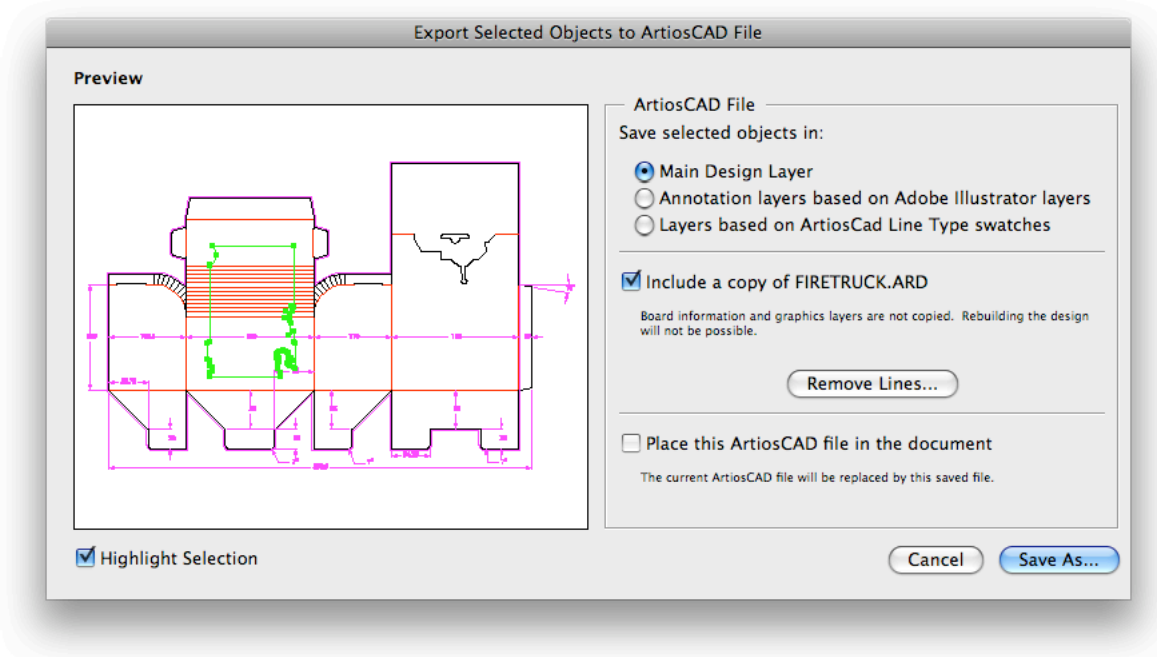


2. Create and select the cutout shape that you want to add to the ArtiosCAD file.



3. Choose **File > Structural Design > Export Selected Objects to ArtiosCAD File**.

The **Export Selected Objects to ArtiosCAD File** appears.



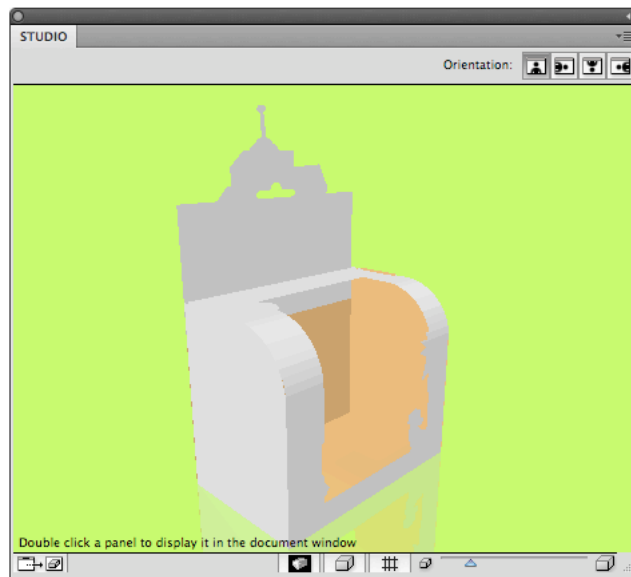
**4.** Do one or more of the following:

- Save the selected objects in the Main Design Layer.
- Include a copy of the original ARD file.
- Place this ArtiosCAD file in the document.

For more information on the different options, please refer to [Export Selected Objects to ArtiosCAD File](#) on page 65.

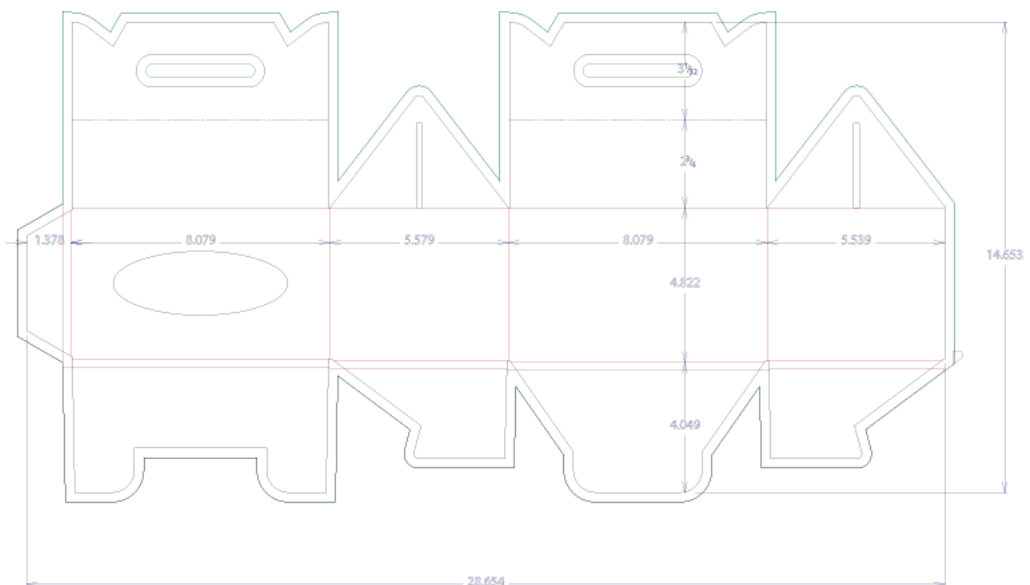
**5.** Click **Save As...**

The selected objects are saved in the **Main Design Layer**. They get the cut line type (which is the default if you did not specify a swatch with as name an ArtiosCAD line type). Apart from the selected objects, the original ARD file is copied in the resulting ARD file and the resulting ARD file is immediately placed in the Illustrator document. If you have **Studio Designer**, you will automatically see the ARD file with the cutout folded in 3D:



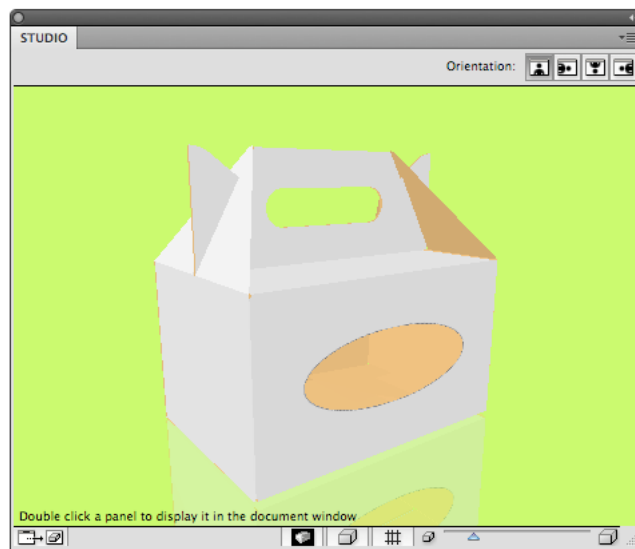
### How to modify a cutout window in an ArtiosCAD file?

1. Open or Place an ARD file that already contains a cut-out window.

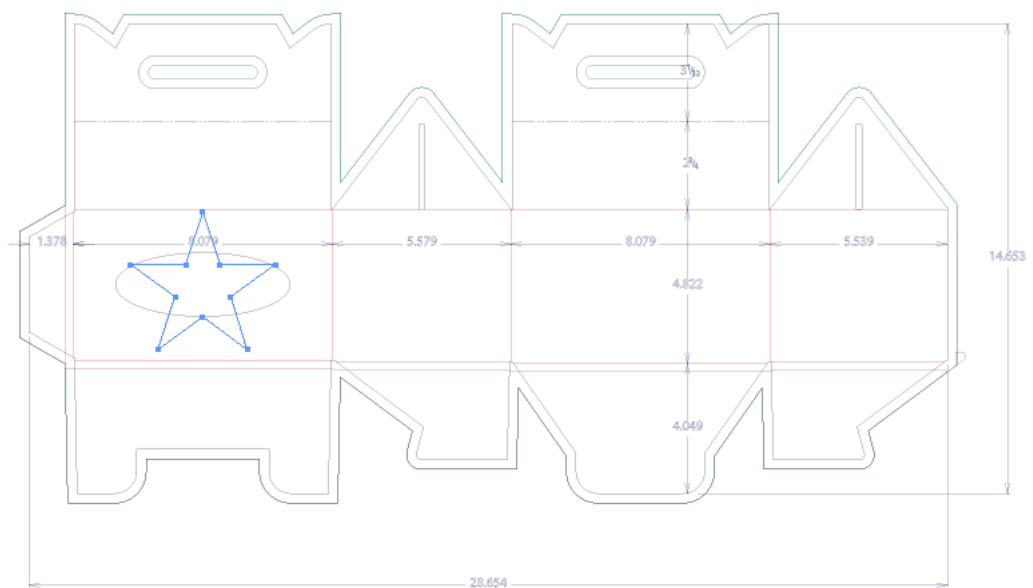


If you also have **Studio Designer**, you will see a 3D view of your folded box in the Studio window.



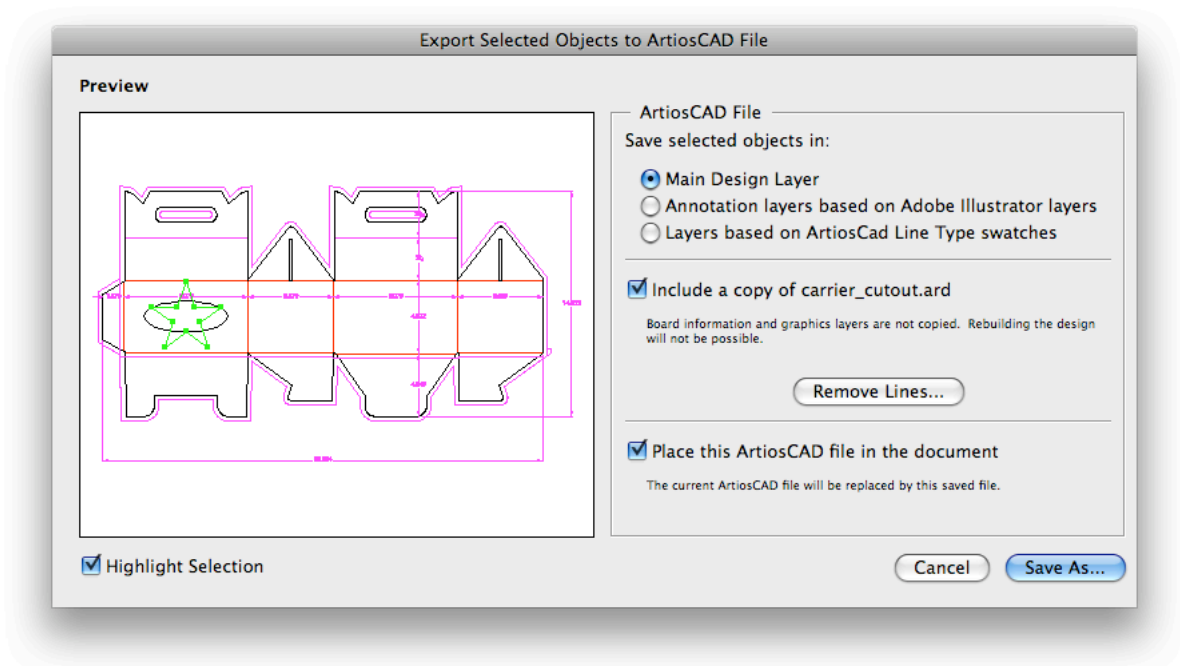


2. Create and select the new cutout shape that you want to add to the ARD file.



3. Choose **File > Structural Design > Export Selected Objects to ArtiosCAD File**.

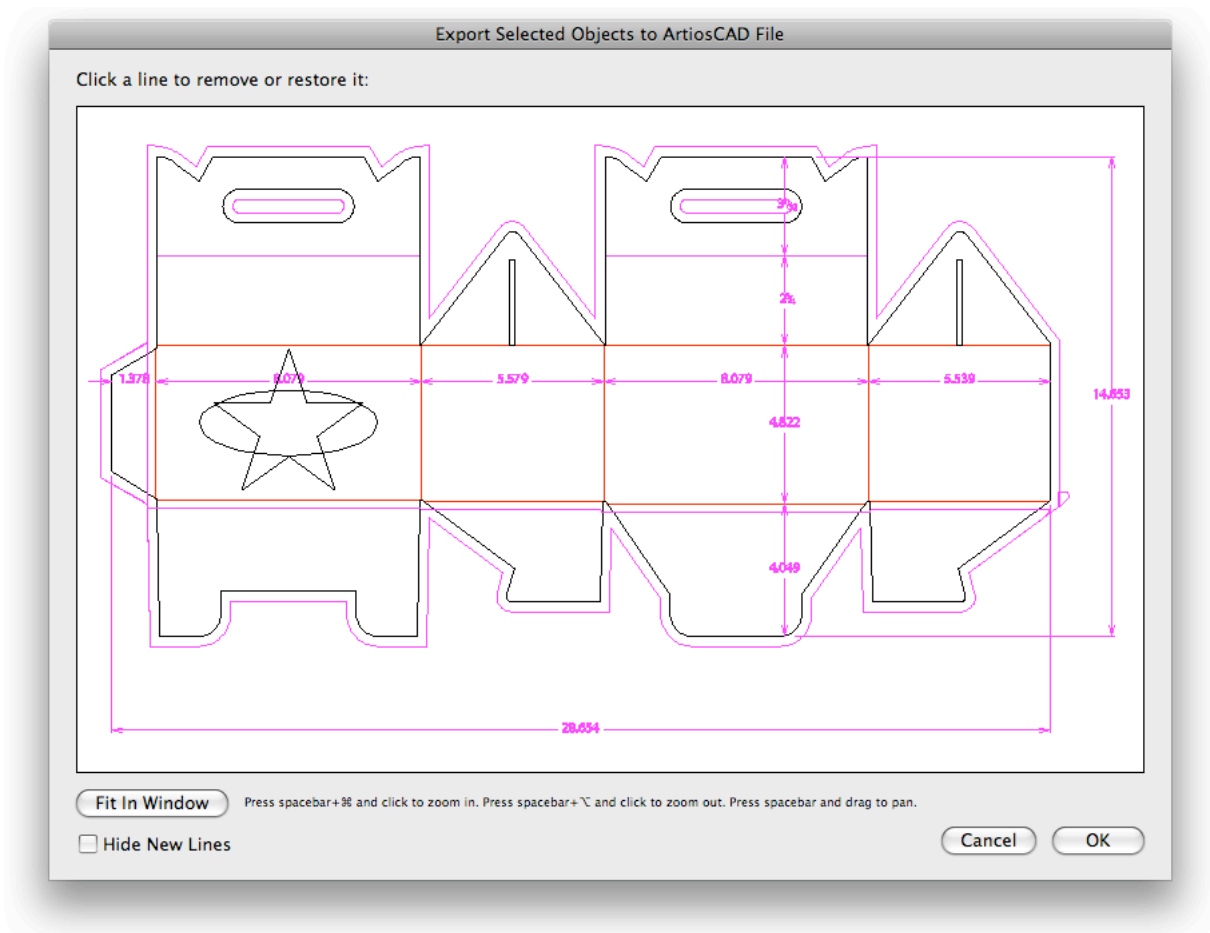
The **Export Selected Objects to ArtiosCAD File** appears.



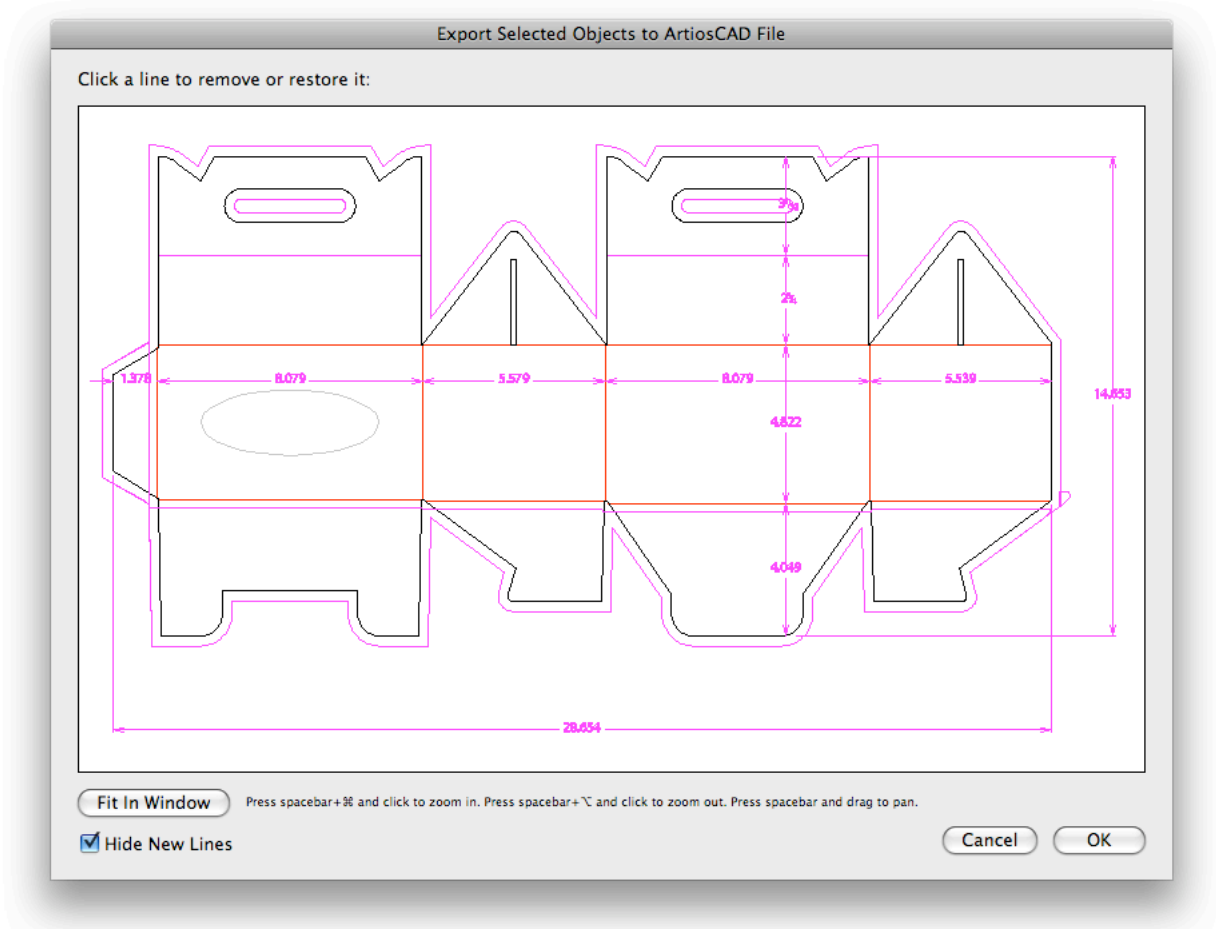
In the preview window you notice that you do not get the desired result. We need to remove the original cutout window.

**4. Click Remove Lines.**

The **Remove Lines** dialog appears.

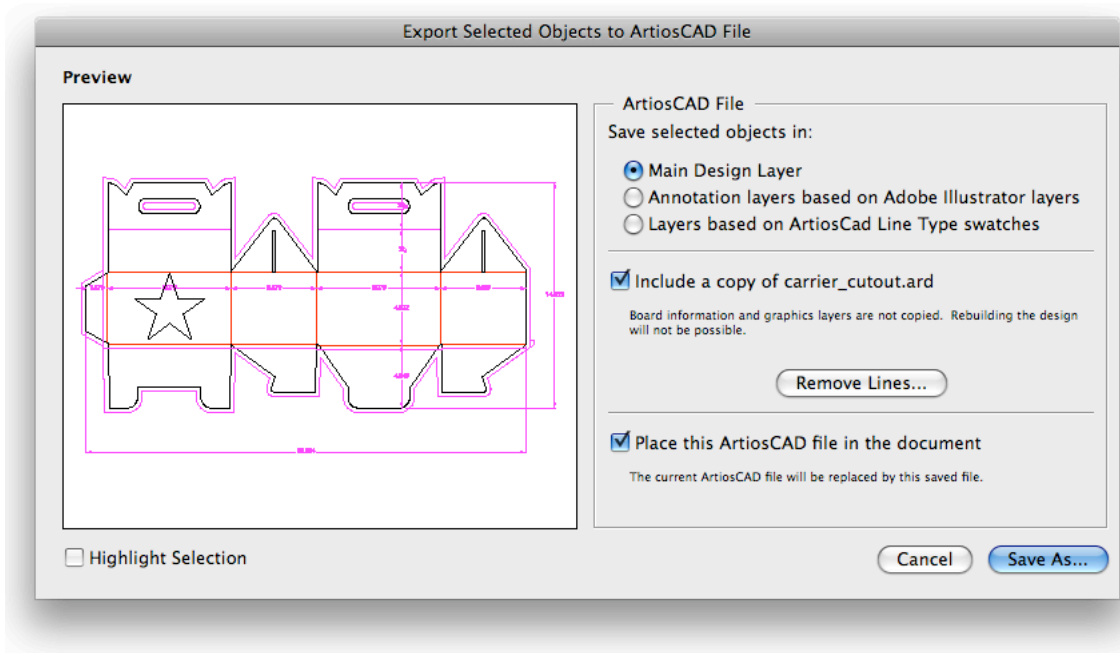


5. In this dialog, you can select the lines you would like to remove. It will not be possible to select the new lines. You can choose to hide the new lines by enabling **Hide New Lines**.
6. Click and drag a rectangle around the original cutout window.  
This window will be grayed out. This means that it will be removed in the final ARD file.



7. Click **OK**.

This bring you back to the **Export Selected Objects to ArtiosCAD File** dialog. In the preview window you notice that the original cutout has been removed.



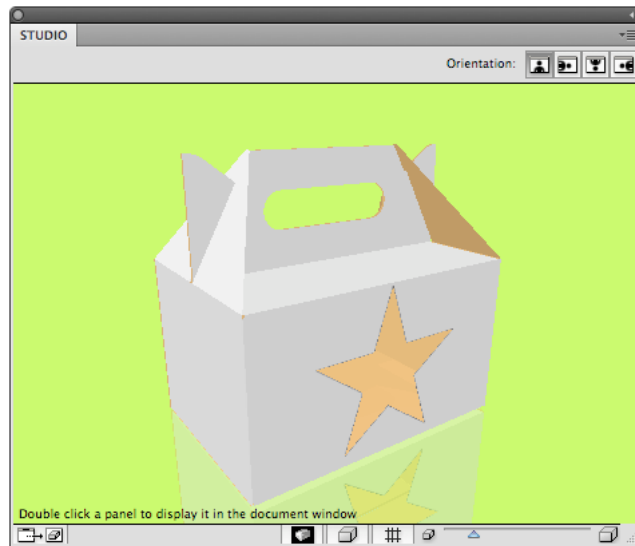
8. Click **Save As**.

9. Specify a file name in the **Save As** dialog.

The software suggests the name of the loaded ArtiosCAD file followed by `_copy`.

10. Click **Save**.

If you have **Studio Designer**, you will automatically see the ARD file with the new cutout folded in 3D.



## 3.5. The Page Box Plug-in

### 3.5.1. Introduction

Page Boxes are used to define the outside borders and margins of your document, and it is used in the Esko Software Suite workflow environment.

Page Box definitions are saved as part of the Illustrator file used by the plug-ins Shuttle and PowerLayout Client.

Page Boxes are not taken into account when printing directly from Adobe Illustrator, nor are they exported when exporting to a non-native format via standard Adobe plug-ins. They do not appear as objects in the Layers palette.

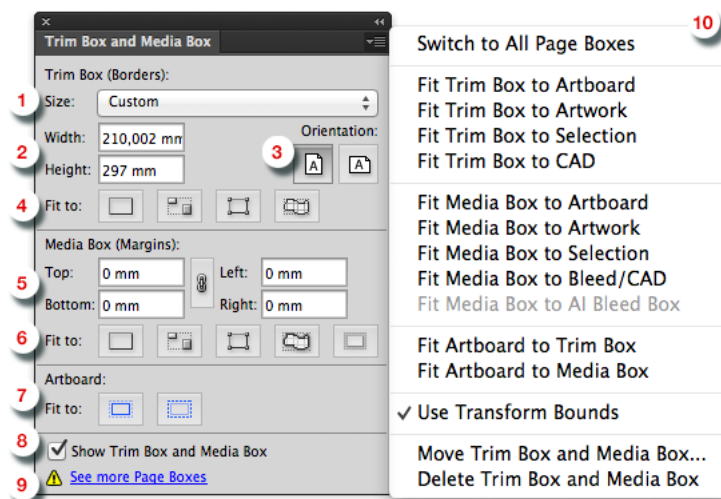
You can find the Page Box plug-in in **Window > Esko > Trim Box and Media Box**

The Page Box plugin can work in two modes:

- **Trim Box and Media Box** (defining only those two page boxes). See [Trim Box and Media Box](#) on page 78
- **All Page Boxes**. See [All Page Boxes](#) on page 81

You can switch mode by selecting **Switch to [mode]** from the flyout menu.

### 3.5.2. Trim Box and Media Box



1. **Trim Box Size:** Select the size from the dropdown list.
2. **Trim Box Width/Length:** Enter the Width/Length if you want a custom size.

**Tip:**





The units are defined in the Illustrator preferences.

- 3. Trim Box Orientation:** Select the orientation: portrait/landscape.

**Note:**

When the Trim Box is being dragged or Width or Height editboxes edited, the radio buttons Portrait/Landscape flip automatically so that Landscape is active whenever Width > Height and Portrait whenever Width < Height.

- 4. Fit Trim Box to**





-  Fit Trim Box to Artboard
-  Fit Trim Box to Artwork
-  Fit Trim Box to Selection
-  Fit Trim Box to CAD

- 5. Media Box (Margins)** enter the top, bottom, left and right values.

**Tip:**

The units are defined in the Illustrator preferences.

- 6. Fit Media Box to**

-  Fit Media Box to Artboard
-  Fit Media Box to Artwork
-  Fit Media Box to Selection
-  Fit Media Box to Bleed / CAD (when no bleed was defined the cad will be taken as reference)

- 7. Fit Artboard to**

- Fit Artboard to Trim Box
- Fit Artboard to Media Box

- 8. Show Trim Box and Media Box:** To display or hide the trim Box and Media Box, use this toggle.

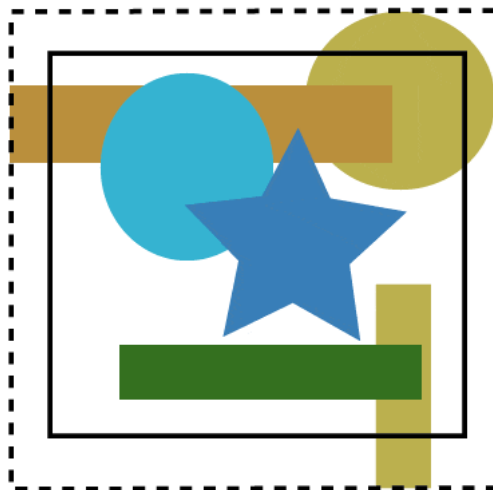
- 9. See more page boxes:** In case page boxes other than Trim and Media box are defined, this link will open the **All Page Boxes** version of the palette. See [All Page Boxes](#) on page 81

- 10. Trim Box and Media Box dropdown menu**

- Switch to All Page Boxes. see [All Page Boxes](#) on page 81
- Fit Trim Box to Artboard
- Fit Trim Box to Artwork

- Fit Trim Box to Selection
- Fit Trim Box to CAD
- Fit Trim Box to Crop Area
- Fit Media Box to ArtBoard
- Fit Media Box to Artwork
- Fit Media Box to Selection
- Fit Media Box to Bleed / CAD (when no bleed was defined the CAD will be taken as reference)
- Fit Media Box to AI Bleed Box
- Fit Artboard to Trim Box
- Fit Artboard to Media Box
- Use Transform bounds: if this option is enabled, TrimBox/MediaBox will respect as they are defined in Adobe Illustrator. If disabled, TrimBox/MediaBox will respect visible bounds.
- Move Trim Box and Media Box ... open the 'Move Trim Box and Media Box' interface
- Delete Trim Box and Media Box

The figure below illustrates the Trim Box (borders) and Media Box (margins) of an output document as interpreted on an Esko system. The full black line represents the borders (corresponding to one of the above options) while the dotted black line indicates the margins of the document:



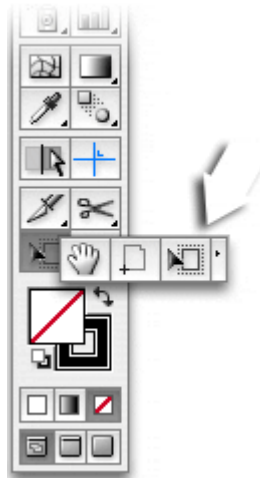
### Moving and Scaling Trim Box and Media Box

To move or change the size of the Trim and Media Boxes, you can either

- Select the Trim and Media Box Tool from the AI tool palette.  
Use the Trim and Media Box to click and drag the Trim and Media Box.
- Select the Trim and Media Box Tool from the AI tool palette.
  - ALT + drag = scale from the center out
  - SHIFT + drag = constrained scaling

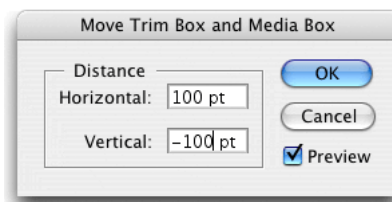


- ALT + SHIFT + drag = constrained scaling from the center out



OR

- Select a preset from the drop down menu. OR
- Use the numeric input field. The numeric input field appears when you select **Move Trim Box and Media Box** in the dropdown menu.



**Tip:**

Double-clicking Trim and Media Box tool in toolpalette opens the 'Move Trim Box and Media Box' dialog.

OR

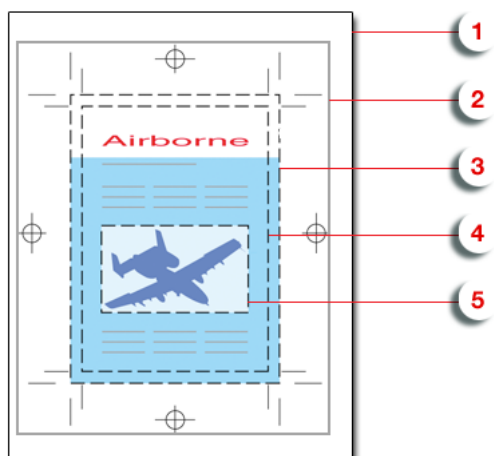
- You could use one of the "fit to" options (to Artboard, artwork, selection, cad or crop area).

**Tip:**

The units are defined in the Illustrator preferences.

### 3.5.3. All Page Boxes

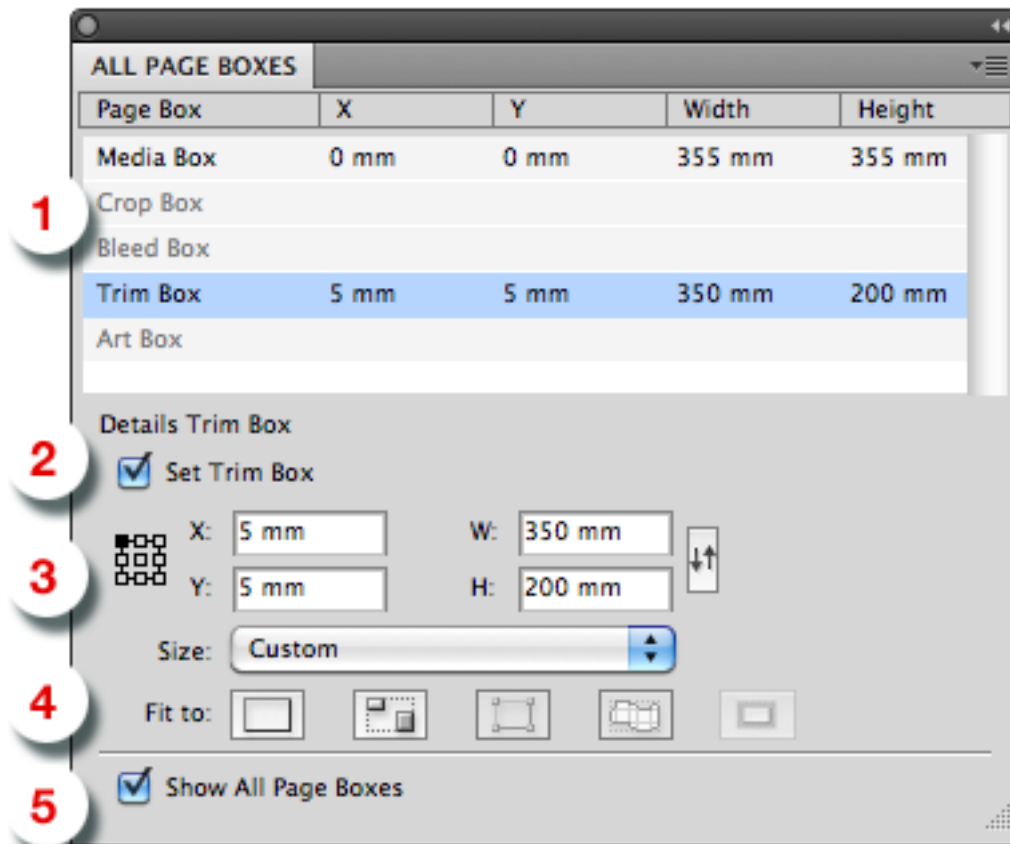
Using the **All Page Boxes** mode, you can set all 5 page boxes: Media Box, Crop Box, Bleed Box, Trim Box and Art Box



1. Media box: this is the page format
2. Crop box: includes the Bleed box and all marks.
3. Bleed box: defines the trimmed page plus the bleed.
4. Trim box: this is the net document format.
5. Art box: the Art box can be used to specify any section of the page.

You can see the dimensions of all Page Boxes in the Page Box list. You can

1. Select a Page Box in the list. Its details will be shown in the bottom part of the dialog.
2. Enable (or disable) the specific page box by enabling the **Set [...] Box** option.
3. Enter the offset, width and height. You can click the button to swap width and height. In the **Size** dropdown, you can select any of the preset sizes.
4. Click one of the **Fit to** buttons to fit the selected page box respectively to the ArtBoard, Artwork, Selection or CAD.
5. Use the **Show All Page Boxes** to show or hide all Page Boxes in your job.




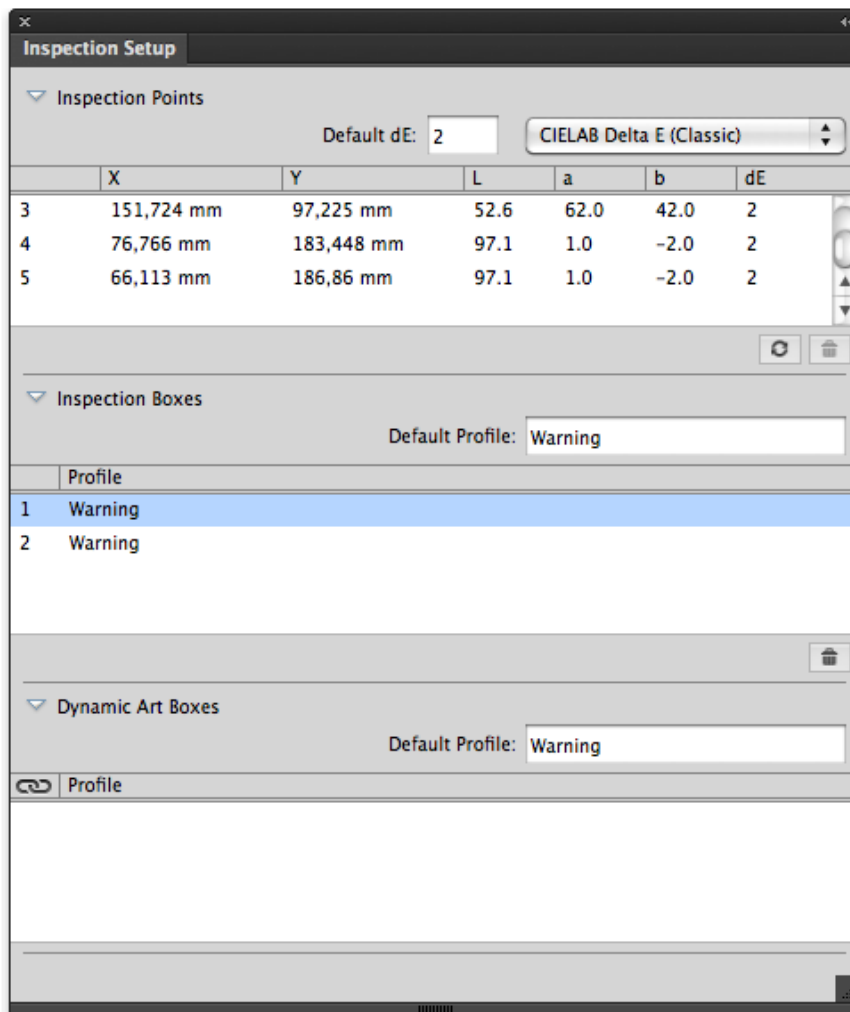
### 3.6. The Inspection Setup Plug-In

The Inspection Setup Plug-In allows you to define Inspection points or Inspection boxes in your job.

For each of these Inspection points, you will see the Lab value and DeltaE. For every Inspection box, you can set the Profile. Inspection points and boxes will be exported, e.g. to be used in an Inspection System in inline presses. This Inspection System will warn if the values measured at a specific position are more different from the entered Lab values than the allowed deltaE, or if the Inspection box or Dynamic Art box doesn't match the defined profile.




The plug-in consists of

- the **Inspection Setup tool**  , under the Eyedropper tool in the toolbar
- the **Inspection Setup palette**, which can be opened by selecting the Inspection Setup tool, or by adding an Inspection point.



### 3.6.1. Adding and changing Inspection points



The **Inspection Setup palette** shows all the Inspection points, indicating the coordinates (distance from the top left corner of the trim box), Lab value and default deltaE value.

- Select the **Inspection Setup tool**  from the Illustrator toolbar and click in the job to insert a new Inspection point.  
The Inspection point will be visible in the job, with its number next to it.
- Select an Inspection point in the palette to highlight the corresponding Inspection point on the Illustrator job. You can select multiple Inspection points
- Select one or more Inspection points and click the **delete** button  to delete the Inspection points
- You can manually change the Lab and deltaE value for every Inspection Point.
- Click the **Refresh** button  to update the Inspection Point list.

- You can move an Inspection point in two ways:
  - Click within the Inspection point, and drag it to the new location
  - In the Inspection Point list, change the coordinates for the Inspection point.

### 3.6.2. Adding and changing Inspection boxes

The **Inspection Setup palette** shows all the Inspection boxes.

- Select the **Inspection Setup tool**  from the Illustrator toolbar and click and drag in the job to insert a new Inspection box.  
The Inspection box will be visible in the job, with its number next to it. When creating a new Inspection box, the **Default Profile** is used
- Select an Inspection box in the palette to highlight the corresponding Inspection box on the Illustrator job. You can select multiple Inspection boxes.
- Select one or more Inspection boxes and click the **delete** button  to delete the Inspection boxes
- You can manually change the **Profile**.
- You can move or change an Inspection box in different ways:
  - Click on the center point of the Inspection box, and drag it to move the Inspection box to a new location
  - Click one of the 8 handles on the Inspection box, and drag to modify the Inspection box

### 3.6.3. Dynamic Art Placeholders

The Dynamic Art section of the **Inspection Setup palette** shows all Dynamic Art placeholders defined in the job.

- Enable the checkbox in front of a Dynamic Art placeholder to use it as an Inspection box.  
When adding a Dynamic Art placeholder, the **Default Profile** is used
- Select a Dynamic Art placeholder in the list to highlight the corresponding Dynamic Art placeholder on the Illustrator job. You can select multiple Dynamic Art placeholders
- You can manually change the **Profile**.
- Disable the checkbox in front of a Dynamic Art placeholder to stop using it as an Inspection box.

### 3.6.4. Import and Export

When exporting normalized PDF, Inspection points and boxes added to a job are saved in the PDF file, and these Inspection points and boxes will be recognized by Packadge and AE.

Also, when opening a normalized PDF from another Esko product (such as PackEdge), the Inspection points and boxes information stored in the PDF document will be shown in the Inspection Setup palette.

**Note:** Dynamic Art placeholders are not saved as such in normalized PDF. The selected Dynamic Art placeholders will be exported as "Inspection Box". If you import the normalized PDF in Adobe Illustrator again, or open the normalized PDF file in e.g. Packedge, these Dynamic Art placeholders will be shown as Inspection Boxes

## 3.7. Messages

The **Messages** plug-in is included with all Esko DeskPack plug-ins.

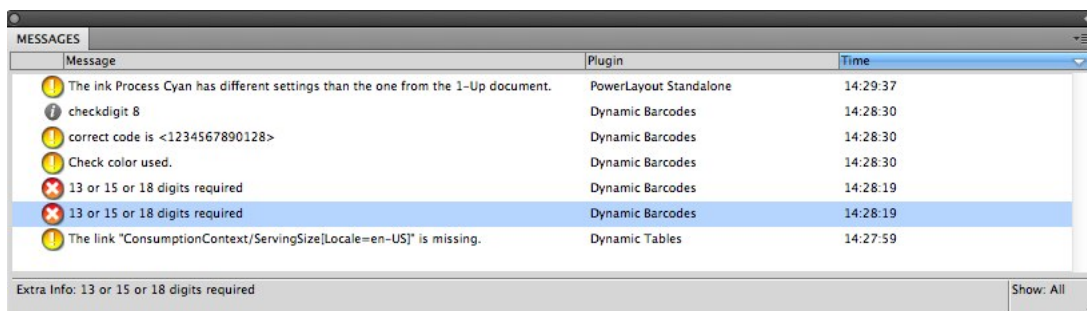
It displays the information, warnings and errors from all the other DeskPack plug-ins, and tells you which plug-in generated them.

You can filter the messages you see when the Messages palette is open, and clear or save all messages if you need to.




### 3.7.1. The Messages Palette

The **Messages** palette pops up automatically when another DeskPack plug-in generates a warning or an error.

You can also open it from **Window > Esko > Messages**.



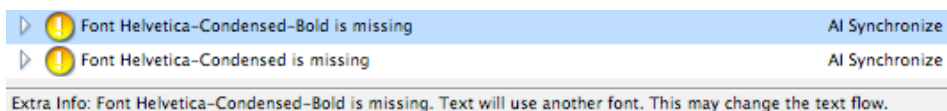
This palette shows you:

- the message's severity (  information,  warning or  error),
- the message's text in the **Message** column,
- which **Plugin** generated the message,
- the **Time** the message was generated at.

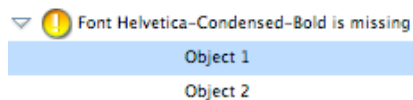
**Tip:** You can click the column headers to sort the messages, and drag the columns horizontally to adjust their widths.

You can also use the palette to get extra information and / or select the objects that generated warnings or errors:

- click a message to display extra information at the bottom of the palette.



- click the triangle in front of a message to see the list of objects it relates to.

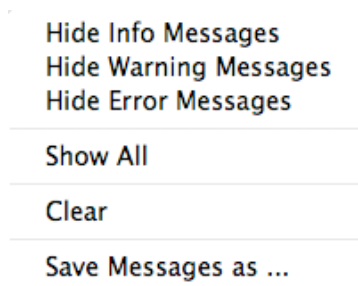


- click one of the objects in the list to select it in the file.
- double-click that object to select it and zoom in on it in the file.
- double-click the message to select and zoom in on all objects it relates to in the file.

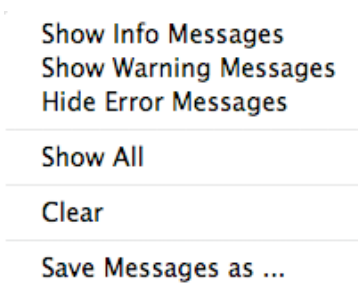
### 3.7.2. Filtering the Messages

You can show or hide certain types of messages using the palette’s fly-out menu.

- To hide:
  - all informational messages, select **Hide Info Messages** in the fly-out menu,
  - all warnings, select **Hide Warning Messages**,
  - all errors, select **Hide Error Messages**.

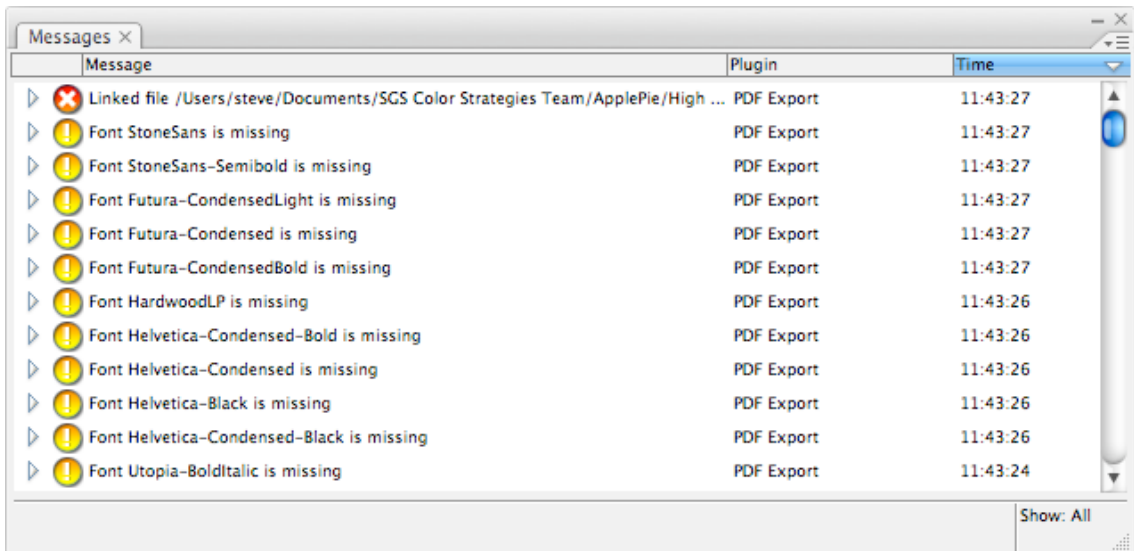


- To show them again, select either:
  - **Show Info Messages**,
  - **Show Warning Messages**,
  - **Show Error Messages**.

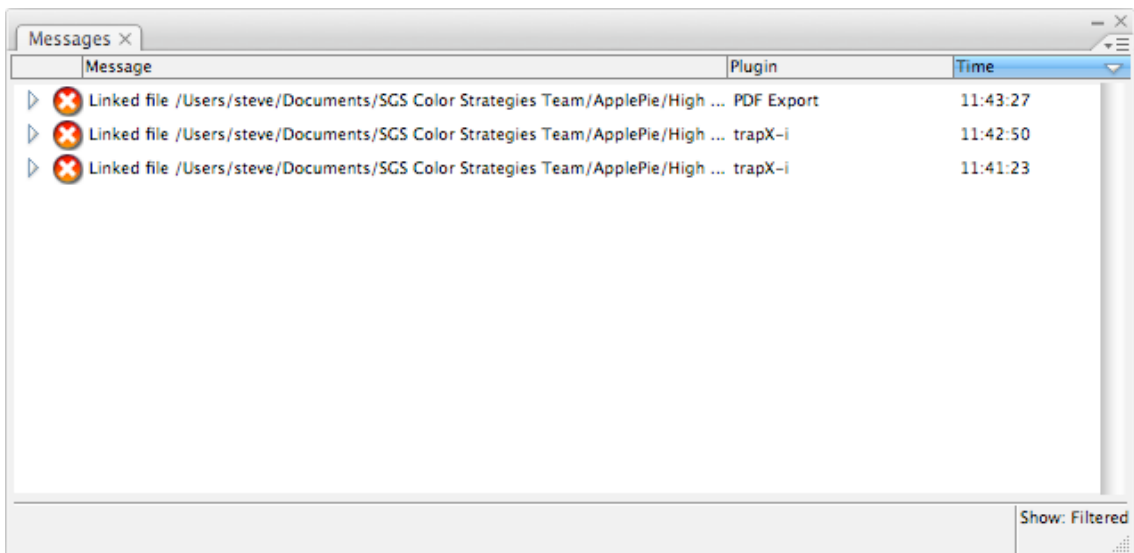


- To only show the last message, select **Show Last** in the fly-out menu.
- To show all messages again, select **Show All**.

When showing all messages, you can see **Show: All** at the bottom right of the palette.



When filtering messages (for example filtering out the warning messages, or showing only the last message), you can see **Show: Filtered** at the bottom right of the palette.



### 3.7.3. Saving the Messages

To save all messages in a text file:

1. Select **Save Messages as...** in the fly-out menu.



2. In the browser window that opens, choose the name and location to use for saving your file.

### 3.7.4. Clearing the Messages

- To remove all messages from the **Messages** palette, select **Clear** in the fly-out menu.

## 3.8. Esko Document Setup

---

By choosing **File > Esko Document Setup** you can open the **Esko Document Setup** dialog.

The settings made here are saved in the Esko XMP Document Information.



### 3.8.1. Distortion

The vertical and horizontal distortion value is saved with the document and used by Esko RIPs when generating the final output. It allows to compensate for distortions in certain printing methods, e.g. flexography. On mounting a flexo plate on the press, it is stretched out in one direction. By making the output slightly smaller than needed (e.g. 95%), we compensate for this distortion.

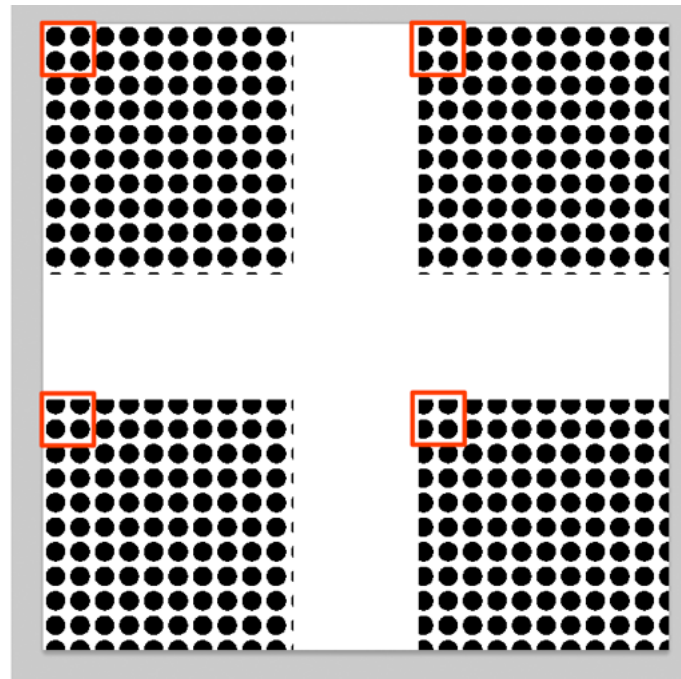
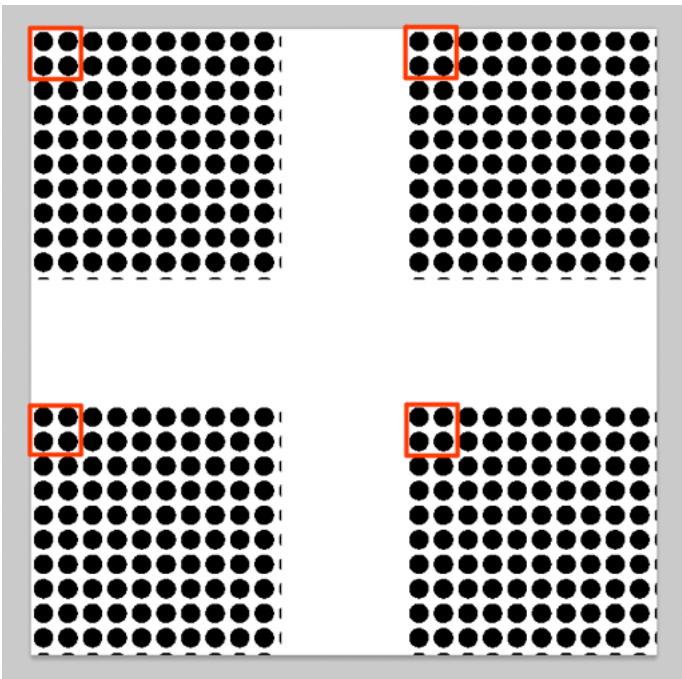
Values for vertical and horizontal distortion is limited to 90% - 110%.

### 3.8.2. Screen Registration

The **Screen Registration** parameter allows to choose

-  if the RIP should reset the screening origin for every one-up
-  or keep the same screening origin for the complete document

Below a schematic representation of a Repetition with (left) and without (right) resetting the screen origin for every one-up.



### 3.9. Annotations

---

With the **Annotations** plugin, you can view .xpdf annotations generated by Global Vision and WebCenter.

Since version 16, Global Vision SDK has been integrated in Esko's Automation Engine, allowing several types of Global Vision Check tasks to be run.

The output of a Global Vision Check is an .xpdf file, highlighting the found errors and problems on the document.

The .xpdf file can be loaded (see [Loading XPDF files](#) on page 90) and the annotations are shown in the Annotations palette (see [The Annotations palette](#) on page 91).

#### 3.9.1. Loading XPDF files

Whenever a file is opened in Adobe Illustrator, the Annotations plugin will try to find the corresponding XPDF file to open.

- For GlobalVision annotations, the supported file types are Adobe PDF, Normalized PDF and Adobe Illustrator file
- For WebCenter annotations, the supported file types are Adobe PDF, Normalized PDF, Adobe Illustrator file, Adobe Illustrator ZIP file and ARD.

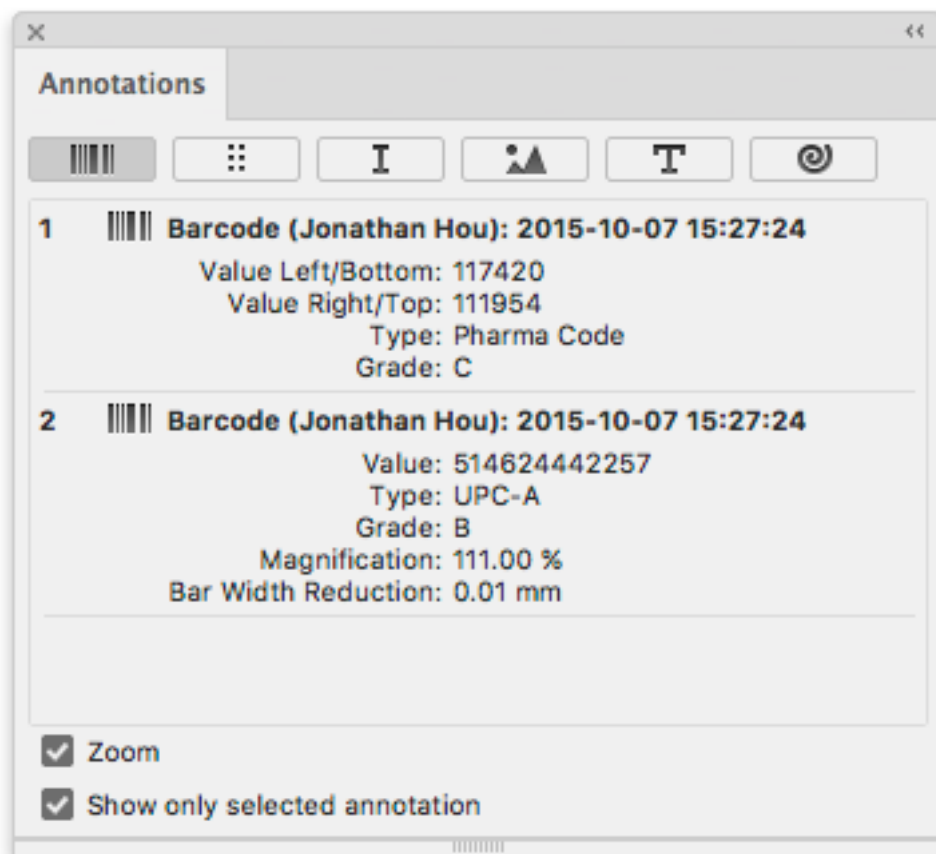
If for example a file "sample.pdf" is opened, the plugin will search for the corresponding .xpdf file in the following locations, in the specific order shown below.

1. `.view/sample.pdf/*.xpdf`

2. `.view/sample*.xfdf`
3. `sample*.xfdf`
4. `./sample_wcr.xfdf` for WebCenter annotations

### 3.9.2. The Annotations palette

The Annotation palette will show all Annotations found in the .xfdf file. You can open the palette by choosing **Window > Esko > Annotations**.



There are different types of annotations: Barcode, Braille, Spell Check, Artwork, Text Compare and WebCenter annotations.. You can browse to them by clicking the buttons on top of the palette.

**Note:** If the document only contains WebCenter annotations, you will not have any filtering options. If your document only contains Global Vision annotations, the "WebCenter" button will be hidden.

For every issue found, an entry in the list is shown. Some of these annotations have text content, while others can have an image preview, showing the difference between the actual artwork and how it should look.

If **Show only selected annotations** is enabled, only the annotations you select in the list will be highlighted in your job using a colored rectangle. Otherwise, all annotations in the job will be highlighted.

If **Zoom** is enabled, selecting an annotation in the list will automatically zoom in on the issue.

### 3.9.3. Multipage PDF files with Annotations

An XFDF file can contain annotations for a multipage PDF. Every annotation will have a reference to what page it belongs to.

If you import a multipage Normalized PDF, the plugin knows what page you imported, and only the Annotations for that specific page will be shown.

If you import a multipage PDF as Adobe PDF, the plugin can't know what page you imported. In that case, the Annotation palette will have a dropdown at the bottom of the palette, to decide for what page you want to load the annotations.

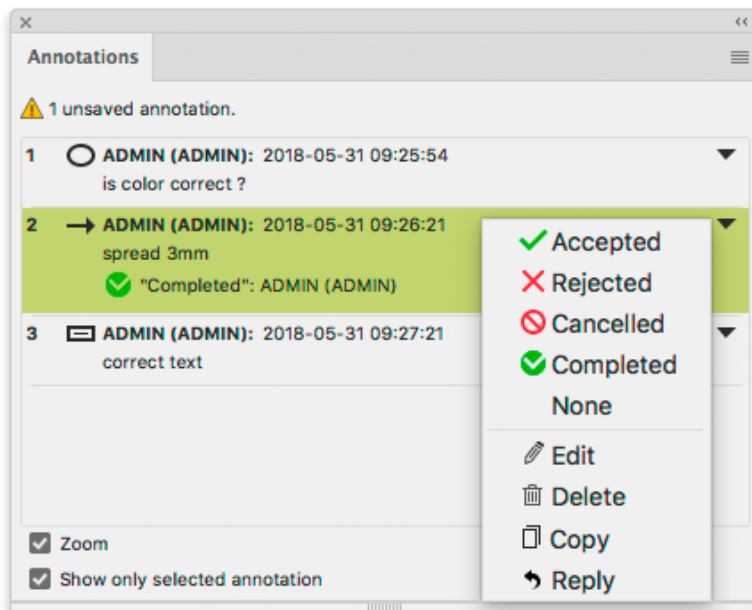
**Note:** Multi-page annotations is not supported for WebCenter annotations

### 3.9.4. Editing WebCenter annotations

You can edit existing WebCenter annotations or create new annotations, and save them back to WebCenter.

To create new annotations, you can use the Annotation Tool. See [Creating new annotations using the Annotation Tool](#) on page 93

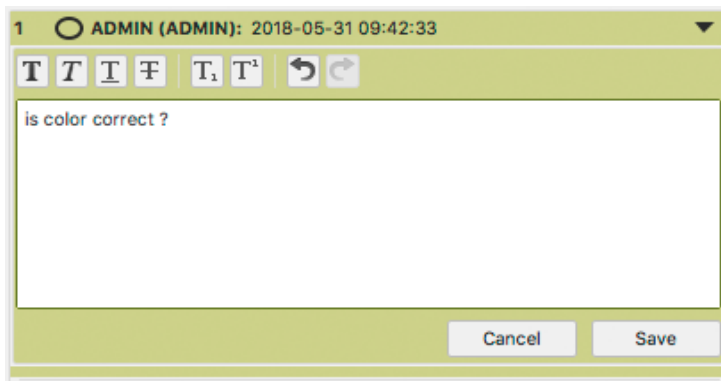
For every annotation (or reply), you can use the dropdown menu to modify the annotation.



- Select **Accepted**, **Rejected**, **Cancelled**, **Completed**, or **None** to change the status of the annotation accordingly.
- Select **Edit** to change the text of an annotation, or to move or resize the annotation.

You can click and drag the annotation to move it, or you can click and drag any of the handles on the annotation to resize it.

The dialog will be extended, offering text editing options.



**Note:** Clicking the **Save** button will store your changes in the (local) annotation, but will NOT save the annotation back to WebCenter. The annotation will be an "unsaved annotation" until you use **Save Annotations** from the fly-out menu. See below.

- Select **Delete** to remove the annotation.
- Select **Copy** to copy the content of a comment or annotation. This will open the Copy to Clipboard dialog. Select the text you want to copy, and click Copy.
- Select **Reply** to add a reply to an annotation.

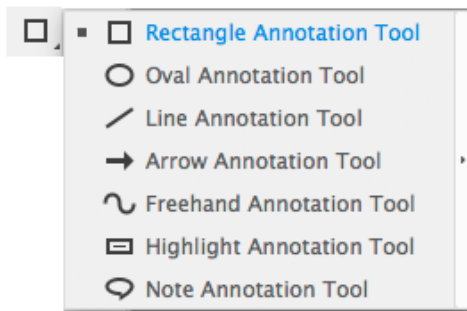
**Note:** You can only reply to an annotation, not to a reply.

- If there are unsaved changes in the annotations, the Annotations palette will show a warning. Choose **Save Annotations** from the flyout menu in the Annotations palette to save the new or modified annotations back to WebCenter. See [Updating and Saving Annotations](#) on page 94

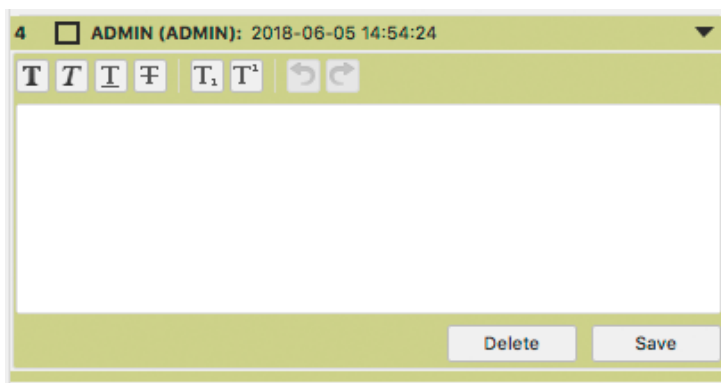
### 3.9.5. Creating new annotations using the Annotation Tool

Using the **Annotation Tool** you can create new annotations.

1. Click the **Annotation Tool** in Adobe Illustrator's tool box.



2. Select the type of annotation you want to create.
3. Click or drag where you want to create the annotation.
4. In the **Annotations** palette, enter the text for the annotation



5. Click the **Save** button to store your annotation text, or click **Delete** to remove the annotation.
6. If necessary, repeat the previous steps to create additional annotations.
7. Choose **Save Annotations** from the flyout menu in the Annotations palette to save the new annotations back to WebCenter. See [Updating and Saving Annotations](#) on page 94

### 3.9.6. Updating and Saving Annotations

Each annotation contains a time stamp of creation. In case the source file is modified and saved later than the annotation, a warning icon will be shown on top of the palette, indicating the annotations might be out of sync with the document.

Also when you edit Annotations (see [Editing WebCenter annotations](#) on page 92) or create new annotations (see [Creating new annotations using the Annotation Tool](#) on page 93), a warning icon is shown, indicating that these annotations are unsaved.

You can use **Save Annotations** from the fly-out menu to save all unsaved annotations to WebCenter.

You can use **Update Annotations** from the flyout menu in the Annotations palette to get the latest annotations from WebCenter.

If you select **Update Annotations** while your document contains unsaved annotations, a warning will be shown, asking if you wish to save the annotations. You can select **Yes** to save the annotations to WebCenter, or click **No** to ignore the unsaved changes and get the latest annotations from WebCenter.

**Note:**

In case the annotations can not be loaded or saved (e.g. you are no longer logged in with WebCenter Connector, there are no annotations available for the document, or the document no longer exists) you will get a warning message indicating why loading or saving didn't work.

You can not save annotations, edit annotations or reply to an annotation if the Annotations plugin is older than version 16.1.2, or if the WebCenter Connector plugin or WebCenter server is not the latest version.

## 3.10. Esko Plug-ins Dashboard

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On your Esko Plug-ins Dashboard, you can:

- See which features you use, and how often,
- Learn how many files are processed with your Esko plug-ins,
- Get configurable reports for your company.

To build the dashboard, Esko needs to collect data about your plug-ins usage.

1. Open the Dashboard panel by choosing **Help > Esko > Dashboard...**
2. Click the **Yes, I want a dashboard** button.
3. Sign in with your Esko ID

More information about Esko ID can be found [here](#)

**Note:** If you already enabled Dashboard before, you can skip step 2 and 3 steps.

4. Click the **Go to my Esko Plug-ins Dashboard** link to open the Dashboard

### 3.10.1. Opt Out

At any time, you can opt-out and stop the data collection.

1. Open the Dashboard panel by choosing **Help > Esko > Dashboard...**
2. Click the **Opt Out** button.

### 3.10.2. More about the dashboard and data collection

#### Insights for you and your team

You will get a dashboard for DeskPack and/or for Studio. With these personalized dashboards you can check that you are getting the most out of your software investment. You can filter on those features that are the most valuable to you, and keep track of how often they are used, how many files

are handled, and by how many people. If your colleagues also opt in, you can choose to combine the data in a single dashboard for your company.

### **Your data is protected**

Your data will be available only to Esko, to you and to your colleagues (based on the company code of their Esko IDs). [Learn more about Esko ID](#) and [check out our privacy policy](#).

### **Help us improve our products**

Sharing your usage data with Esko allows us to learn about your configuration and your use of our products. This data enables us to focus on the features that matter the most to you.

### **What data is collected?**

If you enable the dashboard, Esko will collect:

- Basic information about your computer (OS version, language, screen resolution, ...).
- Your version of Adobe Illustrator and which Esko plug-ins are installed.
- Which actions you perform on Esko plug-in, including some of their parameters.

We never record any information that can be used to identify your client or the designs that you work on (such as text statements, barcodes, separation names or filenames).

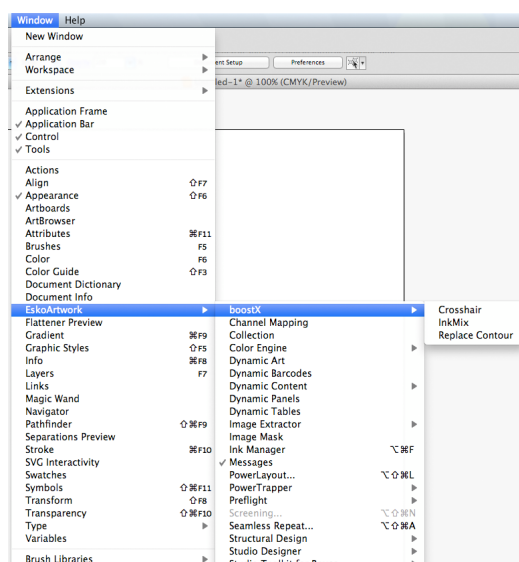


## 4. boostX

### 4.1. Using boostX

#### 4.1.1. Starting boostX

You can start the boostX plugin by selecting **Window > Esko > boostX**.

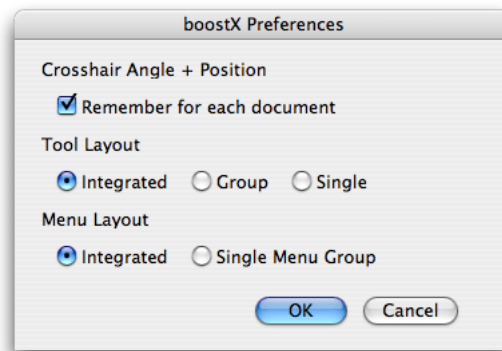


#### boostX Preferences

To open the boostX preferences, choose **Illustrator > Preferences > Esko > boostX Preferences**. Please refer to the chapter on [Working with Crosshair alignment tools](#) on page 110, for the explanation on the Crosshair Preferences.

The boostX **Tool Layout** preference allows you to place the different boostX tools either integrated with the Illustrator tools, grouped or as individual tools in the Illustrator tool bar.

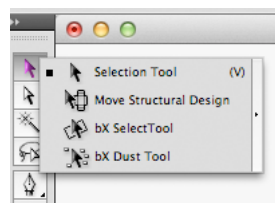
With the boostX **Menu Layout** preferences you can choose if the boostX menus should appear in menus **Object > Path > Esko** and **Select > Esko** (Integrated) or in **Object > Filters > Esko** (Single Menu Group).



## 4.1.2. Selecting Objects

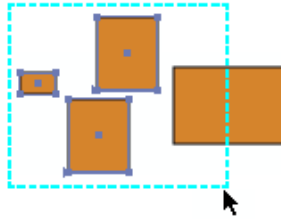
### Area Select Tool

The Area Select tool allows you to marquee select objects. The objects are only selected if the Marquee select box is created around the entire object or clicked on directly. The Area Select tool allows you to select only the objects you wish to work with, in contrast, the Adobe Illustrator Selection tool will select an object if the Selection tool touches or is drawn through an object. With the boostX Area Select tool objects cannot be moved inadvertently.



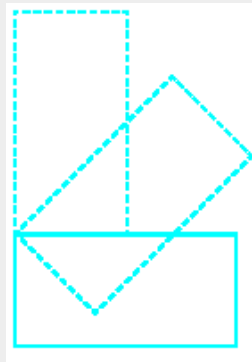
**To use the boostX Select tool Choose Window > Tools** Hold down the mouse button to show the **Selection options > boostX Select Tool.**

Create a Marquee Selection box around the object or objects you wish to select. The selection is highlighted.



**Tip:**

Holding down the Option key while making a boostX marquee selection, rotates the selection from the point of "marquee" origin. Holding down the Shift key will "snap" rotate the marquee selection in 45 degree increments.



**Tip:**

Use shortcut 'v' to switch to Illustrator select tool.

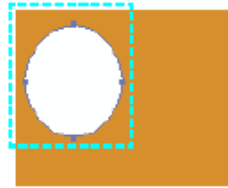
**To use the boostX DirectSelect tool** Hold down the mouse button to show the Direct-Selection options > **boostX Direct Select Tool**.

Create a Marquee Selection box around an object's compound path or individual objects within a "Group" of objects. The selection is highlighted.

The boostX Area Direct Select tool allows you to marquee select objects and then edit or modify the object's compound path, as in the inside of a "donut like" object. The boostX DirectSelect tool also works on individual objects within a "Group" of objects.

Using the Adobe Illustrator Direct Select tool only allows you to edit and reposition an object's individual node points. Using the boostX Select tool allows you to select "complete" subpaths of compound or grouped objects.

Marquee select an object's compound path with the boostX DirectSelect tool.



### Dust Select Tool

The Dust Select tool allows you to select objects of equal or lesser size based on the Marquee Select box you create. The marquee Select box can be created anywhere on the drawing surface, Dust Select tool will calculate the area and search the drawing for other objects of the same size or smaller and select those objects.

**Note:**

Size definition: The Dust Select tool will take both width and length into account and will not only look at the surface area.

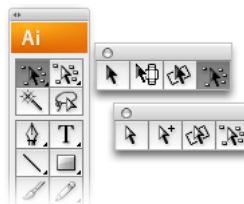
The Dust Select tool becomes a useful utility for finding small, dust like objects. These small objects can be too small for printing or are artifacts of scanned artwork that need to be removed.

To use the Dust Select tool Choose **Window > Tools**. Hold down the mouse button to show the Selection options > **boostX Dust Tool**.

The Dust tool is now the active tool of the Adobe Illustrator Tool Box.

To create a selection, use your mouse to make a Marquee Selection box of a desired size. The Dust Select Tool will search the drawing to select the objects of the same size or smaller, all objects satisfying the size parameters are now highlighted.

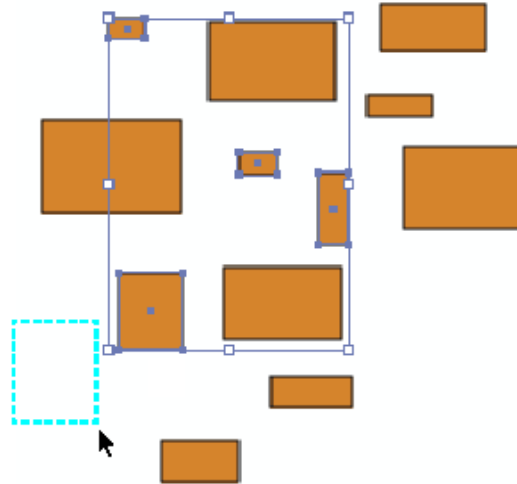
**To use the Dust Direct Select tool** The Dust Direct Select tool allows you to marquee select objects or their compound paths to determine a selection. Hold down the mouse button to show the Direct-Selection options > **boostXDustDirectSelect** Tool. The Dust Direct Select tool is now the active tool of the Adobe Illustrator Tool Box.



**Tip:**

First draw your selection marquee and press CTRL holding the selection to delete everything in the selection.

To create a selection, use your mouse to make a Marquee Selection box of a desired size. The Dust Direct Select Tool will search the drawing to select objects, paths of compound objects, or paths of groups of the same size or smaller.

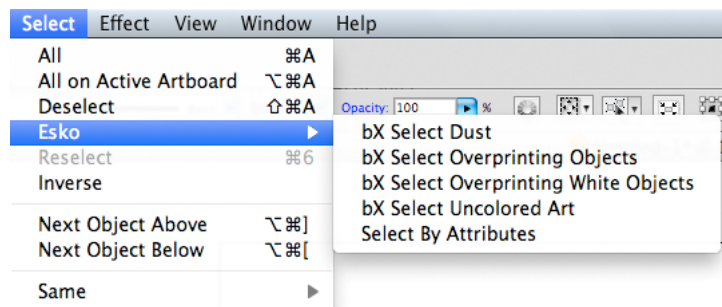


### Selection tools under Select > Esko

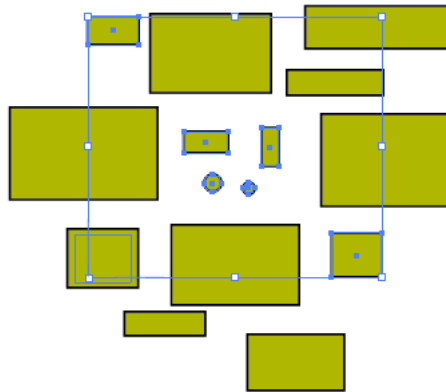
#### Select Dust

The Dust Select filter searches your document for objects of the same size, by area calculation or smaller. Ideal for scanned artwork clean-up. Inspect the drawing to determine the biggest object that should be removed, select that object, then enable the boostX Dust select filter. All objects of the same size or smaller are selected. Now you can decide to delete these objects or edit them.

To use Dust Select Select an object. Choose **Select > Esko > boostX Dust**



The filter will search the drawing document and select the objects which are the same size, by area, or smaller.



### Select Overprinting Objects

#### bX Select Overprinting Objects

The bX Select Overprinting Objects searches your document for objects that are in overprint.

Click **Select > Esko > bX Select Overprinting Objects** and all objects in overprint will be selected.

### Select White Overprinting Objects

#### bX Select White Overprinting Objects

The bX Select White Overprinting Objects searches your document for objects which fill or stroke is white (all inks = 0%) and overprinting.

Click **Select > Esko > bX Select White Overprinting Objects** and all objects with a fill or stroke that is white and overprinting will be selected.

### Select Uncolored Art

The bX Select Uncolored Art selection filter searches your document for objects that have no fill color or stroke color assigned to them.

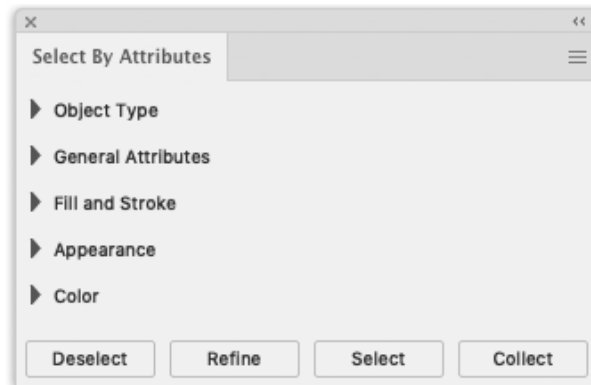
Click **Select > Esko > bX Select Uncolored Art** and all objects without a fill color and stroke color will be selected.

### Select by Attributes

The Select by Attributes option opens the Select by Attributes palette, from which you can define a custom selection filter based on the attributes of the objects in the Illustrator document. Select By Attribute is both a productivity and a QA tool. It allows you to quickly select all elements in the file (or sub-select within a selection) that comply with your criteria; color, object type, appearance and even the shape of the object. Use it as a QA tool to trace elements in your document that are outside the printing specifications (small text, thin lines, ...). Click **Select > Esko > Select By Attributes**, to open the Select By Attributes palette.

### Why Select by Attributes?

By combining multiple selection criteria in the Select by Attributes panel, you can create your own special, tailor-made selection filter.



The Select By Attributes option comes with four buttons **Select**, **Refine**, **Deselect** and **Collect**.

- **Select:** Select all objects in the document that match the criteria that are currently selected .
- **Refine:** Refine the current selection by adding additional selection criteria. This allows you to quickly fine tune your result.
- **Deselect:** Deselect all objects that match the new selection criteria within the current selection.
- **Collect:** Make a Collection of all the objects in the document that match the criteria that are currently selected. See [Collection](#) on page 107

### Selection groups

The following groups of selection criteria are available:

- Object Type
- General Attributes
- Fill and Stroke
- Appearance
- Color

It's good to know that Select By Attributes works differently when combining selections within the same selection group or when combining selection criteria in different selection groups.

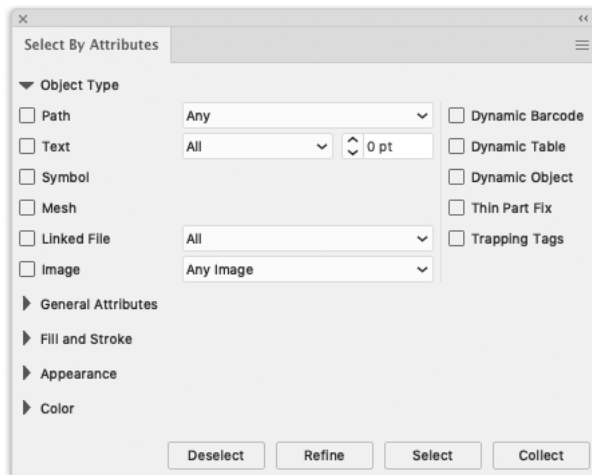
When adding selection criteria in the same selection group, Select by Attributes will simply add the search criteria, e.g. searching in "Object Type" for a "Path", "Text" and a "Mesh" will result in a selection of all paths, all text and all mesh objects.

However when combining selections in different selection groups, Select by Attributes will combine the selection criteria. e.g. searching for "Text" in "Object Type" and "Stroke" in "Fill and Stroke" will only select text objects colored with a stroke.

**Note:** Click on a triangle to collapse or expand the section. Alt-click on an expanded section to open all the sections. Alt-click on a collapsed section to expand that section and collapse all others.

### Object Type

The Object Type group has ten options:



**Path:** Select objects based on the path type: Open, Closed or Compound. Using **Any option**, the selection is made between objects which are Open, Closed or Compound.

**Text:** Select all text, or all text smaller than the point size you specify in the Text field.

**Symbol:** Select all the objects that are Adobe Illustrator symbols.

**Linked File:** Select objects or images which have been linked to (and not embedded into) the Adobe Illustrator file.

**Image:** Selects all placed image files of the file type defined in the list. The image has to be embedded in the file.

**Mesh:** Select all objects that are Adobe Illustrator Mesh objects.

**Dynamic Barcodes:** Select dynamic barcode objects generated by the Esko Dynamic Barcodes plug-in.

**Dynamic Table:** Select dynamic table objects generated by the Esko Dynamic Tables plug-in.

**Dynamic Object:** Select XML-driven dynamic objects generated by the Esko Dynamic Content plug-in.

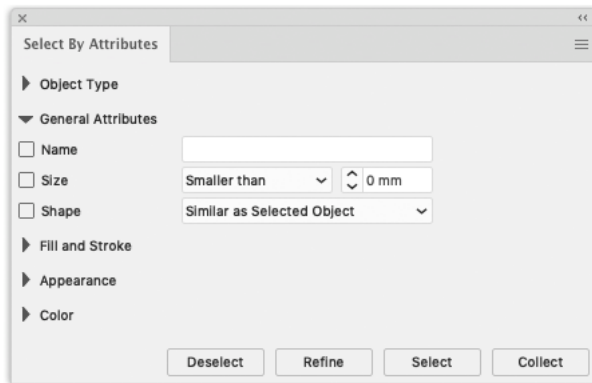
**Thin Part Fix:** Select objects created by using the **Fix** button in the Thin Parts function of the Preflight For Illustrator plugin.

**Trapping Tags:** Select objects that have a Trapping Tag defined, used by Esko Trapping.

### General Attributes

The General Attributes group has three options:





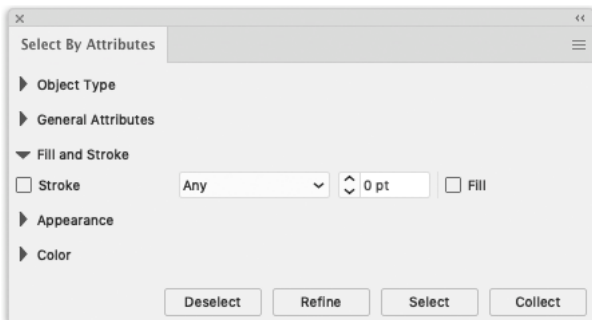
**Name:** Select an object by typing its name. The name of an object can be found and modified in the Illustrator Layer palette. Object names are by default placed between angled brackets (< >). Note that you do not need to type the brackets, and that object names are case sensitive.

**Size:** Select the size of the object (smaller or bigger than the typed size in mm).

**Shape:** Select the objects which are of the same shapes as defined in the list. Note that the Similar as Selected Objects option will only function if an object is selected.

### Fill and Stroke

The Fill and Strokes group has two options:

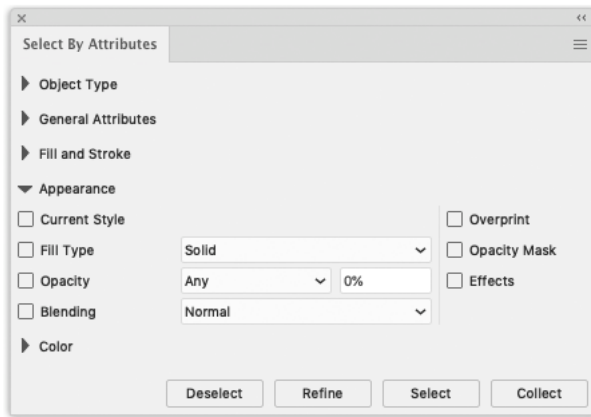


**Fill:** Select the objects with a fill.

**Stroke:** Select all strokes, or strokes smaller than the size you specify in the Text field.

### Appearance

The Appearance group has seven options:



**Current Style:** Select objects similar to the selected object. The selection is tied to the style of the Illustrator color palette. This means that you can also search for any object with a certain style.

**Fill Type:** Select the objects with a certain Fill type. You can choose between Solid, Gradient or Pattern.

**Opacity :** Select the objects that have a fill or a stroke with an opacity level or transparency lower than a certain percentage.

**Blending:** Select objects that have a fill or a stroke set with one of the blending types, for example darken or multiply . Select a blending mode from the drop down list.

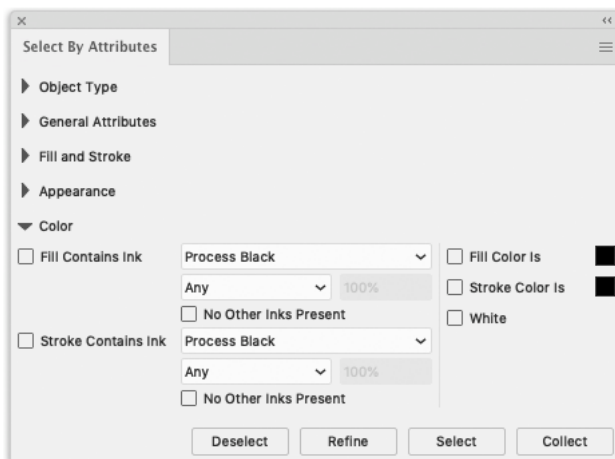
**Overprint:** Select the objects set in overprint.

**Opacity Mask:** Select any objects with an Opacity mask linked to it. Opacity masks are used to alter the transparency of objects and can also be selected via the "Opacity" option.

**Effects:** Select any object that has an Adobe Illustrator Effect applied to it.

## Color

The Color group has several options:



**Fill Color is:** Select an object based on the color used for its fill. By clicking once the color patch will take the color of the object currently selected or when no selection is made it takes the Illustrator current style. When multiple different objects are selected and you click once the default color black is chosen. Double-clicking the patch will open the Illustrator Color Picker.

**StrokeColor is:** Select an object based on the color used for its stroke. By clicking once the color patch will take the color of the object currently selected or when no selection is made it takes the Illustrator current style. When multiple different objects are selected and you click once the default color black is chosen. Double-clicking the patch will open the Illustrator Color Picker.

**Tip:** Change your current style for fill or stroke to "None" (see Tools palette or Appearance) and select all objects with no fill or no stroke.

**Fill Contains Ink:** Select an object based on the ink used for its fill. This can be a process color ink or a spot color ink.

- Use the "Lower than" and "Higher than" options to only select the objects with certain percentages of the ink.
- Select the **No other inks present** check box if you only want to select objects with a fill in the selected ink, but without other additional inks.

**Stroke Contains Ink:** Select an object based on the ink used for its stroke. This can be a process color ink or a spot color ink.

- Use the "Lower than" and "Higher than" options to only select the objects with certain percentages of the ink.
- Select **No other inks present** check box if you only want to select objects with a stroke in the selected ink, but without other additional inks.

**White:** Select any object with a white fill or stroke.

### 4.1.3. Collection

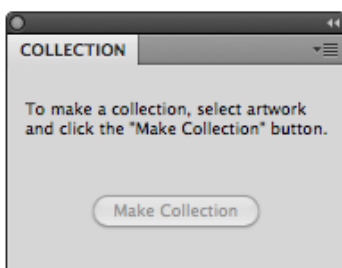
A **Collection** is a temporary set of objects, based on a selection. It allows to navigate through the objects in the Collection, automatically zooming in on them.

A collection is temporary, and only kept until it is cleared, or until the document is closed.

1. Select a number of objects.

You can select objects manually, or by using e.g. **Select by Attribute**

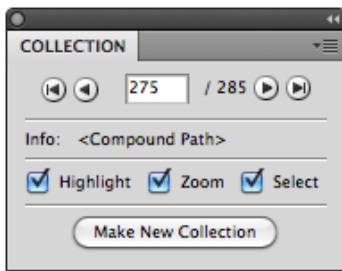
2. Choose **Window > Esko > Collection...** to open the Collection dialog



3. Click the **Make Collection** button to make a collection based on the selection

**Note:** By clicking the **Collect** button in the **Select by Attribute** palette, you can skip step 2 and 3, and immediately create a collection based on the properties set in the Select by Attribute palette . See also [Select by Attributes](#) on page 102

4. Browse through the collection



The Collection dialog will show the number of objects in the Collection

- Use the browse buttons to navigate through the different objects in the collection
- The Info field shows the type of object currently selected
- Select the **Zoom** option to automatically zoom in on the currently browsed object.
- Select the **Select** option to automatically select the currently browsed object.

**Note:**

Selecting or deselecting objects doesn't change the collection. You can still select and/or edit objects, without losing your collection.

**Modifying a Collection**

You can modify the Collection using one of the functions in the fly-out menu of the Collection palette:

- Click the **Make New Collection** button or select **Make Collection** from the fly-out menu to "forget" the current collection, and create a new collection based on the current selection.
- Select **Clear Collection** from the fly-out menu to "forget" the current collection.
- Select one or more objects in the job, and select **Add Selection** from the fly-out menu to add the selected objects to the collection.
- Browse to an object in the collection, and select **Remove Selection** from the fly-out menu to remove the selected objects from the collection.

**Note:** Objects that are removed in the job, are automatically removed from the collection.

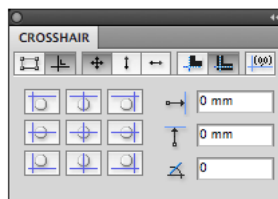
- Select **Select All** from the fly-out menu to select all objects in the collection.

**4.1.4. Crosshair Tool**

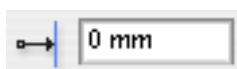
**Crosshair Palette**

The Crosshair palette allows you to create Origin Guide rules, intersecting 'x' and 'y' guide lines. These guide lines can be rotated and positioned anywhere within the Adobe Illustrator drawing area. Objects within the drawing can be snapped to position along the guides.

To select the Crosshair palette Choose **Window > Esko > boostX > Crosshair**. The boostX Crosshair palette appears.

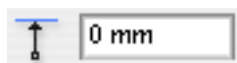


Horizontal Crosshair offset



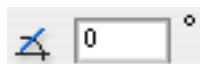
Position of the "x" axis crosshair guide line, positioned from the drawing origin point.

Vertical Crosshair



offset Position of the "y" axis crosshair guide line, positioned from the drawing origin point.

Crosshair Rotation



Specify rotation angle of Crosshair Guide lines, - 45 degrees to +45 degrees around the Horizontal and Vertical intersection point.

1. *Align Art* Selected objects will be positioned to Crosshair guides according to Crosshair alignment options.
2. *Align Crosshair* Crosshair guides will be positioned to selected objects according to Crosshair alignment options.
3. *All Directions* Objects will be positioned along both Crosshair guides. Choose a position from the Alignment Position Window. All 9 Alignment Position Buttons are active.
4. *Align Vertical* Objects will be positioned along the vertical crosshair guide. Choose a position from the Alignment Position Window. Center vertical Alignment Position Buttons are active.
5. *Align Horizontal* Objects will be positioned along the horizontal crosshair guide. Choose a position from the Alignment Position Window. Center Horizontal Alignment Position Buttons are active.
6. *Visual Bounds* Objects are aligned along the object's paint attributes, using the outside of the stroke width.
7. *Transformation Bounds* Objects are aligned using the object's actual artwork path, ignoring the paint attributes of the objects.
8. *Align Ruler* The drawing's ruler origin is aligned to the Crosshair origin point.

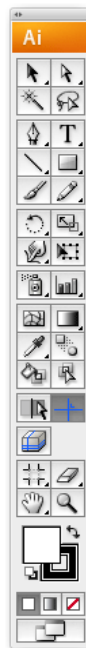
**Note:**

In Adobe Illustrator CS5 and CS5.5, only Global Rulers can be aligned to the Crosshair position. If you are using Artboard rulers, you need to change them first to Global Rulers.

**Working with Crosshair alignment tools**

To interactively position the Crosshair

Start using the Crosshair tool by clicking the tool in the default toolbox.



The first time you select the Crosshair tool, the blue guide lines will align to the "0,0" Ruler origin. The Crosshair Guides can be positioned using the mouse to set the Crosshair origin point. Hold down the Option key and mouse button to set the angle of the Crosshair guide lines. Hold down the Option key, the Shift key and the mouse button to rotate and Snap the Crosshair Guide lines to 45 degree increments.

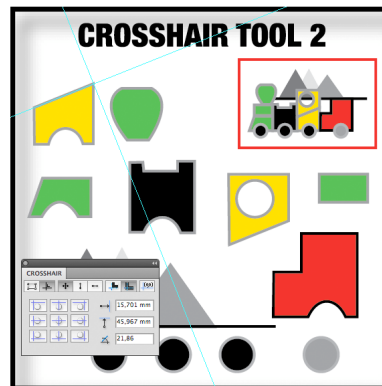
**Aligning the Crosshair Guide lines to selected objects**

To align the Crosshair Guide lines to selected objects:

1. Select the objects to align to.
2. Click the **Align Crosshair** button.
3. Select All Directions, Align Vertical, or Align Horizontal to create the alignment configuration you desire.

Clicking one of the 9 crosshair alignment buttons will align the Crosshair guides to the selected objects, while maintaining the Crosshair angle. You can use Crosshair alignment tools to change the

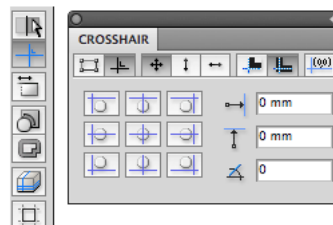
angle. As such, you obtain a reference to align objects to, or just to get an accurate readout on the objects used as a reference.



### Aligning Objects to the Crosshair Guide lines

To align Objects to the Crosshair Guide lines:

1. Select the objects to be aligned.
2. Click on the **Align Art** button.
3. Select All Directions, Align Vertical, or Align Horizontal to create the alignment configuration you desire.



Clicking on one of the 9 art alignment buttons will align the objects to crosshair guides using the selected settings. The combination of aligning the Crosshair guides to objects, and then objects to the Crosshair guides, gives you the ability to quickly create objects that are correctly aligned to each other.

To align the left border of an object A to the right border of an object B while at the same time keeping the vertical position of object A, do the following:

1. Select **object B**.
2. Align the crosshair to the right border of object B (set angle to zero first).
3. Select **object A**.
4. Change the align mode to align Art.
5. Select the **Align Horizontal** mode.

6. Left align the object A to the Crosshair guides.

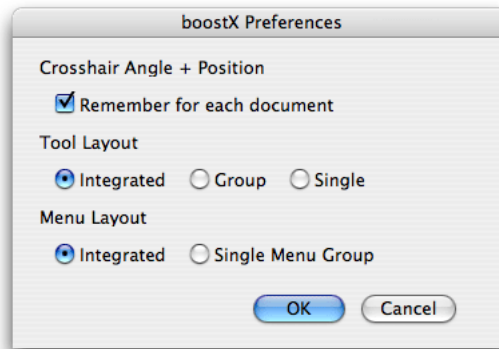
### Assigning Crosshair Preferences

The Crosshair Preferences dialog allows you to determine crosshair settings across documents. You can keep the Angle and Position of the Crosshair for all documents when switching between or opening documents (by selecting **remember for each document**) or you can use the same Crosshair settings across all documents (by deselecting the option). This allows you to align the crosshair in one document, and align objects to these settings in another document.

#### To set boostX Crosshair Preferences :

Choose **Edit > Preferences > Esko > boostX Preferences (PC)** or **Illustrator > Preferences > Esko > boostX Preferences (MAC)**.

The boostX Preferences Dialog appears. Select the desired setting for Crosshair Angle+Position and save the settings.



#### Note:

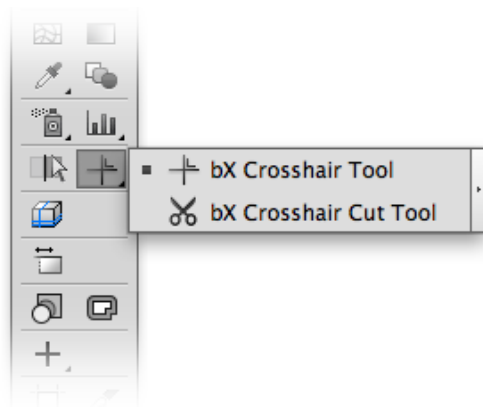
Never put graphics on the boostX cross hair layer. All objects on the boostX layer will be ignored.

### 4.1.5. Crosshair Cut Tool

Using the Crosshair Cut Tool you can cut away parts of an object, based on the position of the Crosshair.

1. Select the objects you want to cut.
2. Place the Crosshair inside the selection, using the **Crosshair Tool**. See [Crosshair Tool](#) on page 108
3. Select the **Crosshair Cut Tool**, situated under the Crosshair Tool in the toolbox.

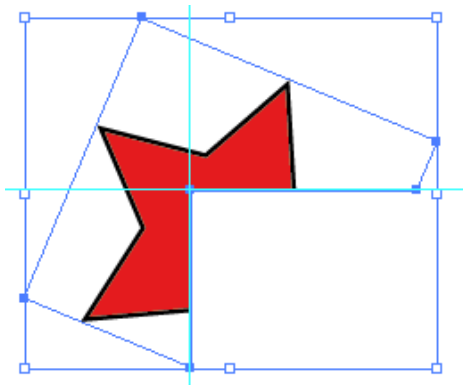




The cursor will change to a pair of scissors

4. Click in the quadrant you want to be clipped away.

Using a clipping path, the quadrant you selected will be cut away.



## 4.2. Ink Mix

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### 4.2.1. Working with Document Inks

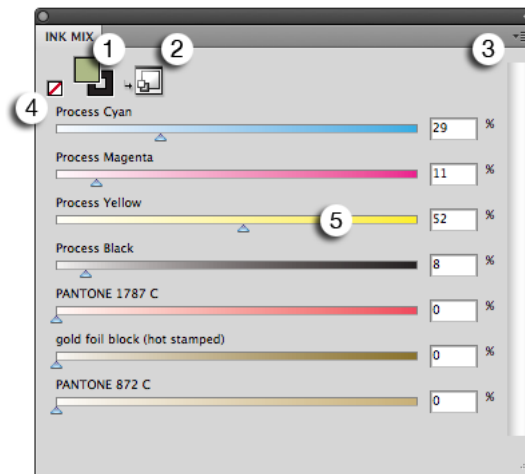
The InkMix Palette is a combination of Plug-in filters allowing you to develop and manage your own custom Ink Base Colors (color swatch palette). These user-defined Base Inks become the basis for which a commercial printer sets his presses up for your particular print job. It is recommended for you to work closely together with a commercial printer before your work is press-ready, ensuring the "Base Inks" are appropriate for the job. InkMix allows you to assign more than one spot color to an object and to mix process colors and spot colors in the same object. The Ink Mix Plug-in helps answer some critical print production questions:

- Which colors and special inks do you plan to specify so they can be applied correctly?

- Which colors within your document need special printing instructions?
- How many colors can be printed in one press run?
- Will your job run on a two-color, four-color, or six-color press?
- What color separation instructions does your commercial printer need?

### 4.2.2. Using the Ink Mix palette

To use the Ink Mix palette Choose **Window > Esko > boostX > InkMix**.



1. Fill or Stroke
2. Add to Graphic Styles
3. Fly-out menu
4. "None" button
5. Ink slider & percentage

#### Changing the Ink Mix of an object

When selecting an object, the Ink Mix palette will show the actual (Fill or Stroke) color.

You can simply change the color by entering the percentages in the input fields, or by dragging the sliders for each ink.

You can apply a Swatch color by dragging and dropping a color from the Swatches palette onto the fill/stroke icon.

You can erase all inks in the selected object(s) by clicking the **None** button (4).

**Note:**

You can also mix the gradient color stops. Simply select the object with the gradient, and click on one of the color stops.

### Inks in the Ink Mix palette

The Ink Mix palette shows all inks currently used in the documents.

There are several ways to add inks:

- Drag and drop a color from the Swatches palette onto the Ink Mix Palette.
- Select **Add Inks of Selected Color Swatch** from the fly-out menu to add the inks used in the selected Color Swatch
- Select one of the **Add [...] inks** options from the fly-out menu to add Process Inks, Hexachrome Inks, Opaltone Inks or Process Inks + Orange and Green.

When removing or converting inks in your document, the Ink Mix will only be updated after selecting **Remove Unused Inks** from the Fly-out menu

### Adding an Ink Mix to Graphic Styles

You can add the current Ink Mix to the Graphic Styles, by clicking the **Add to Graphic Styles** button, or by selecting "Add to Graphic Styles" from the Fly-out menu.

### Handling ink mixes from previous versions

Ink Mixes made in earlier versions of boostX use special BG inks. These ink mixes can still be read, but are no longer created.

Using **Upgrade to Appearances** will upgrade BG inks used in the selected objects to appearances.

### Restrictions

Please keep in mind that Ink Mix is not available in these situations:

- if the selection contains multiple objects with different colors (fill or stroke)
- if the selection contains multiple objects with a different stroke width
- if any effect is applied on a single fill or stroke in the Appearance palette. An effect on the complete object is ok
- if a stroke with "Arrowhead" or "Profile" is selected (Uniform is ok)
- if an object with an "Appearance" with reversed order is selected: Fill - Stroke instead of Stroke - Fill.
- if a mix of gradient and non gradient objects are selected
- if the "Appearance" palette has fills or strokes, but not all of them are in overprint. Only the last fill or stroke can be overprinting or not.
- if the gradient sliders are not in the exact same position in the selection or in the multiple fills in the Appearance palette.

## 4.3. Split / Join Fill & Stroke

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The Split Fill & Stroke filter separates a selected object's Fill from its Stroke. This filter can be used for modifying trapping options and working with chokes and spreads for printer color registration.

### To use Split Fill & Stroke

Select an object with a fill and stroke. Choose **Object > Path > boostX Split Fill & Stroke**

The filter will separate the object's fill and stroke into two distinct objects, one with a fill, no stroke and the other with a stroke, no fill.


**Using the Join Fill & Stroke Filter**

The Join Fill & Stroke filter combines previously Split Fill and Stroke of an object.

To use Join Fill & Stroke Choose **Object > Path > boostX Join Fill & Stroke**

The Join Fill & Stroke filter will search the document for split objects. The filter then joins the objects' fill and stroke into one object, having one stroke and one fill.

The Fill & Stroke filters work on all objects including text, as in our example. Applying the Split Fill & Stroke filter will separate the text object into two independent text objects. The result is one "text object" with only a fill and another "text object" with only a stroke.



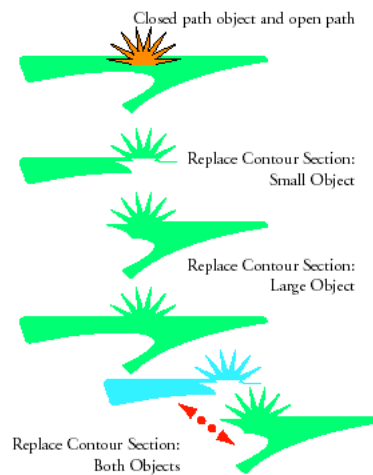
## 4.4. Replacing Contour

The Replace Contour Tool allows you to create new objects by combining two objects, a closed path object with an open path.



To use boostX Replace Contour Choose **Window > Esko > boostX > Replace Contour**. The Replace Contour Palette appears.

1. Select a "closed path" object and an "open path" and click the 'Keep Biggest' button. 'Keep Biggest' creates a single merged shape excluding the large closed path. The new shape is the larger of the two objects calculated by area.
2. Select a "closed path" object and an "open path" and click the 'Keep Smallest' button. 'Keep Smallest' creates a single merged shape excluding the small closed path. The new shape is the smaller of the two objects calculated by area.
3. Select a "closed path" object and an "open path" and click the 'Keep Both' button. 'Keep Both' creates two shapes. The new shape is the combination of both the larger and smaller area objects.

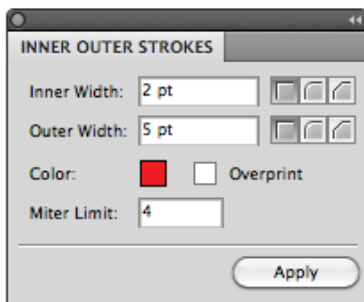


## 4.5. Inner Outer Stroke

The Inner / Outer Stroke allows to create strokes with a different width on the inside and outside of the object.




You can open the dialog by choosing **Window > Esko > boostX > Inner Outer Strokes**

**Note:** Inner Outer Stroke is disabled if the selected object doesn't allow Inner/Outer Stroke, such as an image object or text.



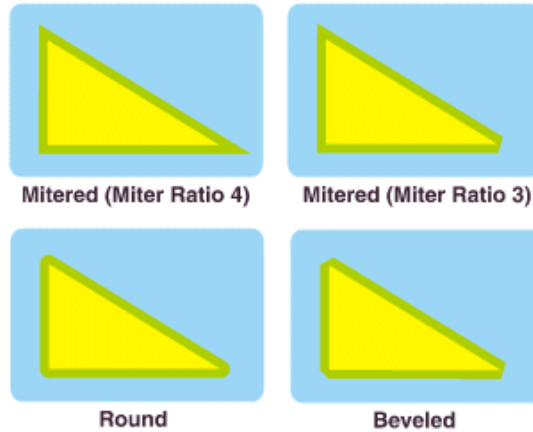
The **Inner Width** sets the distance from the original object to the inside, the **Outer Width** to the outside.

The Corner buttons option allows you to change how the stroke's sharp corners will be handled.

- **Round**  (default): a round cap will be placed at all corners.
- **Beveled** : this will cut sharp corners off.
- **Mitered** : this option works with a miter ratio.

The miter ratio serves to limit the length of the sharp corner (the distance from the base of the stroke to the corner point).

The default miter ratio value is 4. This means that if the length of the sharp corner is more than 4 times the distance, then the corner will be cut off (beveled). If it is less than 4 times the distance, the corner will be left as it is.



The **Color** allows to define the color for the Inner/Outer Stroke. You can double-click the color to open the Adobe Illustrator Color Picker, or you can drag and drop a color patch from Adobe Illustrator Swatch.

You can set the stroke to overprint using the **Overprint** option.

When selecting a single object with an Inner/Outer Stroke, the Inner/Outer Stroke dialog will reflect the properties of the Inner/Outer Stroke. If multiple objects are selected, the common settings are shown. If the objects have different settings, e.g. different Inner/Outer Width, or a different color, the settings will be empty, or (in case of different colors) show a question mark.

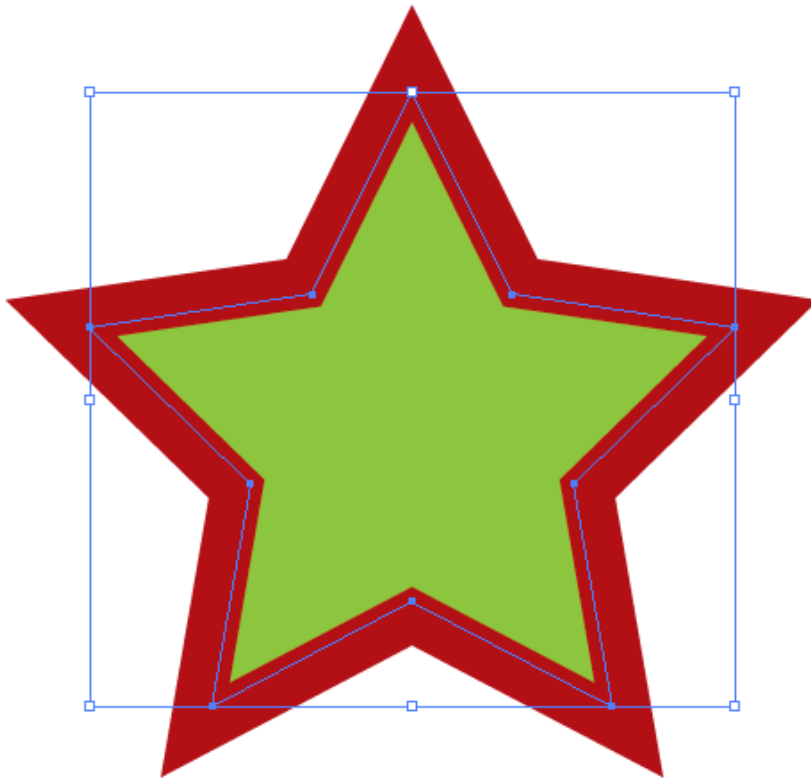
**Ink Mix**

Inner/Outer Stroke can work with InkMix Colors. The Inner/Outer Palette color patch will get a mixed color (indicated by a "m" in the patch) which is same as InkMix Palette Stroke color patch.

If you change the Inks value from the InkMix Palette, the Inner/Outer stroke will change automatically. If the Inner/Outer Stroke color patch is a mixed color, double clicking the color patch will open the Ink Mix Palette, since mixed inks can only be changed in InkMix.

For more information on Ink Mix, see [Ink Mix](#) on page 113

In the example underneath, the star has a Inner Width of 2pt, and an Outer Width of 6pt.



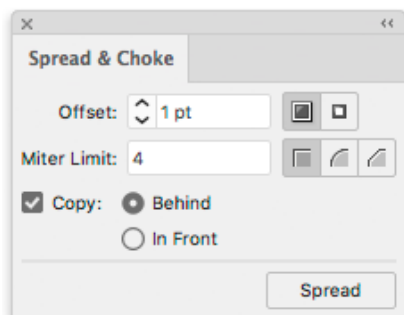
## 4.6. Spread & Choke



Using the **Spread / Choke** function, you can enlarge (Spread) or reduce (Choke) the selected object(s).

1. Select the objects you want to spread or choke

**Note:** Spread / Choke is not supported on images, barcodes, text, PowerLayout Grids, Dynamic Marks, Esko plugin art and meshes.. If your selection contains unsupported objects, they will be ignored from the selection, and you will get a warning when spreading / choking. If your selection only contains unsupported objects, Spread/Choke will be disabled.

2. Select **Object > Path > bX Spread & Choke** to open the Spread & Choke dialog.



3. Using the buttons on the top, choose between **Spread**  and **Choke** .
4. Enter the **Offset** to be used.  
The **Offset** is the distance between the edge of the Spread/Choke object and the edge of the original object.
5. Select how the sharp corners should be handled:
  - **Mitered**: this option works with a Miter Limit. The Miter Limit serves to limit the length of the sharp corner (the distance from the base of the trap to the corner point). The default Miter Limit value is 4. This means that if the length of the sharp corner is more than 4 times the Offset, then the corner will be cut off (beveled). If it is less than 4 times the Distance, the corner will be left as it is.
  - **Round**: a round cap will be placed at all corners.
  - **Beveled**: this will cut sharp corners off.
6. Enable **Copy** if you want to keep the original object as well as the spread / choke.
  - Select **Behind** if you want to place the spread/choke object underneath the original (default for spreading).
  - Select **In Front** if you want to place the spread/choke object on top of the original (default for choking).

## 4.7. Rotate Document

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Using **Rotate Document**, you can rotate the complete document: the artboard, page boxes and all objects. All objects and page boxes keep their relative positions.

Choose **File > Document Rotation** and select the rotation you want to apply.



The options are:

- 90° CW (ClockWise)
- 90° CCW (Counter ClockWise)
- 180°

**Note:** In some cases, rotating the complete document is not supported. For example Dynamic Marks, Drop Shadows, Adobe Illustrator effects, etc. are not supported. If this occurs, a message will be shown.

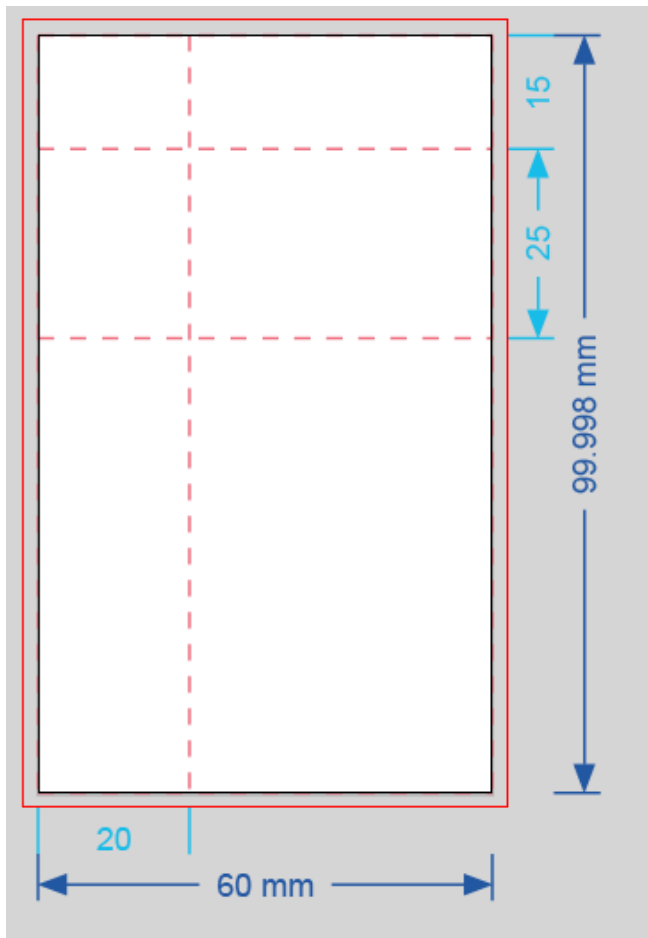


## 4.8. Dimension Lines

Using the **Dimension Lines** functionality, you can add dimension lines to your Illustrator file.

Dimension lines can be added to the full document, based on the artboard, trim box or media box.

You can also add dimension lines of subdivisions of the document, either in columns or in rows.



1. Open the **Dimensions** palette by choosing **Window > Esko > boostX > Dimension Lines**
2. Set the general settings:
  - a) Choose the **Units** to be used in the dimensions: either the units defined in the Illustrator preferences, or a specific unit from the dropdown
  - b) Choose the style for the **Arrows** and the line thickness
  - c) Choose the **Font Family** and font size for the dimensions.
3. Set up the dimension lines for the complete job in the **Total Dimensions** section
  - a) Set the **Size** to put the dimension lines on: either the Artboard, or one of the Page Boxes. The Width and Height fields will show the dimensions of the currently selected size.

- b) Define where the dimension lines should be placed by setting the **Width Position** and **Height Position**. The **Margin** defines the distance between the job and the dimensions or between two dimensions on the same side.
  - c) Set the **Color** for the total dimensions. The last used colors will be remembered for each new document. By default, a technical spot color named "Dimensions and Text" is used.
4. Set up the subdivision lines in the **Subdivisions** section.
- a) Set the **Line Style** for the Subdivisions: either a dashed line, solid line or no line.
  - b) Set the **Color** for the Dimensions and for the dashed lines. The last used colors will be remembered for each new document. By default, a technical spot color named "Secondary Dimensions" and "General Structural Lines" is used.
  - c) Set the **Columns** by entering a distance in the different fields.
    - Click the + button to add a new field. If an input field is selected, the new field is added in front of it, otherwise it's added at the end.
    - Click the - button to remove the currently selected field. If no input field is selected, the last one is removed.
    - In case the size of the columns does not add up to the total size, a yellow warning is shown. Clicking this button will automatically adjust the columns to match the total width. If the sum of all columns is lower than the total width, a column is added, using the difference as width. If the sum of all columns is higher than the total width, any columns completely outside of the total width are removed, and the last column is reduced to make the sum of all column widths match the total size.
  - d) Define where the column dimensions should be placed, either Top or Bottom. The **Margin** defines the distance between the job and the dimensions.
  - e) Set the **Rows** by entering a distance in the different fields. This works the same way as for **Columns** (see above).
  - f) Define where the row dimensions should be placed, either Left or Right. The **Margin** defines the distance between the job and the dimensions or between two dimensions on the same side.
5. Click **Create** to create the dimension lines and dimensions in a separate locked **Dimension Lines** layer.
- If you already created dimension lines in the document, the button will change to **Modify**, allowing you to change the current dimension lines using different settings.

### 4.8.1. Dimension Lines Presets

With Dimension Lines Presets, you can save all your settings as a preset to be able to reuse them on other documents.

1. Define your settings in the **Dimension Lines** dialog.
2. In the **Presets** list, choose **Save...**
3. Give your preset a name and click **OK**.

You can now see your preset in the **Presets** list. To reuse it in the future, just select it in the list.

**Note:** The **Preset** dropdown also contains the **Bag Types**. See [Bag Presets](#) on page 123

- To delete a preset, select it in the **Presets** list and select **Remove**.
- To edit a preset, select it in the **Presets** list, make your changes in the settings, and save it again with the same name.

- The location where the Presets are saved, is set in the Dimension Lines Preferences. See [Dimension Lines Preferences](#) on page 124

## 4.8.2. Bag Presets

By selecting a Bag Type from the **Preset** dropdown, you can add the dimensions corresponding to the selected Bag Type.

1. In the **Dimension Lines** dialog, select the desired Bag Type in the **Preset** dropdown.


You can choose from these bag types:

- Pillow Bag - Fin Seal
- Gusseted Bag - Fin Seal
- Gusseted Bag - Block Bottom
- Stand-up Pouch
- Sachet - Horizontal Fold
- Sachet - Vertical Fold

For more information on the different bag types, we refer to the Studio documentation: <https://www.esko.com/en/support/product?id=Studio%20Advanced>

**Note:** Note that the available Sachet bag types don't match the bag types available in Studio Toolkit. **Sachet - Horizontal Fold** should be used for both three-seal four seal sachets, where the "Orientation" option is set on the left or right side, while **Sachet - Vertical Fold** should be used for three-seal and four seal sachets, where the "Orientation" option is set on the top or bottom.

As soon as you select a bag type, the parameters to be set will change. Changing the Bag Type will reset all parameters.

2. Set the **Orientation** of the dimensions in your document using the orientation buttons 
3. Use the **Attach** dropdown to define the position of the dimensions. The dimensions will be placed in the top left corner of the selected page box or the Artboard.
4. Set the dimensions for the bag. The parameters to be set depend on the selected bag type.
5. Click **Create** to create the Dimension Lines, or **Modify** to adjust the already created Dimension Lines

## 4.8.3. Dimension Lines Options

In the Dimension Lines Options, you can change the appearance of the dimension lines

1. Select **Show Options** in the fly-out menu of the **Dimension Lines** dialog.
2. Set the **Units**: you can either use the units defined in Illustrator, or set the units to be used.
3. Define the **Arrows**, **Line Style** and **Line Width** for the dimension lines.
4. Set the **Font Family** and **Size** for the text
5. Set the **Position** and **Margin** for the Width, Height, Columns and Rows dimensions.
6. Set the **Color** for the total dimensions, the subdivisions dimensions and the lines.
7. Click **Create** to create the Dimension Lines, or **Modify** to adjust the already created Dimension Lines

8. Select **Hide Options** in the fly-out menu of the **Dimension Lines** dialog to hide the additional options.

#### 4.8.4. Dimension Lines Preferences

Open the Dimension Lines Preferences by selecting **Illustrator > Preferences > Dimension Line Preferences**

- With **Inch Units** you can choose if a dimension in inch should be shown using the text (e.g. 12 in) or the symbol (e.g. 12")
- By setting the **Show Decimals**, you can define how many decimals should be shown in the dimension text. When set to **Default**, the amount of decimals is defined by Adobe Illustrator, based on the selected unit. When set to 0, 1, 2 or 3, the distances are rounded off when necessary. Ending zeroes (after rounding) are not shown.
- If the option **Overprint Dimension Lines** is enabled, all newly created dimension lines will be placed in overprint.
- **Dimension Lines Preset Settings Folder:**

When choosing **Use default preference folder**, Presets are saved in the default "shared users" folder.

When choosing **Use custom folder**, Presets are saved in the folder you define by clicking the **Browse** button.

## 5. Dynamic Barcodes

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### 5.1. What is a barcode ?

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A barcode is a machine-readable representation of information in a visual format on a surface. Barcodes can be read by optical scanners, allowing quick and easy identification of all kind of goods.

Originally barcodes stored data in the widths and spacings of printed parallel lines, but today they also come in patterns of dots, concentric circles, and hidden in images.

The information contained in a barcode varies from numbers to complete ASCII texts. The drive to encode ever more information in combination with the space requirements of simple barcodes led to the development of matrix barcodes or 2D barcode, which do not consist of bars but rather a grid of square cells.

Barcodes are just the visible part of often quite large systems frequently referred to as automated identification systems. These systems are increasingly proving to be some of the most cost-effective management tools, since they enable organizations to keep track of their goods and stocks in all kinds of situations in a fast, accurate and efficient way.

With the Dynamic Barcodes plug-in, you can add a dynamic barcode to your document without leaving your application. Dynamic means that your barcode settings can be changed later on, even after you saved, closed and reopened your document.

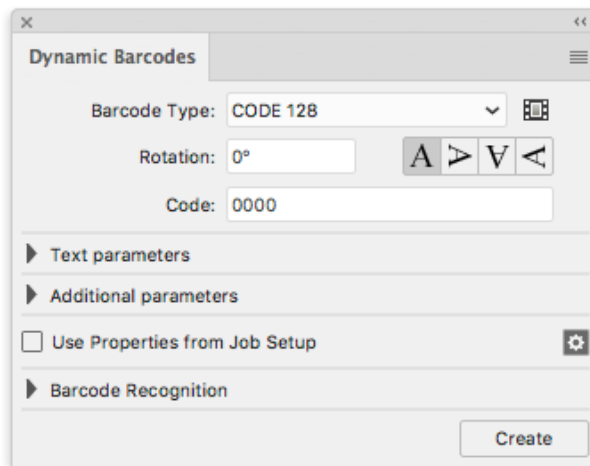
### 5.2. Getting Started with Dynamic Barcodes

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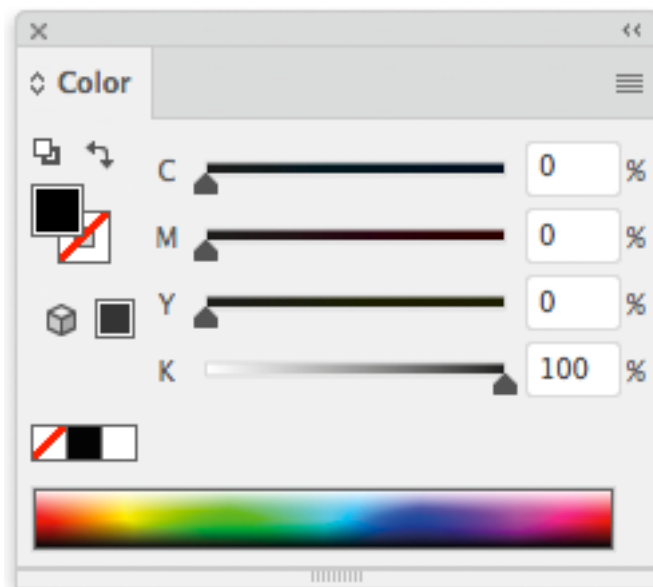
To introduce you to Dynamic Barcodes, here is how to make your first barcode in four simple steps.

1. Create a CMYK Illustrator document and go to **Windows > Esko > Dynamic Barcodes**.

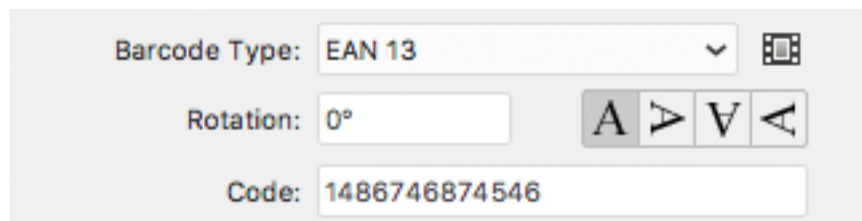
This opens the **Dynamic Barcodes** dialog.



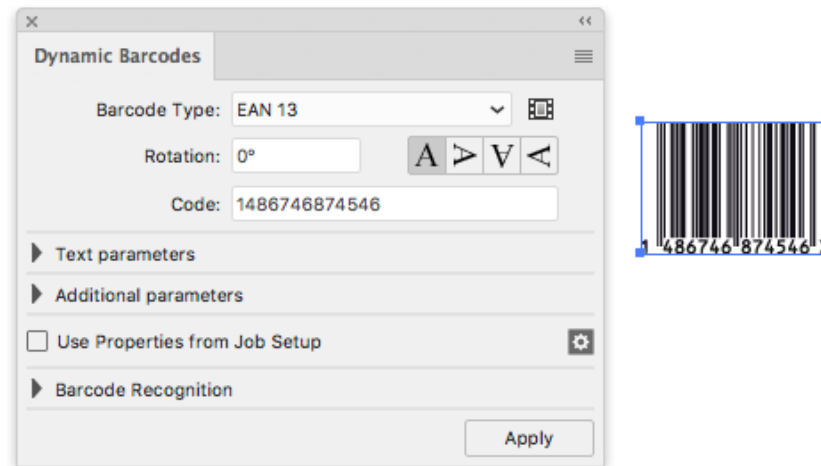
2. Define the color of the barcode: in your Illustrator color palette, define a single-color fill style and no stroke.



3. Enter the barcode parameters (**Barcode Type**, numeric **Code**...) in the **Dynamic Barcodes** dialog. For example, for an EAN 13 barcode, select **EAN 13** as **Barcode Type** and enter a 13 digit **Code**.



4. Click the **Create** button and Dynamic Barcodes will generate the barcode in your document.



### 5.3. Using Dynamic Barcodes in Unlicensed Mode

If you don't have a license for the Dynamic Barcodes plug-in, you still use it in unlicensed mode to perform limited operations. You can:

- Open documents containing barcodes created by Dynamic Barcodes without warning messages.
- Create barcode placeholders (with no data in them) in your design.

See [Creating a Barcode Placeholder Quickly](#) on page 133.

You can also use the regular Illustrator functions to:

- change the barcode's position in your document,
- rotate it by multiples of 90 degrees (using **Object > Transform > Rotate**),

**Tip:** You can rotate several barcodes at once.

- change its fill color (it is not possible to apply a stroke),



**Attention:**

Choose a fill color that is:

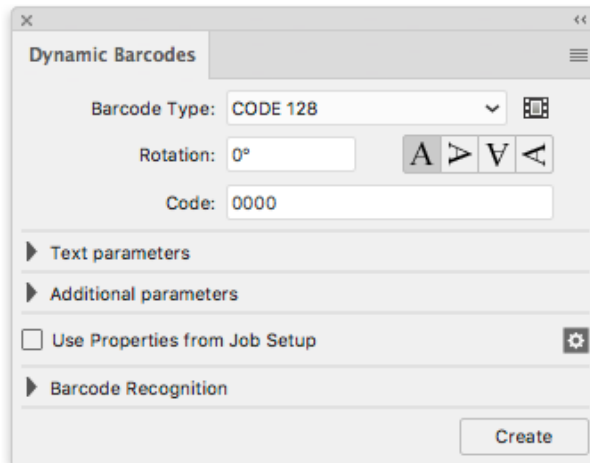
- a process or a spot color (other colors might generate trapping problems),
- not too light (or the barcode might be difficult to scan).

- copy and paste it.
- delete it.

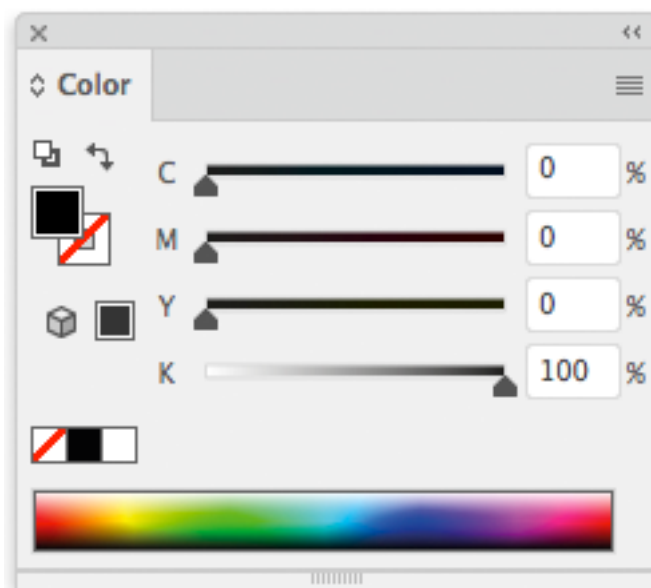
### 5.4. Dynamic Barcodes Basics

### 5.4.1. Creating a Barcode

1. Create a CMYK Illustrator document and go to **Windows > Esko > Dynamic Barcodes**.  
 You can also use the **Command + Option + 4** shortcut on Mac, or the **CTRL + Alt + 4** shortcut on PC.  
 This opens the **Dynamic Barcodes** dialog.



2. Define the color of the barcode: in your Illustrator color palette, define a single-color fill style and no stroke.  
 Dynamic Barcodes creates bars by generating rectangular objects and assigning the current fill style to them.







**Attention:**

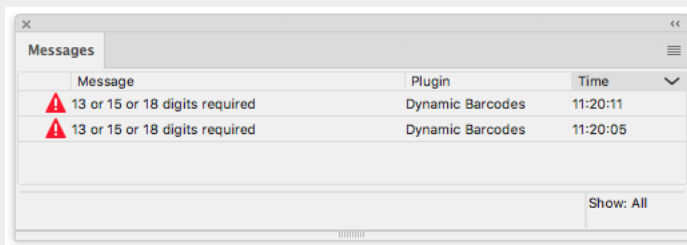
Choose a fill color that is:

- a process or a spot color (other colors might generate trapping problems),
- not too light (or the barcode might be difficult to scan).

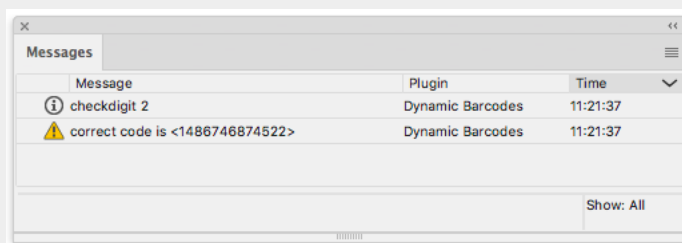
3. In the **Dynamic Barcodes** dialog, select your **Barcode Type**.
4. Enter a **Rotation** angle for your barcode, or use one of the rotation buttons. Choose the **Orientation** of your barcode using one of the buttons or by entering an angle.
5. Enter the barcode's data in the **Code** field. For most barcodes, you can choose to also show this data as a (human-readable) number.



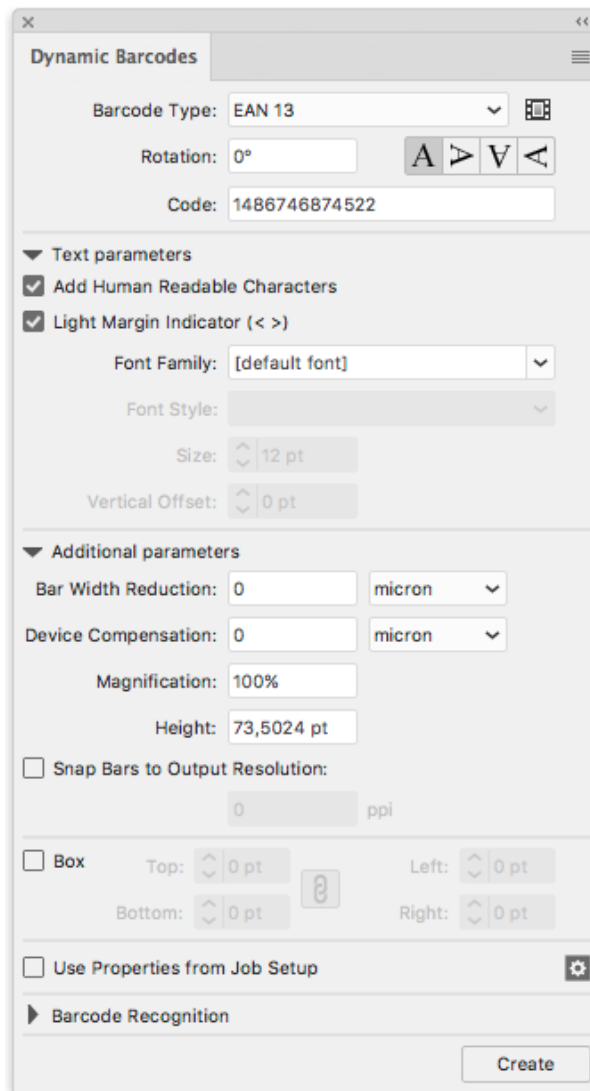
**Attention:** Make sure the barcode data you enter is valid for the barcode type you chose. If it isn't, a warning / error will pop up.



**Note:** If you enter a wrong check digit, Dynamic Barcodes can fix it automatically for you.



6. To fill in other parameters specific to the barcode type you chose, open the **Additional parameters** section and see [Barcode Types](#) on page 152.



7. Click the **Create** button.

- If you have the boostX plug-in installed, Dynamic Barcodes generates your barcode at the intersection of the boostX crosshair.
- If you don't have the boostX plug-in installed, Dynamic Barcodes generates your barcode in the center of the view.



## 5.4.2. Editing a Barcode

With Dynamic Barcodes, you can also edit existing barcodes.

1. Open the **Dynamic Barcodes**.
2. Select the barcode to edit in your Illustrator document.
3. Change its parameters as you wish in the **Dynamic Barcodes** dialog.

**Note:**

If you change the **Barcode Type** and the previous **Code** is not valid for this barcode type, Dynamic Barcodes will reset it to the (first) default code for this barcode type.


This is the default code used for placeholder barcodes; you can see it in the preset barcodes dialog (see [Previewing and Creating a Barcode Placeholder](#) on page 134).

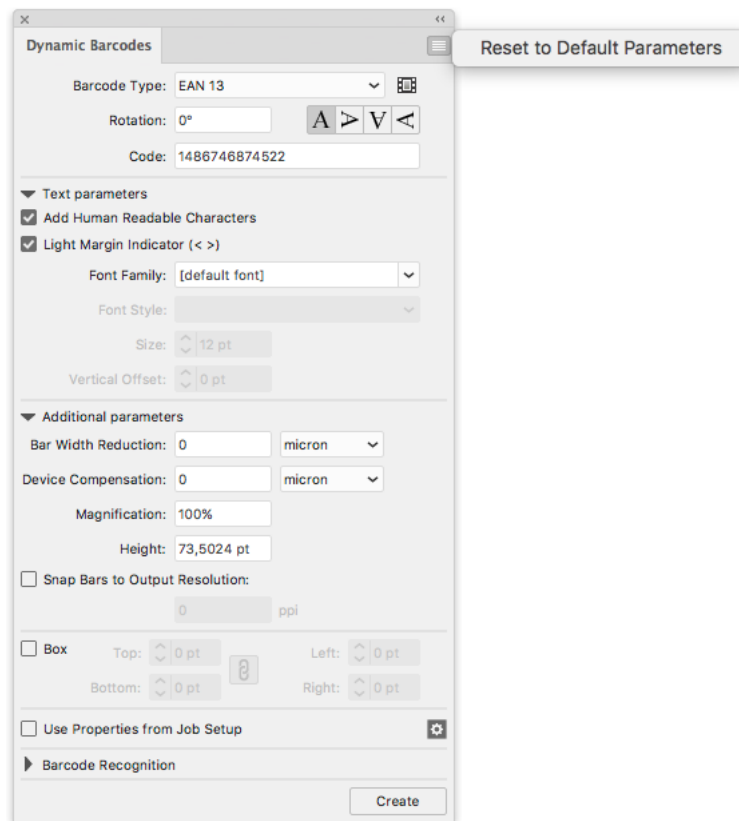
You can then either:

- enter your own valid code,
- use this default code to create a placeholder barcode (see [Creating a Barcode Placeholder Quickly](#) on page 133).

4. Click the **Apply** button to apply your changes to the barcode.

## 5.4.3. Setting Barcode Parameters to Default

- To reset all the parameters of the selected barcode to default, click the palette menu  in the top right corner of the **Dynamic Barcodes** dialog then click **Set Default Parameters**.



**Note:** The **Bar Width Reduction**, **Device Compensation** and **Snap Bars to Output Resolution** parameters are not reverted to the defaults, since these parameters are related to the press settings, and not related to the selected barcode.

### 5.4.4. Barcode Placeholders

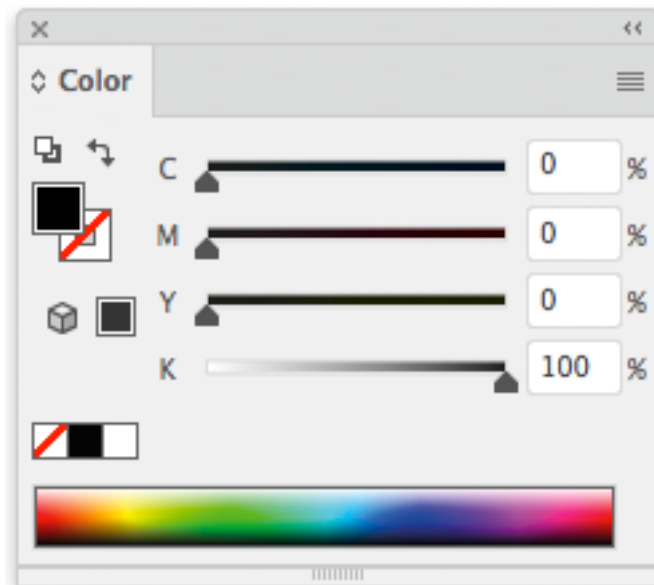
If you don't have the exact data to encode in your barcode yet, you can already create a barcode placeholder in your design.

This placeholder will have the correct symbol type for the barcode type you choose, but will only contain "empty" or "default" data (for example 000000000000 for EAN 13).



### Creating a Barcode Placeholder Quickly

1. Open the **Dynamic Barcodes** dialog from **Windows > Esko > Dynamic Barcodes**.
2. Define the color of the barcode: in your Illustrator color palette, define a single-color fill style and no stroke.



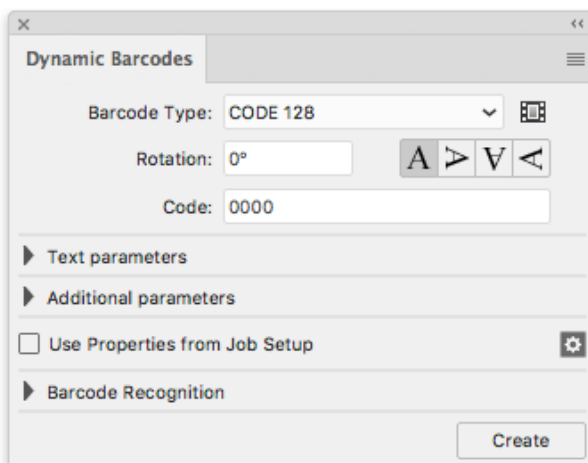
**Attention:**

Choose a fill color that is:

- a process or a spot color (other colors might generate trapping problems),
- not too light (or the barcode might be difficult to scan).

3. In the **Dynamic Barcodes** dialog, select your **Barcode Type**.

The **Code** field is automatically filled out with a nul / default value that has the correct number of digits for your **Barcode Type** (for example 0000000000000 for EAN 13).



4. Click the **Create** button to create your barcode placeholder.

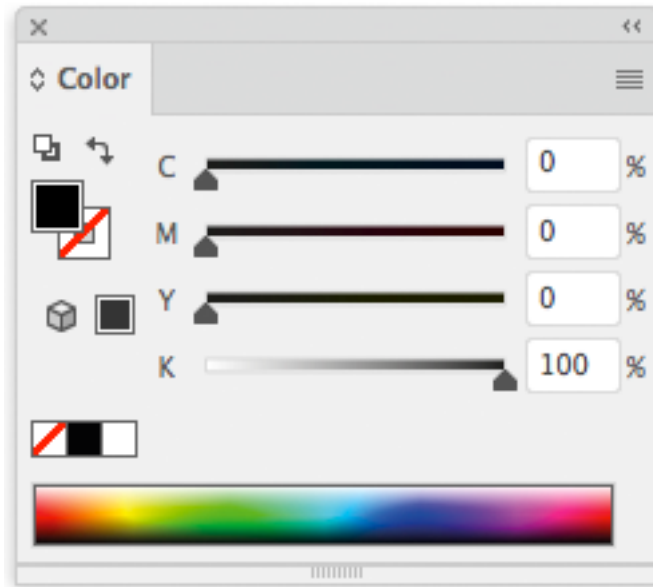


**Note:** You can also create a barcode placeholder in unlicensed mode (see [Using Dynamic Barcodes in Unlicensed Mode](#) on page 127).

### Previewing and Creating a Barcode Placeholder

You can use Dynamic Barcodes to preview different barcode types before creating your barcode placeholder.

1. Open the **Dynamic Barcodes** dialog from **Window > Esko > Dynamic Barcodes**.
2. Define the color of the barcode: in your Illustrator color palette, define a single-color fill style and no stroke.



**Attention:**

Choose a fill color that is:

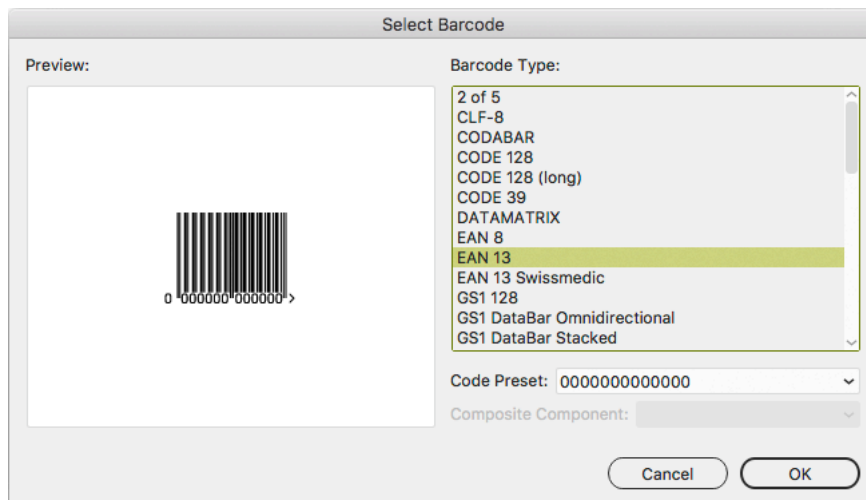
- a process or a spot color (other colors might generate trapping problems),
- not too light (or the barcode might be difficult to scan).

3.

In the **Dynamic Barcodes** dialog, click the Pre-set barcodes icon



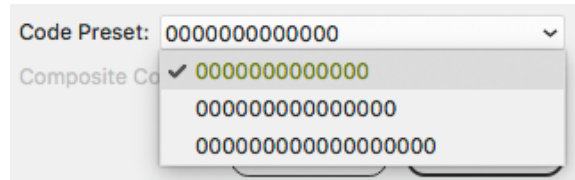
This opens the **Select Barcode** dialog.



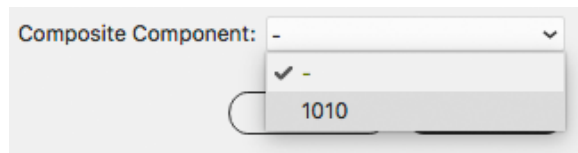
4. Select your **Barcode Type** on the right to see a **Preview** of it on the left.

**Note:** This shows previews of barcode placeholders. Your actual barcode (with data and specific parameters affecting its size) may look slightly different. For more information on barcode parameters, see [Barcode Types](#) on page 152.

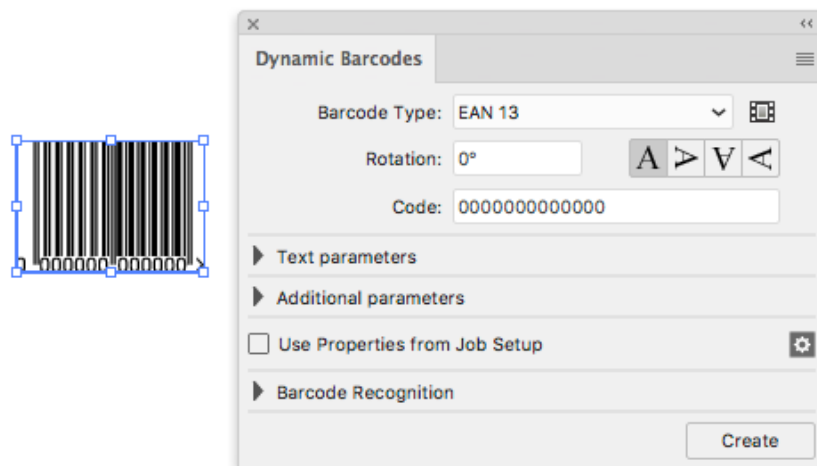
- If your barcode data can have several possible lengths (for example EAN 13 can have 13, 15 or 18 digits), choose the length you want to preview in **Code Preset**.



- If your barcode can have a **Composite Component** (some GS1 barcodes), you can choose to preview it with or without that component.



- Click **OK** to use the preview parameters (**Barcode Type**, **Code Preset** and **Composite Component** as applicable) in the **Dynamic Barcodes** dialog and close the **Select Barcode** dialog.
- In the **Dynamic Barcodes** dialog, click the **Create** button to create your barcode placeholder.



### 5.4.5. Expand

By using the **Expand** function, you can replace a barcode by regular objects (rectangles, text, ...) in a group, without any barcode information.



**Note:** Adobe Illustrator also contains an "Expand" function. However, since this does not remove the barcode metadata, the barcode remains editable.

1. Select the barcode you want to expand
2. From the fly-out menu of the Dynamic Barcodes panel, select **Expand**

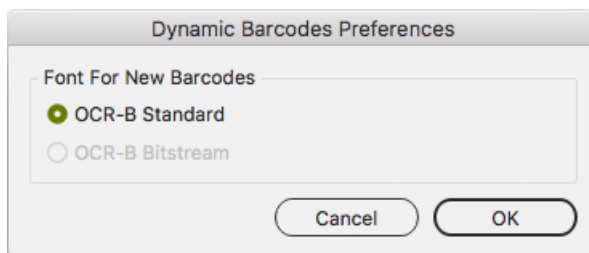
**Note:** Barcodes used by Dynamic Marks and Dynamic VDP can't be expanded.

## 5.5. Dynamic Barcodes Advanced



### 5.5.1. Choosing a Font Standard

You can choose between two font standards for the human-readable characters of your barcodes.

1. Go to **Illustrator > Preferences > Esko > Dynamic Barcodes Preferences...** to open the **Dynamic Barcodes Preferences** dialog.



2. Choose either **OCR-B Standard** or **OCR-B Bitstream** and click **OK**.

<p><b>OCR-B Standard</b> fonts are rounder and typically used in the Western market.</p>	
<p><b>OCR-B Bitstream</b> fonts are typically used in the Asian market.</p>	

**Note:** If the OCR-B Bitstream font is not installed on your system, the option will be disabled. Esko does not provide this font.

## 5.5.2. Using Dynamic Content with Dynamic Barcodes

You can use the **Dynamic Content** plug-in to turn barcodes created with Dynamic Barcodes into XML-driven objects. These barcodes update automatically when the XML files to which they are linked change.

For more information, see the Dynamic Content documentation.

## 5.5.3. Barcode Protection

Once you create a barcode with Dynamic Barcodes, this barcode is protected. This means that it won't be possible to edit it with most regular Illustrator tools. This protects the barcode against modifications that might render it invalid, for example distorting it or modifying its size.

The only transformation allowed is moving or rotating the barcode. When rotating the barcode, a message is shown in the Messages palette, and the barcode's Rotation parameter is adapted accordingly.

You can still edit the barcode's parameters at any time through the **Dynamic Barcodes** dialog.

### Protecting a Barcode

You can protect a Dynamic Barcodes barcode that has been unprotected, or a barcode made in a previous version of Dynamic Barcodes.

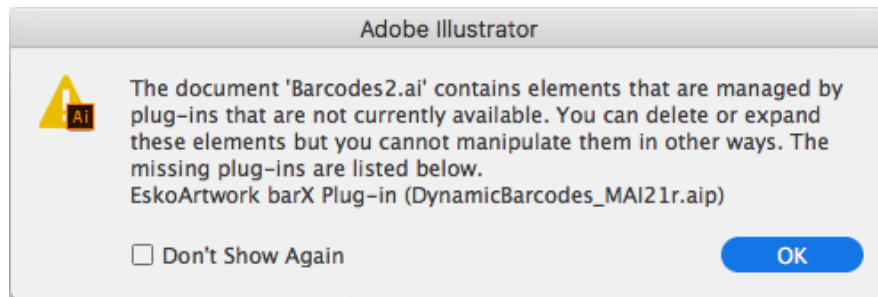
1. Open the Dynamic Barcodes plug-in.
2. Select the barcode to protect in your Illustrator document.
3. If necessary, change its parameters in the **Dynamic Barcodes** dialog.
4. Click the **Apply** button to apply the parameter changes and protect your barcode.

**Tip:** You can use this to fix some invalid barcodes.

### Handling a Barcode without Dynamic Barcodes

#### Opening a Document Containing a Dynamic Barcodes Barcode without Dynamic Barcodes

When opening a document containing a Dynamic Barcodes barcode in an Illustrator application that doesn't have the Dynamic Barcodes plug-in, you will get the following warning:



This **doesn't create any problem in your file**, and you can continue to work with this file as you normally would, without editing the Dynamic Barcodes barcode.

If you need to edit the Dynamic Barcodes barcode with your Illustrator application, see [Editing a Document Containing a Dynamic Barcodes Barcode without Dynamic Barcodes](#) on page 139.

### Editing a Document Containing a Dynamic Barcodes Barcode without Dynamic Barcodes

If you don't have the Dynamic Barcodes plug-in, you can still use Illustrator to do the following operations without rendering your barcode invalid.

If you don't have Dynamic Barcodes installed, you will **not** be able to

- move or scale the object using the Selection tool
- move or distort it (reflect, shear or scale)
- change a color

You will be able to

- expand the bar code
- Rotate by Selection or Free transform - this can lead to inconsistent results so we recommend not doing this.
- move, rotate and distort by the Transform Each command - this can lead to inconsistent results so we recommend not doing this.
- enclose it in the Envelope and distort
- delete it
- copy and paste it

If the Dynamic Barcode plugin is installed, but without a valid license, you will be able to do everything that is allowed by the plugin, except modifying the content. This means for example moving and rotating is allowed, but due to the bar code protection, any potentially dangerous operations such as scale, reflect or shear are not allowed. You will also be able to change the color of the bar code.

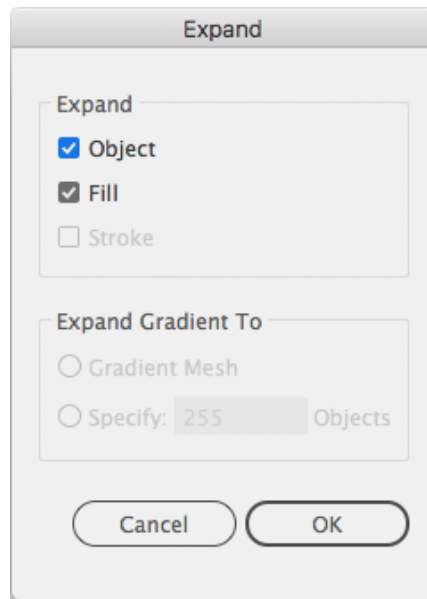
### Unprotecting a Dynamic Barcodes Barcode for Further Editing

You can expand your Dynamic Barcodes barcode to a regular Illustrator group art to be able to edit it further, but this is not recommended as it will **remove the barcode's protection**.



**Attention:** It will then be possible to make modifications that **might render the barcode invalid**.

1. To do this, go to **Object > Expand...** in the Illustrator menu.
2. Choose the object's characteristics to expand, then click **OK**.



This turns your barcode into a regular Illustrator object. You can now for example edit each bar of the barcode individually.

### 5.5.4. Exporting Documents with Barcodes

If you are using other Esko applications, you can export Illustrator documents containing barcodes to the Esko Normalized PDF format, preserving the barcodes' information and editability.

#### Viewing Barcode Information in Other Esko Applications

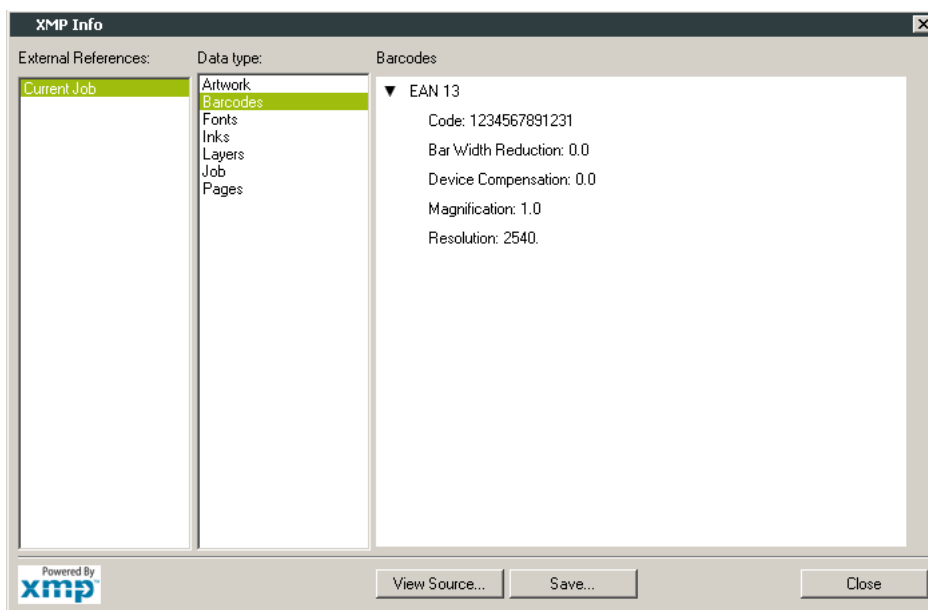
1. Export your Illustrator document to the Esko Normalized PDF format:
  - If you have Automation Engine, use **Shuttle** to launch the document into your chosen workflow. This converts it to Normalized PDF automatically.

**Note:** See the Adobe Illustrator Client documentation for setup information.

- If you don't have Automation Engine, use **File > Export** and choose Normalized PDF as the export format.
2. Select (in Automation Engine) or open (in PackEdge / Acrobat) your document and open the XMP information as explained below:

If you have...	go to...
<b>Automation Engine</b>	<b>File &gt; Info.</b>
<b>PackEdge</b>	<b>File &gt; XMP Info.</b>
<b>the Esko XMP plug-in in Adobe Acrobat</b>	<b>Esko &gt; XMP Document Info...</b>

3. Click **Barcodes** in the **Data type** column (as below in PackEdge) to show the barcode information.



For more information, see the Shuttle, Automation Engine, PackEdge or XMP plug-in documentation.

### Editing Barcodes in Other Esko Applications

The Dynamic Barcodes functionality is available both as a **DeskPack** plug-in and in **PackEdge**.

- To edit your document containing barcodes in **PackEdge**:
  - a) Export your Illustrator document to the Esko Normalized PDF format:
    - If you have Automation Engine, use **Shuttle** to launch the document into your chosen workflow. This converts it to Normalized PDF automatically.

**Note:** See the Adobe Illustrator Client documentation for setup information.

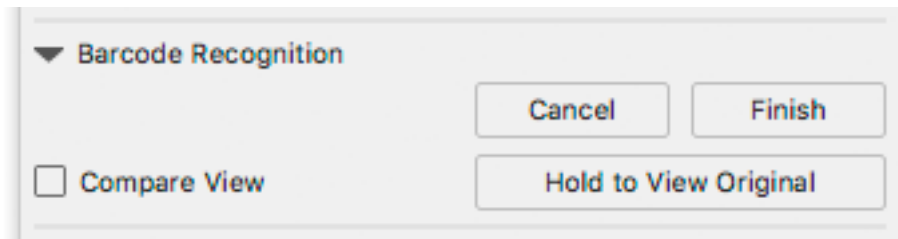
- If you don't have Automation Engine, use **File > Export** and choose Normalized PDF as the export format.
  - b) Open your document in **PackEdge**.
  - c) Go to **Production > Bar Code...** to edit your barcode as you would edit it with Dynamic Barcodes.

For more information, see the Shuttle and PackEdge documentation.

## 5.6. Barcode Recognition

**Barcode Recognition** is a new function in Dynamic Barcodes to convert vectorized (contourized) barcodes and images (e.g. a scanned in barcode) back into live editable barcodes.

1. Choose **Window > Esko > Dynamic Barcodes** to open the Dynamic Barcodes palette.



2. Select the objects (lineart or image) that you want to convert.
3. Click the **Extract** button.

Dynamic Barcode will analyse the selected objects, and when possible a Dynamic Barcode is generated replacing the selection.

- a) Click and hold **Hold to View Original** to hide the converted barcode and see the original lineart or image.
- b) Change any of the barcode parameters and click **Apply** to modify the generated barcode.
- c) Enable **Compare View** to show the newly generated barcode semi transparent on top of the original objects. This allows you to easily change position and parameters of the new barcode to match the original.

4. When you're happy with the result, click the **Finish** button.

This will remove the original objects from the document and close the Barcode Recognition session, leaving you with a barcode object that you can edit as needed.

**Note:** You can not do any other barcode recognition as long as the previous session wasn't ended, either by clicking the **Finish** or the **Cancel** button.

### 5.6.1. Supported Barcode Types and known limitations

The barcodes that are currently supported for Barcode Recognition are these:

- EAN-13 (including add-ons)
- EAN-8
- UPC-A (including add-ons)
- UPC-E (including add-ons)
- NDC-HRI
- Int. 2 of 5
- ITF-14
- ITF-16
- UPC-SCS
- Code-128
- Code-128 (long)
- HIBC-128
- GS1-128
- QR
- GS1-QR

The barcode parameters that are currently recognized (when possible) are these:

- Barcode type
- Code
- Add-on presence
- Color (only when recognizing line art objects)
- HRI presence (only when recognizing line art objects)
- Height (only when recognizing line art objects)
- Rotation
- Magnification
- BWR (only when recognizing line art objects)
- Characters per unit
- Ratio

Other limitations:

- White Box, Light margin indicators, H gauges for ITF barcodes and HRI text parameters are not recognized.
- Device Compensation and Bar Width Reduction are both combined in the Bar Width Reduction
- An Int. 2 of 5 needs to have at least 6 digits.
- UPC-SCS with add-on is not recognized.
- If the original is an image, rotation is deduced from the rotation of the image. If the barcode inside the image is rotated over an angle other than a multiple of 90°, the recognizing will not work.

## 5.7. Barcode Types and Parameters

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### 5.7.1. Supported Barcode Types

#### General Purpose Barcodes

1D	2D
<ul style="list-style-type: none"> <li>• <a href="#">Code 39</a></li> <li>• <a href="#">Code 93</a> on page 157</li> <li>• <a href="#">2 of 5</a></li> <li>• <a href="#">Interleaved 2 of 5</a></li> <li>• <a href="#">Codabar</a></li> <li>• <a href="#">Code 128</a></li> <li>• <a href="#">Code 128 (long)</a></li> <li>• <a href="#">MSI</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">DataMatrix</a></li> <li>• <a href="#">QR</a></li> <li>• <a href="#">MicroQR</a></li> </ul>

**Retail Barcodes**

1D	2D
<ul style="list-style-type: none"> <li>• <a href="#">EAN 13</a></li> <li>• <a href="#">EAN 8</a></li> <li>• <a href="#">UPC-A</a></li> <li>• <a href="#">UPC-E</a></li> <li>• <a href="#">GS1 DataBar Omnidirectional</a></li> <li>• <a href="#">GS1 DataBar Truncated</a></li> <li>• <a href="#">GS1 DataBar Stacked</a></li> <li>• <a href="#">GS1 DataBar Stacked Omnidirectional</a></li> <li>• <a href="#">GS1 DataBar Limited</a></li> <li>• <a href="#">GS1 DataBar Expanded</a></li> <li>• <a href="#">GS1 DataBar Expanded Stacked</a></li> <li>• <a href="#">GS1 128</a></li> <li>• <a href="#">GS1 U.S. Coupon Interim</a></li> <li>• <a href="#">M+S 7</a></li> <li>• <a href="#">Marks &amp; Spencer</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">GS1 DataMatrix</a></li> </ul>

**Pharmaceutical, Healthcare and Cosmetic Barcodes**

1D
<ul style="list-style-type: none"> <li>• <a href="#">NDC / HRI</a></li> <li>• <a href="#">EAN 13 Swissmedic</a></li> <li>• <a href="#">Laetus Pharma Code</a></li> <li>• <a href="#">CLF-8</a></li> <li>• <a href="#">HIBC 39</a></li> <li>• <a href="#">HIBC 128</a></li> <li>• <a href="#">Paraf Italy</a></li> <li>• <a href="#">PZN</a></li> </ul>



<b>1D</b>
<ul style="list-style-type: none"> <li>• <a href="#">PZN8</a></li> </ul>

**Shipment Container Barcodes**

<b>1D</b>
<ul style="list-style-type: none"> <li>• <a href="#">ITF-14</a></li> <li>• <a href="#">ITF-16</a></li> <li>• <a href="#">UPC-SCS</a></li> </ul>

**Identity Document Barcode**

<b>2D</b>
<ul style="list-style-type: none"> <li>• <a href="#">PDF417</a></li> <li>• <a href="#">MicroPDF417</a></li> </ul>

**GS1 Application Identifiers**

These are the GS1 Application Identifiers available in Dynamic Barcodes:

AI	Data Content	Format (*)	FNC1 Required (****)
00	Serial Shipping Container Code (SSCC)	N2+N18	
01	Global Trade Item Number (GTIN)	N2+N14	
02	GTIN of Contained Trade Items	N2+N14	
10	Batch or Lot Number	N2+X..20	(FNC1)
11(**)	Production Date (YYMMDD)	N2+N6	
12(**)	Due Date (YYMMDD)	N2+N6	
13(**)	Packaging Date (YYMMDD)	N2+N6	
15(**)	Best Before Date (YYMMDD)	N2+N6	
16(**)	Sell By Date (YYMMDD)	N2+N6	
17(**)	Expiration Date (YYMMDD)	N2+N6	
20	Internal product variant	N2+N2	
21	Serial Number	N2+X..20	(FNC1)
22	Consumer product variant	N2+X..20	(FNC1)
235	Third Party Controlled, Serialised Extension of GTIN (TPX)	N3+X..28	(FNC1)

240	Additional Item Identification	N3+X..30	(FNC1)
241	Customer Part Number	N3+X..30	(FNC1)
242	Made-to-Order Variation Number	N3+N..6	(FNC1)
243	Packaging Component Number	N3+X..20	(FNC1)
250	Secondary Serial Number	N3+X..30	(FNC1)
251	Reference to Source Entity	N3+X..30	(FNC1)
253	Global Document Type Identifier (GDTI)	N3+N13+X..17	(FNC1)
254	GLN Extension Component	N3+X..20	(FNC1)
255	Global Coupon Number (GCN)	N3+N13+N..12	(FNC1)
30	Variable Count of Items (Variable Measure Trade Item)	N2+N..8	(FNC1)
310n (***)	Net weight, kilograms (Variable Measure Trade Item)	N4+N6	
311n (***)	Length or first dimension, metres (Variable Measure Trade Item)	N4+N6	
312n (***)	Width, diameter, or second dimension, metres (Variable Measure Trade Item)	N4+N6	
313n (***)	Depth, thickness, height, or third dimension, metres (Variable Measure Trade Item)	N4+N6	
314n (***)	Area, square metres (Variable Measure Trade Item)	N4+N6	
315n (***)	Net volume, litres (Variable Measure Trade Item)	N4+N6	
316n (***)	Net volume, cubic metres (Variable Measure Trade Item)	N4+N6	
320n (***)	Net weight, pounds (Variable Measure Trade Item)	N4+N6	
321n (***)	Length or first dimension, inches (Variable Measure Trade Item)	N4+N6	
322n (***)	Length or first dimension, feet (Variable Measure Trade Item)	N4+N6	
323n (***)	Length or first dimension, yards (Variable Measure Trade Item)	N4+N6	
324n (***)	Width, diameter, or second dimension, inches (Variable Measure Trade Item)	N4+N6	
325n (***)	Width, diameter, or second dimension, feet (Variable Measure Trade Item)	N4+N6	
326n (***)	Width, diameter, or second dimension, yards (Variable Measure Trade Item)	N4+N6	

327n (***)	Depth, thickness, height, or third dimension, inches (Variable Measure Trade Item)	N4+N6
328n (***)	Depth, thickness, height, or third dimension, feet (Variable Measure Trade Item)	N4+N6
329n (***)	Depth, thickness, height, or third dimension, yards (Variable Measure Trade Item)	N4+N6
330n (***)	Logistic weight, kilograms	N4+N6
331n (***)	Length or first dimension, metres	N4+N6
332n (***)	Width, diameter, or second dimension, metres	N4+N6
333n (***)	Depth, thickness, height, or third dimension, metres	N4+N6
334n (***)	Area, square metres	N4+N6
335n (***)	Logistic volume, litres	N4+N6
336n (***)	Logistic volume, cubic metres	N4+N6
337n (***)	Kilograms per square metre	N4+N6
340n (***)	Logistic weight, pounds	N4+N6
341n (***)	Length or first dimension, inches	N4+N6
342n (***)	Length or first dimension, feet	N4+N6
343n (***)	Length or first dimension, yards	N4+N6
344n (***)	Width, diameter, or second dimension, inches	N4+N6
345n (***)	Width, diameter, or second dimension, feet	N4+N6
346n (***)	Width, diameter, or second dimension, yard	N4+N6
347n (***)	Depth, thickness, height, or third dimension, inches	N4+N6
348n (***)	Depth, thickness, height, or third dimension, feet	N4+N6
349n (***)	Depth, thickness, height, or third dimension, yards	N4+N6
350n (***)	Area, square inches (Variable Measure Trade Item)	N4+N6
351n (***)	Area, square feet (Variable Measure Trade Item)	N4+N6
352n (***)	Area, square yards (Variable Measure Trade Item)	N4+N6
353n (***)	Area, square inches	N4+N6
354n (***)	Area, square feet	N4+N6
355n (***)	Area, square yards	N4+N6

356n (***)	Net weight, troy ounces (Variable Measure Trade Item)	N4+N6	
357n (***)	Net weight (or volume), ounces (Variable Measure Trade Item)	N4+N6	
360n (***)	Net volume, quarts (Variable Measure Trade Item)	N4+N6	
361n (***)	Net volume, gallons U.S. (Variable Measure Trade Item)	N4+N6	
362n (***)	Logistic volume, quarts	N4+N6	
363n (***)	Logistic volume, gallons U.S.	N4+N6	
364n (***)	Net volume, cubic inches (Variable Measure Trade Item)	N4+N6	
365n (***)	Net volume, cubic feet (Variable Measure Trade Item)	N4+N6	
366n (***)	Net volume, cubic yards (Variable Measure Trade Item)	N4+N6	
367n (***)	Logistic volume, cubic inches	N4+N6	
368n (***)	Logistic volume, cubic feet	N4+N6	
369n (***)	Logistic volume, cubic yards	N4+N6	
37	Count of Trade Items	N2+N..8	(FNC1)
390n (***)	Applicable Amount Payable or Coupon Value, local currency	N4+N..15	(FNC1)
391n (***)	Applicable Amount Payable with ISO Currency Code	N4+N3+N..15	(FNC1)
392n (***)	Applicable Amount Payable, single monetary area (Variable Measure Trade Item)	N4+N..15	(FNC1)
393n (***)	Applicable Amount Payable with ISO Currency Code (Variable Measure Trade Item)	N4+N3+N..15	(FNC1)
394n (***)	Percentage discount of a coupon	N4+N4	(FNC1)
395n (***)	Amount payable per unit of measure single monetary area (variable measure trade item)	N4+N6	(FNC1)
400	Customer's Purchase Order Number	N3+X..30	(FNC1)
401	Global Identification Number for Consignment (GINC)	N3+X..30	(FNC1)
402	Global Shipment Identification Number (GSIN)	N3+N17	(FNC1)
403	Routing Code	N3+X..30	(FNC1)
410	Ship to - Deliver to Global Location Number	N3+N13	
411	Bill to - Invoice to Global Location Number	N3+N13	

412	Purchased from Global Location Number	N3+N13	
413	Ship for - Deliver for - Forward to Global Location Number	N3+N13	
414	Identification of a Physical Location - Global Location Number	N3+N13	
415	Global Location Number of the Invoicing Party	N3+N13	
416	GLN of the production or service location	N3+N13	
417	Party GLN	N3+N13	
420	Ship to - Deliver to Postal Code Within a Single Postal Authority	N3+X..20	(FNC1)
421	Ship to - Deliver to Postal Code with ISO Country Code	N3+N3+X..9	(FNC1)
422	Country of Origin of a Trade Item	N3+N3	(FNC1)
423	Country of Initial Processing	N3+N3+N..12	(FNC1)
424	Country of Processing	N3+N3	(FNC1)
425	Country of Disassembly	N3+N3+N..12	(FNC1)
426	Country Covering full Process Chain	N3+N3	(FNC1)
427	Country Subdivision of Origin	N3+X..3	(FNC1)
4300	Ship-to / Deliver-to company name	N4+X..35	(FNC1)
4301	Ship-to / Deliver-to contact	N4+X..35	(FNC1)
4302	Ship-to / Deliver-to address line 1	N4+X..70	(FNC1)
4303	Ship-to / Deliver-to address line 2	N4+X..70	(FNC1)
4304	Ship-to / Deliver-to suburb	N4+X..70	(FNC1)
4305	Ship-to / Deliver-to locality	N4+X..70	(FNC1)
4306	Ship-to / Deliver-to region	N4+X..70	(FNC1)
4307	Ship-to / Deliver-to country code	N4+X2	(FNC1)
4308	Ship-to / Deliver-to telephone number	N4+X..30	(FNC1)
4310	Return-to company name	N4+X..35	(FNC1)
4311	Return-to contact	N4+X..35	(FNC1)
4312	Return-to address line 1	N4+X..70	(FNC1)
4313	Return-to address line 2	N4+X..70	(FNC1)
4314	Return-to suburb	N4+X..70	(FNC1)
4315	Return-to locality	N4+X..70	(FNC1)
4316	Return-to region	N4+X..70	(FNC1)
4317	Return-to country code	N4+X2	(FNC1)

4318	Return-to postal code	N4+X..20	(FNC1)
4319	Return-to telephone number	N4+X..30	(FNC1)
4320	Service code description	N4+X..35	(FNC1)
4321	Dangerous goods flag	N4+N1	(FNC1)
4322	Authority to leave	N4+N1	(FNC1)
4323	Signature required flag	N4+N1	(FNC1)
4324	Not before delivery date time	N4+N10	(FNC1)
4325	Not after delivery date time	N4+N10	(FNC1)
4326	Release date	N4+N6	(FNC1)
7001	NATO Stock Number (NSN)	N4+N13	(FNC1)
7002	UN/ECE Meat Carcasses and Cuts Classification	N4+X..30	(FNC1)
7003	Expiration Date and Time	N4+N10	(FNC1)
7004	Active Potency	N4+N..4	(FNC1)
7005	Catch Area	N4+X..12	(FNC1)
7006	First Freeze Date	N4+N6	
7007	Harvest Date	N4+N6..12	(FNC1)
7008	Species for Fishery Purposes	N4+X..3	(FNC1)
7009	Fishing Gear Type	N4+N..10	(FNC1)
7010	Production Method	N4+X..2	(FNC1)
7020	Refurbishment lot ID	N4+X..20	(FNC1)
7021	Functional status	N4+X..20	(FNC1)
7022	Revision status	N4+X..20	(FNC1)
7023	Global Individual Asset Identifier (GIAI) of an assembly	N4+X..30	(FNC1)
703s	Number of Processor with ISO Country Code	N4+N3+X..27	(FNC1)
7040	GS1 UIC with Extension 1 and Importer index	N4+N1X2+X3+X4	(FNC1)
710	National Healthcare Reimbursement Number (NHRN) – Germany PZN	N3+X..20	(FNC1)
711	National Healthcare Reimbursement Number (NHRN) – France CIP	N3+X..20	(FNC1)
712	National Healthcare Reimbursement Number (NHRN) – Spain CN	N3+X..20	(FNC1)
713	National Healthcare Reimbursement Number (NHRN) – Brasil DRN	N3+X..20	(FNC1)

714	National Healthcare Reimbursement Number (NHRN) - Portugal AIM	N3+X..20	(FNC1)
723s(****)	Certification reference	N4+X2+X...28	(FNC1)
7240	Clinical Trial Protocol ID	N4+X..20	(FNC1)
8001	Roll Products (Width, Length, Core Diameter, Direction, Splices)	N4+N14	(FNC1)
8002	Cellular Mobile Telephone Identifier	N4+X..20	(FNC1)
8003	Global Returnable Asset Identifier (GRAI)	N4+N14+X..16	(FNC1)
8004	Global Individual Asset Identifier (GIAI)	N4+X..30	(FNC1)
8005	Price Per Unit of Measure	N4+N6	(FNC1)
8006	Identification of the Components of a Trade Item	N4+N14+N2+N2	(FNC1)
8007	International Bank Account Number (IBAN)	N4+X..34	(FNC1)
8008	Date and Time of Production	N4+N8+N..4	(FNC1)
8010	Component / Part Identifier (CPID)	N4 + X..30	(FNC1)
8011	Component / Part Identifier Serial Number (CPID SERIAL)	N4 + N..12	(FNC1)
8012	Software version	N4+X..20	(FNC1)
8013	Global Model Number (GMN)	N4+X..30	(FNC1)
8017	Global Service Relation Number to identify the relationship between an organisation offering services and the provider of services	N4+N18	(FNC1)
8018	Global Service Relation Number to identify the relationship between an organisation offering services and the recipient of services	N4+N18	(FNC1)
8019	Service Relation Instance Number (SRIN)	N4+N..10	(FNC1)
8020	Payment Slip Reference Number	N4+X..25	(FNC1)
8026	ITIP of contained pieces	N4+N18	
8110	Coupon Code Identification for Use in North America	N4+X..70	(FNC1)
8111	Loyalty points of a coupon	N4+N4	(FNC1)
8112	Paperless coupon code identification for use in North America	N4+X..70	(FNC1)
8200	Extended Packaging URL	N4+X..70	(FNC1)
90	Information Mutually Agreed Between Trading Partners	N2+X..30	(FNC1)
91 to 99	Company Internal Information	N2+X..30	(FNC1)

**Notes**

- \*: The first position indicates the length (number of digits) of the GS1 Application Identifier. The following value refers to the format of the data content.

The following convention is applied:

n	implied decimal point position
N	numeric digit
X	any character
N3	3 numeric digits, fixed length
N..3	up to 3 numeric digits
X..3	up to 3 characters

- \*\* : If only year and month are available, DD must be filled with two zeroes.
- \*\*\*: The fourth digit of this GS1 Application Identifier indicates the implied decimal point position.  
Example:
  - 3100 Net weight in kg without a decimal point
  - 3102 Net weight in kg with two decimal points
- FNC1: All GS1 Application Identifiers indicated with (FNC1) are defined as of variable length and shall be delimited unless this Element String is the last one to be encoded in the symbol. The delimiter shall be a Function 1 Symbol Character in GS1-128 Symbology, GS1 DataBar Expanded Versions and GS1 Composite Symbology and should be a Function 1 Symbol Character in GS1 DataMatrix and GS1 QR Code Symbology.
- \*\*\*\*: The fourth digit of this AI indicates the sequence number, allowing multiple occurrences of this AI
- \*\*\*\*\*: All GS1 Application Identifiers indicated with (FNC1) are defined as of variable length and shall be delimited unless this Element String is the last one to be encoded in the symbol. The delimiter shall be a Function 1 Symbol Character in GS1-128 Symbology, GS1 DataBar Expanded Versions and GS1 Composite Symbology and should be a Function 1 Symbol Character in GS1 DataMatrix and GS1 QR Code Symbology.

### 5.7.2. Barcode Types

To create a barcode of a specific type, select it in the **Barcode Type** parameter. This displays parameters specific to this barcode type in the **Dynamic Barcodes** dialog.

#### 2 of 5

**About this Barcode...**

2 of 5 is a numeric self-checking barcode, which can have a variable length. This barcode only encodes data in the bars. It is used for industrial applications, article numbering, photo development and ticketing.





**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

**CLF-8**

**About this Barcode...**

The CLF-8 barcode is part of the same barcode family as the Laetus Pharma Code. It is used in the pharmaceutical industry.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196

- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Wide Bar](#) on page 200
- [Gap](#) on page 200
- [Decimal Input](#) on page 201

**Codabar**

**About this Barcode...**

The Codabar barcode is commonly used in libraries, blood banks, and the air parcel business. It can encode up to 126 characters of data and two control characters, using digits and the "-", "\$", ":", "/" and "+" characters.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- **Rational (Constant Bar Width):** By enabling this option, you can create a "Rational" Codabar bar code.
- [Use "992" Prod. Family in UPC](#) on page 196
- [Bar Width Reduction](#) on page 197

- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Box](#) on page 204

## Code 128

### About this Barcode...

Code 128 is a variable length, high density, alphanumeric barcode. It has the second highest density of all the 1D barcodes (after the GS1 Databar Expanded).

It can contain a set of control characters. These control characters can change the character encoding type. In the absence of control characters, the encoding type is chosen automatically, to optimize the content encoding.

To force the usage of the code-set A, precede your data with the [a] control character. To force the usage of the code-set B, precede your data with the [b] control character. To obtain an optimal utilization of the code-sets A and B but prevent the usage of the space saving code-set C, use the Code 128 (long) barcode type instead.

You can include FNC characters in your code by entering [F1] for FNC1, [F2] for FNC2 or [F3] for FNC3



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Light Margin Indicator](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197

- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Narrow Bar](#) on page 200
- [Width](#) on page 200
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

## Code 128 (long)

### About this Barcode...

Code 128 (long) is a version of Code 128 that doesn't use the space-saving "C" character set. This makes Code 128 (long) barcodes generally longer.

You can include FNC characters in your code by entering [F1] for FNC1, [F2] for FNC2 or [F3] for FNC3



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Light Margin Indicator](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Narrow Bar](#) on page 200
- [Width](#) on page 200
- [Box](#) on page 204

- [Stroke Weight: Bearer Bars](#) on page 205

## Code 39

### About this Barcode...

Code 39 is a popular barcode in industrial barcoding systems, mainly in the U.S.A. It is used in the non-retail industry, particularly in the manufacturing, military, and health sectors. It can encode alphanumeric data.



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Add Check Digit](#) on page 202
- [Box](#) on page 204

## Code 93

### About this Barcode...

Code 93 is a variable length, high density, alphanumeric barcode. It's an enhancement of the Code 39 using spaces as well as bars as a data carrier. It contains two check characters for higher data security. The Code 93 barcode allows encoding the first 128 characters of the ASCII table.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Narrow Bar](#) on page 200
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

**DataMatrix**

**About this Barcode...**

DataMatrix is used for encoding large amounts of alphanumeric data and / or marking small objects. It can encode all the standard ASCII and extended ASCII characters.

The DataMatrix symbol size can adjust automatically depending on the amount of data.

Dynamic Barcodes doesn't generate human readable characters for DataMatrix symbols. The data to be encoded in a DataMatrix symbol can contain an FNC1 character but only at the beginning of the data.

**Note:** Dynamic Barcodes always generates DataMatrix symbols with the recommended ECC200 error correction scheme.



### DataMatrix Macro functions

Using DataMatrix Macro sequences, you can reduce the amount of data to encode by omitting obvious headers and trailers. The structured data uses control characters, entered using their standard abbreviations between "<" and ">"

The Macro sequence contains different parts:

- The optional Macro header: [ ] >. This is optional, and can be omitted
- One of the starting sequences: <RS>05<GS> or <RS>06<GS>
- The macro content in a structured format
- The ending sequence: <RS><EOT>

Here are a few examples of a valid Macro function:

- [ ] ><RS>05<GS>PAP16559-2<GS>S0<72>017<GS>IPWP4511<RS><EOT>
- <RS>05<GS>PAP16559-2<GS>S0<72>017<GS>IPWP4511<RS><EOT>

Note that apart from the Macro functions, you can enter all control characters to a DataMatrix code. These are all accepted codes:

<NUL><SOH><STX><ETX><EOT><ENQ><ACK><BEL><BS><HT><LF><VT><FF><CR><SO><SI><DLE><DC1><

**Note:** If you want to use one of the control character substitutions literally (e.g. "<EOT>") it can be escaped by doubling the first character: <<EOT>

### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Symbol Type](#) on page 202
- [Cell Size](#) on page 202
- [Width / Total Height](#) on page 203
- [Box](#) on page 204

## EAN 8

### About this Barcode...

EAN 8 is an abbreviated version of EAN 13, for use on smaller packages. It can encode eight digits, and can have two or five additional digits.



## Parameters

### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Light Margin Indicator](#) on page 195
- [Add-on Text On Top](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
- [Height](#) on page 198
- [Snap Bars to Output Resolution](#) on page 201
- [Box](#) on page 204

## EAN 13

### About this Barcode...

European Article Numbering system or EAN is the standard for article numbering in Europe. It is also used in Japan where it is called JAN.

**Note:** EAN is the European equivalent of the UPC system in the U.S.A. and Canada. Both systems use the same size requirements and a similar encoding scheme. This means that most European and American retail barcode scanners can read both EAN and UPC barcodes. For more information on UPC, see [UPC-A](#) on page 190.





An EAN 13 is a numeric barcode of thirteen digits, and can have two or five additional digits.



## Parameters

### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Light Margin Indicator](#) on page 195
- [Add-on Text On Top](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
- [Height](#) on page 198
- [Snap Bars to Output Resolution](#) on page 201
- [Box](#) on page 204

## EAN 13 Swissmedic

### About this Barcode...

EAN 13 Swissmedic is an EAN 13 barcode used for items licensed by the Swiss Agency for Therapeutic Products

It always starts with "7680", uses a specific text positioning and adds the text "swissmedic" below the code.

For EAN 13 Swissmedic barcodes, only the default font settings can be used.



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
- [Height](#) on page 198
- [Snap Bars to Output Resolution](#) on page 201
- [Box](#) on page 204

## GS1 128

### About this Barcode...

GS1 128 (formerly EAN 128) is a Code 128 barcode designed primarily to identify products.

It contains one or more FNC1 (GS1 Function Code 1) control characters and Application Identifiers. It shows parentheses around the human readable interpretation of the Application Identifiers, but those parentheses are not encoded in the barcode.



It is alphanumeric and can also contain composite symbols.



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

## GS1 DataBar Omnidirectional

### About this Barcode...

Barcodes of the GS1 DataBar family (formerly Reduced Space Symbols or RSS) can identify small items, and encode more information than the current EAN or UPC barcodes.

They can include GS1 Application Identifiers such as serial numbers, lot numbers, expiration dates...

**Note:** GS1 DataBar codes are expected to replace most common EAN and UPC barcodes from 2010.

GS1 DataBar Omnidirectional encodes Global Trade Item Numbers (GTIN) in a linear symbol that can be scanned omnidirectionally by suitably programmed slot scanners.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201

**GS1 DataBar Stacked**

**About this Barcode...**

GS1 DataBar Stacked is a variation of the GS1 DataBar barcode, that is stacked in two rows and used when the normal barcode would be too wide for the product.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201

**GS1 DataBar Stacked Omnidirectional**

**About this Barcode...**

GS1 DataBar14 Stacked Omnidirectional is taller version of GS1 DataBar14 Stacked, that can be read by omnidirectional scanners.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

- [Composite Component](#) on page 194

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201

**GS1 DataBar Truncated**

**About this Barcode...**

GS1 DataBar Truncated (formerly RSS Limited) is similar to GS1 DataBar but the height of its bars is truncated.

It encodes Global Trade Item Numbers in a smaller symbol for use on small items. It cannot be scanned omnidirectionally.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196

- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201

**GS1 DataBar Expanded**

**About this Barcode...**

GS1 DataBar Expanded (formerly RSS Expanded) encodes regular barcode data (“primary item identification” data) and Application Identifiers. It can encode alphanumeric characters.

This barcode can be scanned omnidirectionally by suitably programmed slot scanners.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200

- [Snap Bars to Output Resolution](#) on page 201

## GS1 DataBar Expanded Stacked

### About this Barcode...

GS1 DataBar Expanded Stacked can encode the same amount of data as GS1 DataBar Expanded, but can also “stack” the barcode into several rows to save space.



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Max. Row Width](#) on page 196
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201



## GS1 DataBar Limited

### About this Barcode...

GS1 Databar Limited is smaller than the GS1 DataBar barcode and can only encode Global Trade Item Numbers whose data part starts with "1".



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193
- [Composite Component](#) on page 194

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Narrow Bar](#) on page 200
- [Snap Bars to Output Resolution](#) on page 201

## GS1 DataMatrix

### About this Barcode...

The GS1 Data Matrix barcode is a high density, high capacity, scalable 2D barcode. It is used to concentrate a lot of (alphanumeric) information in a very small space.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195
- [Light Margin Indicator](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Symbol Type](#) on page 202
- [Cell Size](#) on page 202
- [Width / Total Height](#) on page 203
- [Box](#) on page 204

**GS1 QR**

**About this Barcode...**

The GS1 QR barcode is a high density, high capacity, scalable 2D barcode. It is used to assembly multiple GS1 Application Identifiers to a barcode with limited space needs. The GS1 QR barcode can contain numbers, 0 - 9, upper case letters A -Z, and nine special characters: space \$ % \* + - . /

For more technical information on the QR code, see [QR](#) on page 186

**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Put on Top](#) on page 195
- [Multiple Text Lines](#) on page 195

- [Light Margin Indicator](#) on page 195
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Symbol Type](#) on page 202
- [Cell Size](#) on page 202
- [Width / Total Height](#) on page 203
- [Box](#) on page 204

**Specific Parameters**

**Minimum Symbol Size**

Choose the number of cells to use for your barcode (in the format “horizontal cells x vertical cells”).

**Note:** If the number of cells you choose for your symbol is too small to encode the data you entered in **Code**, Dynamic Barcodes will use a bigger symbol size automatically.

**Error Correction**

Error correction adds check sums to the barcode to detect and correct incorrect data. You can choose one of the following **Error correction** levels:

- Level **L**: 7% of codewords can be restored.
- Level **M**: 15% of codewords can be restored.
- Level **Q**: 25% of codewords can be restored.
- Level **H**: 30% of codewords can be restored.

**Note:** Keep in mind that a higher correction level makes the barcode bigger (as more check sums are added to the barcode) and may limit the maximum length of the encoded data.

**Width / Height**

The **Width** and **Height** parameters depend on the **Cell Size** and the number of cells used for the symbol (**Minimum Symbol Size**).

For example, a symbol of 25 x 25 cells where each cell is 2 mm gives a Width and Height of 50 x 50 mm.

**GS1 U.S. Coupon Interim**

**About this Barcode...**

GS1 U.S. Coupon Interim is an interim coupon barcode. It is used during the transition between UPC-A coupons and the new GS1 Databar Expanded Stacked coupons, that can encode more information.

It is made of both an old UPC-A coupon barcode, and a new Databar Expanded Stacked coupon barcode, to be readable by both old and new scanners.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196

**Additional Parameters**

- [Use "992" Prod. Family in UPC](#) on page 196
- [Max. Row Width](#) on page 196
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
- [Narrow Bar](#) on page 200
- [Gap](#) on page 200
- [Vertical alignment](#) on page 200

**HIBC 128**

**About this Barcode...**

This barcode is based on the Code 128 symbology.

It encodes the organization's primary and / or secondary Labeler Identification Code (LIC). This encoding begins with the "+" character. If both primary and secondary Labeler Identification Codes are encoded in one barcode, they are divided by the "/" character.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

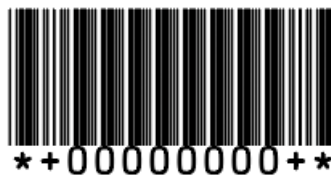
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Narrow Bar](#) on page 200
- [Width](#) on page 200
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

**HIBC 39**

**About this Barcode...**

This barcode is based on the Code 39 symbology.

It encodes the organization's primary and / or secondary Labeler Identification Code (LIC). This encoding begins with the "+" character. If both primary and secondary Labeler Identification Codes are encoded in one barcode, they are divided by the "/" character.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Characters per unit](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Box](#) on page 204

**ITF-14**

**About this Barcode...**

ITF-14 is a standardized version of the Interleaved 2 of 5 barcode, containing 14 digits, the last being a check digit.



**Parameters**

**General Parameters**

- [Rotation](#) on page 193
- [Code](#) on page 193

**Text Parameters**

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

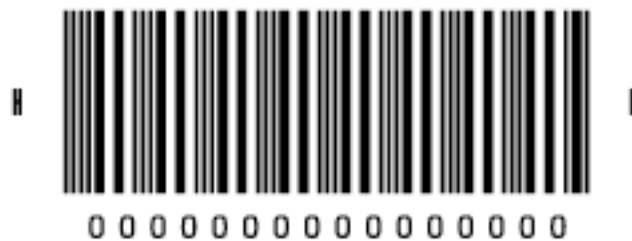
- [Text Format](#) on page 197
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197

- [Height](#) on page 198
- [Snap Bars to Output Resolution](#) on page 201
- [Total Height](#) on page 203
- [Smax / Smin](#) on page 203
- [Box](#) on page 204

## ITF-16

### About this Barcode...

ITF-16 is a standardized version of the Interleaved 2 of 5 barcode, containing 16 digits, the last being a check digit.



### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Text Format](#) on page 197
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
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- [Snap Bars to Output Resolution](#) on page 201
- [Total Height](#) on page 203
- [Smax / Smin](#) on page 203

- [Box](#) on page 204

## Interleaved 2 of 5

### About this Barcode...

Interleaved 2 of 5 (or Int. 2 of 5) is a barcode originally used for transportation packaging, that can have any even number of digits. Since this type of packaging consists mainly of cardboard boxes printed in low quality, the Interleaved 2 of 5 barcode is more tolerant to distortion than other barcodes.



### Parameters

#### General Parameters

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- [Code](#) on page 193

#### Text Parameters

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- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
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- [Ratio](#) on page 200
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- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

## Laetus Pharma Code

### About this Barcode...

This barcode was developed specifically to meet the requirements of the pharmaceutical packaging process. It has established itself as the worldwide pharmaceutical industry barcode standard. It can encode numeric or binary data.





## Parameters

Laetus Pharma

### General Parameters

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- [Code](#) on page 193

### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
- [Vertical Offset](#) on page 196

### Additional Parameters

- **Miniature:** Use this option to create a miniature version of the bar code
- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Wide Bar](#) on page 200
- [Gap](#) on page 200
- [Decimal Input](#) on page 201
- [Box](#) on page 204

## M+S 7

### About this Barcode...

The M+S 7 barcode is an EAN 8 barcode modified by Marks & Spencer's, for use on own-brand products sold in their stores.

To make the M+S 7 barcode, the initial "0" is removed and the extra letters "M" and "S" are added to the human readable characters.

This means that the human readable characters contain seven digits plus the "M" and "S" letters.

**Note:** This doesn't affect the data encoded in the barcode (it still encodes eight digits), so you should enter eight digits when creating a M+S 7 barcode.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

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- [Font Family, Style and Size](#) on page 196
- [Vertical Offset](#) on page 196

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
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- [Magnification](#) on page 197
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- [Snap Bars to Output Resolution](#) on page 201
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**MSI**

**About this Barcode...**

MSI, also known as Modified Plessey, was developed by the MSI Data Corporation, based on the original Plessey Code. It is a numeric barcode used primarily to mark retail shelves for inventory control.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

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**Additional Parameters**

- [Bar Width Reduction](#) on page 197

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**Marks & Spencer's**

**About this Barcode...**

The Marks & Spencer's barcode is also an EAN 8 barcode modified by Marks & Spencer's for use on own-brand products.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

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- [Font Family, Style and Size](#) on page 196

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**Additional Parameters**

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**NDC / HRI**

**About this Barcode...**

The NDC / HRI barcode is a variant of the UPC barcode with special human readable interpretation formats compliant to the US National Drug Code definition.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

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**Additional Parameters**

- [Text Format](#) on page 197

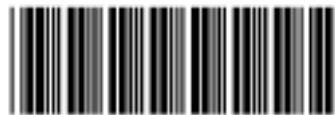
- [Bar Width Reduction](#) on page 197

- [Device Compensation](#) on page 197
- [Magnification](#) on page 197
- [Height](#) on page 198
- [Snap Bars to Output Resolution](#) on page 201
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## Paraf Italy

### About this Barcode...

This barcode is a variant of Code 39 used by the Italian Health and Cosmetics Industry. It is also called Code 32.



Use **Code Base32** when your barcode data is encoded in the Base 32 format. This format uses case-insensitive alphanumeric characters to encode data.

Use **Code Base10** when your barcode data is in decimal format. Paraf Italy barcodes in decimal format should start with an "A" (included automatically by Dynamic Barcodes), have 8 digits of data and end with a check digit (calculated automatically by Dynamic Barcodes).

### Parameters

#### General Parameters

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- [Code](#) on page 193

#### Additional Parameters

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- [Device Compensation](#) on page 197
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## PDF417

### About this Barcode...

PDF417 is a 2D barcode mainly used in security printing (passports, identity cards, driving licences...). It is a "self-checking" barcode that can have different levels of error correction.

It can encode data using one of three “compaction” modes: Text (to encode all alphanumeric and punctuation characters in the ISO-8859-1 character set), Numeric (to encode only numeric characters) or Binary (to encode 8-bit characters).

It can use the three compaction modes in a single barcode if necessary, but you can choose to disable the Text and/or Numeric compaction modes.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Additional Parameters**

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- [Box](#) on page 204

**Specific Parameters**

**Columns**

You can give your barcode between 1 and 30 **Columns**. The number of columns corresponds to the number of PDF417 codewords.

**Rows**

You can give your barcode between 3 and 90 **Rows**.

**Truncated**

Choose **Truncated** to make the symbol less wide by truncating the end character (which is not part of the encoded data) and the end pattern. In the example below, the top PDF417 barcode is not truncated, and the bottom barcode is truncated (but encodes the same data).



**Initialize in Alpha Submode**

Choose this option to generate a “shift to Text mode” character at the beginning of the barcode when using Text compaction mode. This makes the encoding clear for barcode scanners.

**Allow Text Compaction**

Choose this to let Dynamic Barcodes switch to Text compaction mode automatically when your barcode contains text data.

This encodes the text data in your barcode more efficiently (it makes that part of your barcode smaller).

#### **Allow Numeric Compaction**

Choose this to let Dynamic Barcodes switch to Numeric compaction mode automatically when your barcode contains numeric data.

This encodes the numeric data in your barcode more efficiently.

#### **Note:**

Dynamic Barcodes can always switch to the Binary compaction mode if your barcode contains binary data.

If you don't enable either **Allow Text Compaction** or **Allow Numeric Compaction**, Dynamic Barcodes will only use Binary compaction mode.

#### **Error Correction Level**

Error correction adds check sums to the barcode to detect and correct incorrect data. You can choose an **Error correction level** from 0 to 8.

The higher the correction level, the more check sums are added to the barcode and the more incorrect data can be corrected. Keep in mind that a higher correction level makes the barcode bigger and may limit the maximum length of the encoded data.

**Note:** Level 0 means that there is only one check sum added to the data, so incorrect data can be detected but not corrected.

You can choose **Automatic** to let the plug-in pick the best error correction level for the data encoded.

## MicroPDF417

### **About this Barcode...**

MicroPDF417 is a 2D multi-row barcode derived from PDF417, for use on smaller areas. It can encode up to 150 bytes.



### **Parameters**

#### **General Parameters**

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- [Code](#) on page 193

#### **Additional Parameters**

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- [Snap Bars to Output Resolution](#) on page 201
- [Box](#) on page 204

### Specific Parameters

#### Columns

You can give your barcode between 1 and 4 **Columns**.

#### Rows

You can give your barcode between 4 and 44 **Rows**.

#### Allow Text Compaction

Choose this to let Dynamic Barcodes switch to Text compaction mode automatically when your barcode contains text data.

This encodes the text data in your barcode more efficiently (it makes that part of your barcode smaller).

#### Allow Numeric Compaction

Choose this to let Dynamic Barcodes switch to Numeric compaction mode automatically when your barcode contains numeric data.

This encodes the numeric data in your barcode more efficiently.

#### Note:

Dynamic Barcodes can always switch to the Binary compaction mode if your barcode contains binary data.

If you don't enable either **Allow Text Compaction** or **Allow Numeric Compaction**, Dynamic Barcodes will only use Binary compaction mode.

## PZN

### About this Barcode...

The PZN (Pharma-Zentral-Nummer) barcode is used for distribution of pharmaceutical and healthcare products in Germany. The PZN code is written in the format "PZN-nnnnnnn" but only the numeric part including the leading dash is encoded.



PZN-0000000

### Parameters

#### General Parameters



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**Text Parameters**

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**Additional Parameters**

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**PZN8**

**About this Barcode...**

The PZN8 (Pharma-Zentral-Nummer) barcode is used for distribution of pharmaceutical and healthcare products in Germany. The PZN code is written in the format "PZN-nnnnnnnn" but only the numeric part including the leading dash is encoded.



PZN-00000000

**Parameters**

**General Parameters**

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**Text Parameters**

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**Additional Parameters**

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**QR**

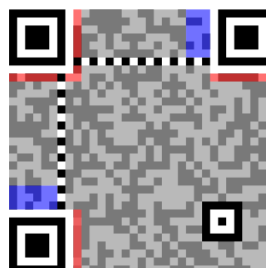
**About this Barcode...**







The QR barcode is a 2-dimensional barcode used for commercial tracking and convenience-oriented applications aimed at mobile phone users (known as "mobile tagging").

QR codes storing addresses and URLs may appear in magazines, on signs, buses, business cards, or other objects... Users with a camera phone equipped with the correct reader application can scan the QR code to display text, contact information, connect to a wireless network, or open a web page in the phone's browser.



QR codes have the following structure:



-  Position pattern (required)
-  Alignment pattern (required)
-  Timing pattern (required)
-  Version information
-  Format information
-  Data and error correction keys

### Parameters

#### General Parameters

- [Rotation](#) on page 193
- [Code](#) on page 193

#### Additional Parameters

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Cell Size](#) on page 202
- [Width / Total Height](#) on page 203
- [Box](#) on page 204

### Specific Parameters

#### Minimum Symbol Size

Choose the number of cells to use for your barcode (in the format “horizontal cells x vertical cells”).

**Note:** If the number of cells you choose for your symbol is too small to encode the data you entered in **Code**, Dynamic Barcodes will use a bigger symbol size automatically.

#### Error Correction

Error correction adds check sums to the barcode to detect and correct incorrect data. You can choose one of the following **Error correction** levels:

- Level **L**: 7% of codewords can be restored.
- Level **M**: 15% of codewords can be restored.

- Level **Q**: 25% of codewords can be restored.
- Level **H**: 30% of codewords can be restored.

**Note:** Keep in mind that a higher correction level makes the barcode bigger (as more check sums are added to the barcode) and may limit the maximum length of the encoded data.

**Width / Height**

The **Width** and **Height** parameters depend on the **Cell Size** and the number of cells used for the symbol (**Minimum Symbol Size**).

For example, a symbol of 25 x 25 cells where each cell is 2 mm gives a Width and Height of 50 x 50 mm.

**MicroQR**

**About this Barcode...**

The Micro QR Code is a very small QR Code for use on smaller spaces (for example to encode the ID of printed circuit boards and electronics parts).

It works with smaller amounts of data (maximum 35 numeric characters), and uses only one position pattern.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Additional Parameters**

- [Bar Width Reduction](#) on page 197
- [Device Compensation](#) on page 197
- [Cell Size](#) on page 202
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**Specific Parameters**

**Minimum Symbol Size**

Choose the number of cells to use for your barcode (in the format "horizontal cells x vertical cells").

**Note:** If the number of cells you choose for your symbol is too small to encode the data you entered in **Code**, Dynamic Barcodes will use a bigger symbol size automatically.

**Error Correction**

Error correction adds check sums to the barcode to detect and correct incorrect data. You can choose one of the following **Error correction** levels:

- Level **L**: 7% of codewords can be restored.
- Level **M**: 15% of codewords can be restored.
- Level **Q**: 25% of codewords can be restored.
- Level **H**: 30% of codewords can be restored.

**Note:** Keep in mind that a higher correction level makes the barcode bigger (as more check sums are added to the barcode) and may limit the maximum length of the encoded data.

### Width / Height

The **Width** and **Height** parameters depend on the **Cell Size** and the number of cells used for the symbol (**Minimum Symbol Size**).

For example, a symbol of 15 x 15 cells where each cell is 2 mm gives a Width and Height of 30 x 30 mm.

## SICK Code

### About this Barcode...

SICK is a bar code used in the German packaging industry. It's a binary bar code, using a thick bar for a 0, and a thin bar for a 1. It can have up to 12 bars. It can encode numeric or binary data.

- In binary mode all digits are encoded including leading zeroes, ie. "0001" is encoded as a three thin and one thick bar.
- In decimal mode you can define the number of bars in total, by enter e.g. "6/4". The first number (6) defines the total number of bars, the second (4) defines the value to be encoded. If you don't define the number of bars, in other words if you enter a single number, the minimal number of bars needed for the value is used, and the code is adjusted accordingly. If you for example enter "9", the value will change to "4/9", as you need at least 4 bars to encode this value.
- The defaults follow the mostly used standard "Codetype A", for generating the "Codetype B" should be changed the barcode parameters as following: Narrow Bar to 1.25mm (from 0.5mm), Wide Bar to 3.75mm (from 1.5mm) and Gap to 2.5mm (from 1mm)

By default, the values for the Narrow Bar (0.5mm), Wide Bar (1.5mm) and Gap (1mm) are set for the mostly used standard "Codetype A". If you want to generate a SICK code using "Codetype B", you should set the Narrow Bar to 1.25mm, the Wide Bar to 3.75mm and the Gap to 2.5mm



### Parameters

#### General Parameters

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- [Code](#) on page 193

#### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196
- [Alignment](#) on page 196
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**Additional Parameters**

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- [Device Compensation](#) on page 197
- [Height](#) on page 198
- [Ratio](#) on page 200
- [Narrow Bar](#) on page 200
- [Wide Bar](#) on page 200
- [Gap](#) on page 200
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**UPC-A**

**About this Barcode...**

Universal Product Code or UPC is the standard for article numbering in the U.S.A. and Canada. It is similar to the EAN system and compatible with it. For more information on EAN, see [EAN 13](#) on page 160.



UPC-A is a numeric barcode of up to twelve digits, plus two or five additional digits.



## Parameters

### General Parameters

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- [Code](#) on page 193

### Text Parameters

- [Add Human Readable Characters](#) on page 194
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- [Vertical Offset](#) on page 196

### Additional Parameters

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- [Snap Bars to Output Resolution](#) on page 201
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## UPC-E

### About this Barcode...

UPC-E is an abbreviated version of UPC-A, for use on smaller packages. It is a numeric barcode of eight digits, with an optional 2 or 5 digits add-on. You can also directly enter the 12-digit code of UPC-A codes that can be represented in 8 digits.



## Parameters

### General Parameters

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- [Code](#) on page 193

### Text Parameters

- [Add Human Readable Characters](#) on page 194
- [Font Family, Style and Size](#) on page 196

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**Additional Parameters**

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**UPC-SCS**

**About this Barcode...**

The UPC-SCS (Shipping Container Symbol) barcode is a version of the Interleaved 2 of 5 barcode that has a structure very similar to the Universal Product Code's (UPC) and specific formatting of the human readable interpretation.



**Parameters**

**General Parameters**

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- [Code](#) on page 193

**Text Parameters**

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**Additional Parameters**

- [Text Format](#) on page 197
- [Bar Width Reduction](#) on page 197



- [Device Compensation](#) on page 197
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- [Total Height](#) on page 203
- [Box](#) on page 204
- [Stroke Weight: Bearer Bars](#) on page 205

### 5.7.3. Barcode Parameters

#### Rotation

To rotate your barcode by 90, 180 or 270 degrees, use the **Rotation** buttons.



To rotate it by any other angle, enter that angle in the **Rotation** field.

#### Code

Enter the data to encode in your bar code.

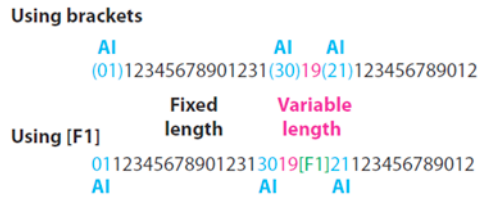
Dynamic Barcodes checks that the data you have entered is valid for your chosen **Barcode Type**. If it isn't, a warning / error will pop up.

#### Code for GS1 Bar Codes

When entering data to be encoded in GS1 bar codes, you can either enter Application Identifiers (AI) including the brackets, or you can enter the code without brackets, using FNC1 code at the end of each variable-length element in the data. While entering GS1 data, following remarks should be taken into account:

- Do not add the mandatory FNC1 character at the beginning of the data. Dynamic Barcodes will add it automatically.
- For GS1 bar codes intended for encoding AI (01) only, AI has to be omitted, i.e. don't enter '01' at the beginning. It doesn't matter if entered with or without brackets.
- The Composite Component can be created using the same rules for using brackets and [F1]. It's not necessary to keep the same way of entering the Composite Component and the main code.
- If you don't use brackets for entering AI, type [F1] at the end of each variable-length element in the data, to represent a FNC1 terminating character, except when the variable-length element is placed at the end of the whole code.

- You don't need to type [F1] at the end of fixed-length elements.
- Do not mix using [F1] as terminators of variable AI and entering brackets around the AI.



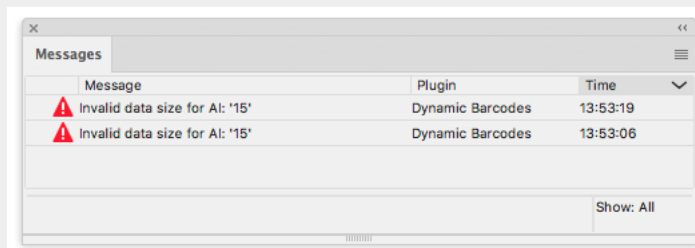
Dynamic Barcodes also checks the validity of the Application Identifiers you enter in the **Code** and / or in the **Composite Component** of GS1 bar codes.

### Composite Component

A **Composite Component** is a 2D symbol placed on top of a GS1 barcode, that encodes extra information (batch number, expiration date...).

If you want your barcode to have a **Composite Component**, enter the (alphanumeric) data to encode in this field.

**Note:** Dynamic Barcodes checks the data you enter for the Composite Component (for example to see if the Application Identifiers you entered are correct), and displays a warning if it is invalid.



### Add Human Readable Characters

This parameter adds "human readable" characters (numeric or alphanumeric characters) under your barcode.

This is the same barcode with and without human readable characters:



### Put on Top

This parameter allows you to put the Human Readable Characters above instead of below the barcode bars.

### Multiple Text Lines

Select this parameter if you want the human readable characters to be printed on multiple lines below the barcode. Dynamic Barcodes will start a new line for every element of the barcode data (starting with the Application Identifier).



**Note:** When opening your document in PackEdge, the characters will be placed back on a single line.

### Light Margin Indicator

This parameter adds "<" and ">" signs (or only ">" depending on the barcode type) at the bottom of your barcode. This indicates the width the barcode should have for optimal reading.



**Note:** When creating a bar code, the current Light Margin Indicator setting is stored for the specific barcode type. This means that the next time you select the same barcode type (e.g. when creating a new barcode of that same type) the Light Margin Indicator setting will be adjusted.

### Add-on Text On Top

This parameter allows you to put the add-on HRI text above instead of below the barcode bars. By default, this option is enabled.

### Font Family, Style and Size

These options can be used to define the font family, style and size to be used for the human readable characters. By choosing **[default font]**, all other Text Parameters are disabled, as the default values are used.

**Note:** If the font used in a bar code is not available when opening the file, Adobe Illustrator will warn about a missing font. You can however only fix the problem using the Dynamic Barcode palette, since Adobe Illustrator's "Find Font" feature can not be used.

### Alignment

When using human readable characters, in combination with custom font settings, you can set text alignment to **Left, Center** or **Right**.

### Vertical Offset

This parameter allows you to add extra space between your barcode bars and the human readable characters.



**Note:** When opening your document in PackEdge, the characters will be placed just below the bars again.

### Use "992" Prod. Family in UPC

Enable this parameter to use the special "992" product family in your barcode (for specific offers like discounts on the customer's next purchase or on variable weight items...).

### Max. Row Width

Use this parameter to define how many segments of data (groups of bars encoding several digits) can fit in one row. If the barcode contains more segments, they will be stacked.

In the example below, the first barcode has a **Max. Row Width** of 8 segments. When reducing this to 4 segments, the segments that don't fit in the row width anymore are stacked, forming a second row (second barcode).



The GS1 Max Row Width parameter applies to the GS1 Databar Expanded Stacked component of the GS1 U.S. Coupon Interim barcode.

### Text Format

Choose a text format for the human readable characters of your barcode.

For NDC/HRI barcodes, you can choose a variant of the U.S. National Drug Code.

For ITF-14, ITF-16 and UPC-SCS barcodes, you can choose a variant of the Shipping Container Symbol.

### Bar Width Reduction

Use this to adjust the width of barcode bars, in order to compensate for ink bleeding when printing on your substrate.

Your printer or customer will usually provide you with the value to use. For example if your printer tells you that the line width will increase by 0.01mm, you should use a **Bar Width Reduction** value of 0.01 mm.

You can enter the **Bar Width Reduction** in microns, milli-inches ("mil"), millimeters or inches.

**Tip:** You can enter a negative value if you want to print thicker and not thinner bars.

### Device Compensation

Use this if your printer gave you a separate device bleed value. This parameter adjusts the bar's width to compensate for bleed caused by the plate or film making process.

You can enter the **Device Compensation** in microns, milli-inches ("mil"), millimeters or inches.

**Note:** If you use both a Bar Width Reduction and a Device Compensation value, Dynamic Barcodes will add them to adjust the bar's width.

**Tip:** You can enter a negative value if you want to print thicker and not thinner bars.

### Magnification

Use this parameter to increase or decrease the barcode size proportionally.

In the example below, you can see the same barcode at 80%, 100% and 120% magnification.



### Size

Choose to give your PZN barcode a **Small**, **Normal** or **Large** size. Those are predefined sizes for this barcode. The actual Height, Characters per unit, Ratio and Narrow Bar values are shown underneath.

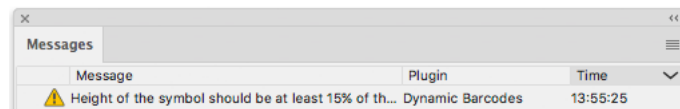
By selecting **Custom**, you can manually edit these four parameters.

### Height

Enter the height to give to your barcode's bars. They need to be tall enough to be read easily by barcode scanners.

#### Code 128

In Dynamic Barcodes, you can create Code 128 barcodes shorter than the minimum height. Dynamic Barcodes will just display a warning, but if you export the document to EPF and open it in PackEdge, PackEdge will extend the barcode to its minimum required height.



### Bars and Digits

For:

- EAN 8 & 13
- HIBC 128 and 39
- M+S 7, and Marks & Spencer's
- NDC / HRI
- UPC-A and UPC-E

For the bar codes listed above, the height you enter is the combined height of the bars and the human readable characters). Your barcode needs to be tall enough to be read easily by barcode scanners.



**Attention:** Do not change the **Height** of the barcode before entering a **Magnification** value. The **Height** will change again according to the **Magnification** factor you define.

### Characters per unit

This parameter allows you to define your barcode's width based on the encoding of (numeric or alphanumeric) characters.

You can choose the unit to use: **micron**, **mil** (milli-inches), **mm** or **inch**.

For example, choose **mm** and use **1 Character per unit** in the **Dynamic Barcodes** dialog if you want the bars needed to encode one character to take up 1 mm.



Increase the **Characters per unit** value to make the barcode narrower, or decrease it to make the barcode wider. For example, if you choose **0.5 Character per unit**, the bars needed to encode one character will take up 2 mm.



**Note:** Barcodes like Interleaved 2 of 5 encode two characters together in a group of black and white bars. For these barcodes, Dynamic Barcodes takes half of the group of black and white bars to measure one character.



### Ratio

The **Ratio** is the factor between the width of the narrow bar and the width of the wide bar in your barcode. For example, enter 3 if you want your wide bar to be three times as wide as your narrow bar.

### Narrow Bar

This parameter determines the width of the narrowest bar of your barcode. In some cases (for example GS1 DataBar barcodes) this affects the size (height and width) of your barcode proportionally.

### Width

This parameter determines the width of the barcode from the leftmost bar to the rightmost bar. Changing the Width will update the Narrow Bar and Characters per unit settings to achieve the desired size.

The Light Margin Indicators and Box are not included.

### Wide Bar

This parameter determines the width of the widest bar of your barcode.

### Gap

Enter the width of the white space between the bars.

**Note:** The **Ratio** influences the **Gap** size: increasing the Ratio also increases the **Gap** size.

### Vertical alignment

Dynamic Barcodes allows you to resize either the UPC-A or the GS1 Databar Expanded Stacked coupon barcode, so they are aligned vertically with each other. You can choose:



- **None** to keep the original size of both the UPC and the GS1 barcodes,



- **Resize UPC to GS1** to resize the UPC barcode so it has the same height as the GS1 barcode,



- **Resize GS1 to UPC** to resize the GS1 barcode so it has the same height as the UPC barcode.



### Snap Bars to Output Resolution

Use this to adjust the barcode size parameters (**Bar Width Reduction**, **Device Compensation** and **Magnification**) so that the bars' width and height take up a complete number of pixels or dots.

Enable **Snap Bars to Output Resolution** and enter the resolution you will use to print your barcode in ppi.

### Decimal Input

Use this parameter to change the type of data you can enter in the **Code** field.

- Disable it to enter the data to encode in binary format.
- Enable it to enter the data in decimal instead of binary format.

**Note:** When using binary format for the Laetus Pharma Code/CLF-8 barcode data, you need to use a special "Pharma" binary format.

To convert a decimal number into a Pharma binary number, do the following:

1. Add 1 to your decimal number.
2. Convert the result to a binary number using a regular binary conversion algorithm.
3. Remove the first digit (which is 1).

You now have your Pharma binary input for the Laetus Pharma Code/CLF-8 barcode.

For example, you want to encode the number 3.

1.  $3+1=4$
2. 4 in binary is 100.
3. Without the first digit, it's 00.

Enter 00 in the **Code** field of your Laetus Pharma Code/CLF-8 barcode.

### Add Check Digit

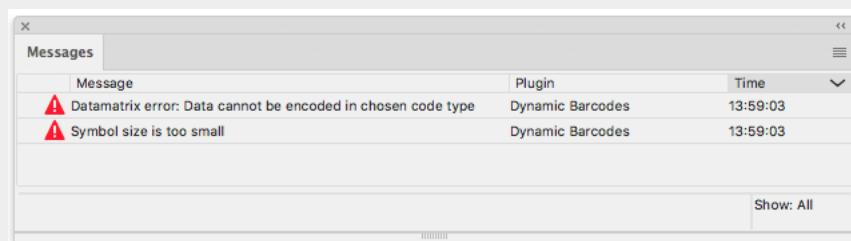
Use this parameter to add a check digit to your barcode data.

**Note:** Code 39 doesn't usually contain a check digit but it can be required in some cases.

### Symbol Type

Choose the number of cells to use for your barcode (in the format "horizontal cells x vertical cells").

**Note:** If the number of cells you choose for your symbol is too small to encode the data you entered in **Code**, Dynamic Barcodes will display an error.



You can choose **Best Fit** to make Dynamic Barcodes automatically adapt the number of cells to the amount of data you entered in **Code**.

### Cell Size

Enter the size you want to give to each cell of the symbol. This affects the size of the whole symbol.

The unit used is the one you chose as Illustrator's **General** unit in the **Units & Display Performance Preferences**.

In the example below, the first symbol has a 1 mm cell size (cells sides are 1 mm), and the second one a 2 mm cell size.



### Width / Total Height

The **Width** and **Total Height** parameters depend on the **Cell Size** and the number of cells used for the symbol (**Symbol Type**).

In the example below, a symbol of 10 x 10 cells where each cell is 3 mm gives a Width and Total Height of 30 x 30 mm.

Symbol Type:	10 by 10
Cell Size:	1 mm
Width:	14 mm
Height:	14 mm

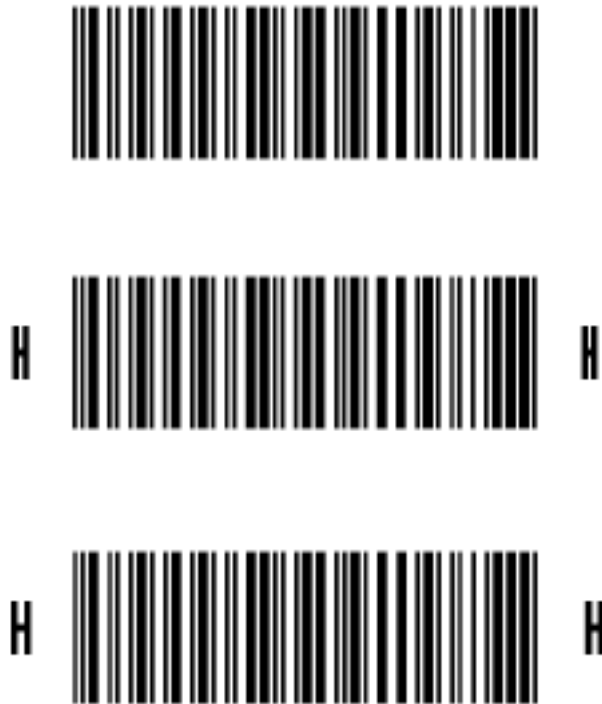
### Total Height

Enter the total height you want to give to your barcode. This is the combined height of the bars, the human readable characters and the box. If your barcode doesn't contain human readable characters or a box, the **Total Height** is the same as the bars' **Height**.

### Smax / Smin

Use these parameters to define the width of the printability gauges ("H" marks) either side of your barcode. **Smax** defines the width of the left "H", **Smin** defines the width of the right "H". Enter 0 in both fields if you don't want printability gauges.

In the example below, the top barcode has a value of 0 for both **Smax** and **Smin**, the middle one has a value of 4 and the bottom one has a value of 8 (the maximum).



**Box**

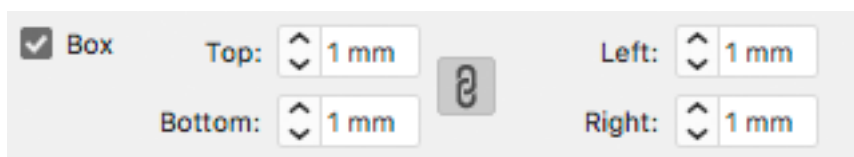
Use this parameter to create an opaque white box under your barcode.




Use the **Top**, **Bottom**, **Left** and **Right** fields to add a white margin around your barcode and make the box bigger.



By default, Dynamic Barcodes links the four margins' values so that when you change one of them, the other ones are updated automatically.



If you want to change them independently, click the link symbol to make it look detached  .

For ITF, UCP and UPC-SCS bar codes, the box will be transparent.

**Note:** When creating a bar code, the current Box parameters are stored for the specific barcode type. This means that the next time you select the same barcode type (e.g. when creating a new barcode of that type) the Box parameters will be adjusted.

### Stroke Weight: Bearer Bars

For **ITF-14**, **ITF-16** and **UPC-SCS** barcodes, enabling the **Box** option will create a transparent box, always with bearer bars around it. The **Stroke Weight** parameter defines the width of the bearer bars. In this case, it can't be set to zero.

For **2 of 5**, **Code 128**, **Code 128 long**, **Code 93**, **GS1 128**, **HIBC 128** and **Int 2 of 5** barcodes, the **Stroke Weight** defines the width of the bearer bars, but also define if bearer bars should be added: if the value is set to zero, no bearer bars are added, even if **Box** is enabled. If the value is not zero, bearer bars will be added, even if the **Box** option is disabled.

The bearer bars are positioned at the outside of the defined box, taking into account the margins (even if the **box** option is disabled for the barcode types mentioned above). See also [Box](#) on page 204.

The option **Only Top and Bottom Bars** limits the bearer bars to only the top and bottom line.

## 5.8. Barcode Parameters from the Job Folder

Automation Engine stores information related to the printing jobs within the Job Folder. Each Job Folder can hold various job-related technical information, including barcode parameters.

The following barcode parameters can be set in Automation Engine Pilot:

Parameter	Note	Link
Type	The type of barcode. You can't have two different bar codes of the same type in one job.	
Sub Type	The size of the symbol for Datamatrix barcodes.	<a href="#">Symbol Type</a> on page 202
Code	The encoded value including check digits.	<a href="#">Code</a> on page 193

Parameter	Note	Link
Composite Code	For barcodes with a Composite Component - mainly GS1 Databar codes	<a href="#">Composite Component</a> on page 194
Output Resolution		<a href="#">Snap Bars to Output Resolution</a> on page 201
Bar Width Reduction		<a href="#">Bar Width Reduction</a> on page 197
Device Compensation		<a href="#">Device Compensation</a> on page 197
Narrow Bar	Main size parameter for Code 128, Code 39, Interleaved 2 of 5, Codabar or MSI based barcodes, for GS1 DataBar barcodes, and for binary barcodes. For 2D barcodes such as DataMatrix, the parameter is used to set the <b>Cell Size</b> .	<a href="#">Narrow Bar</a> on page 200 and <a href="#">Cell Size</a> on page 202
Magnification	Main proportional size parameter for EAN and UPC based barcodes	<a href="#">Magnification</a> on page 197
Ratio	Used for Int2of5 barcodes	<a href="#">Ratio</a> on page 200

**Important:** Automation Engine does not check the parameters. All listed parameters are available for all barcode types, even if they are not valid for the given barcode type. Make sure you're entering the valid inputs, including a correct Code with its check digit.

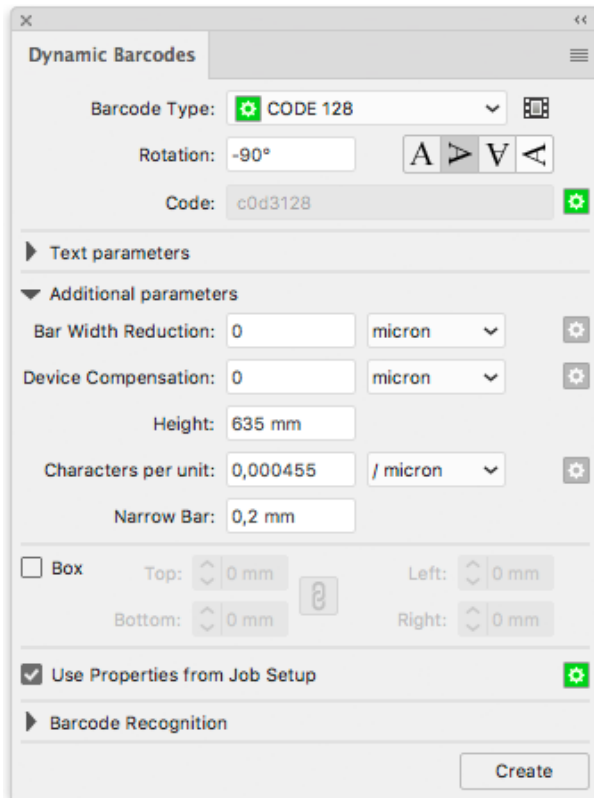
**Note:** It is not necessary to have the parameters already set on the Job Setup when creating barcodes: as soon as the Job Setup contains the settings for connected barcodes, these barcode parameters will be applied. This allows you to create templates or placeholders before the actual data (code for the barcode, etc) is available.

### 5.8.1. Connecting to a Job Folder

In order to take parameters from an Automation Engine Job Folder, you need to be connected to an Automation Engine, and open the file from the Automation Engine Job Folder. For easy locating the file on the server, you can use **File > Job Folder > Open from Job folder**

For more information on how to connect to Automation Engine, and on opening from a Job Folder, we refer to the Esko DataExchange documentation. See <http://help.esko.com/products/Esko%20Data%20Exchange%20for%20Adobe%20Illustrator>

### 5.8.2. Connect Dynamic Barcodes to Job Setup



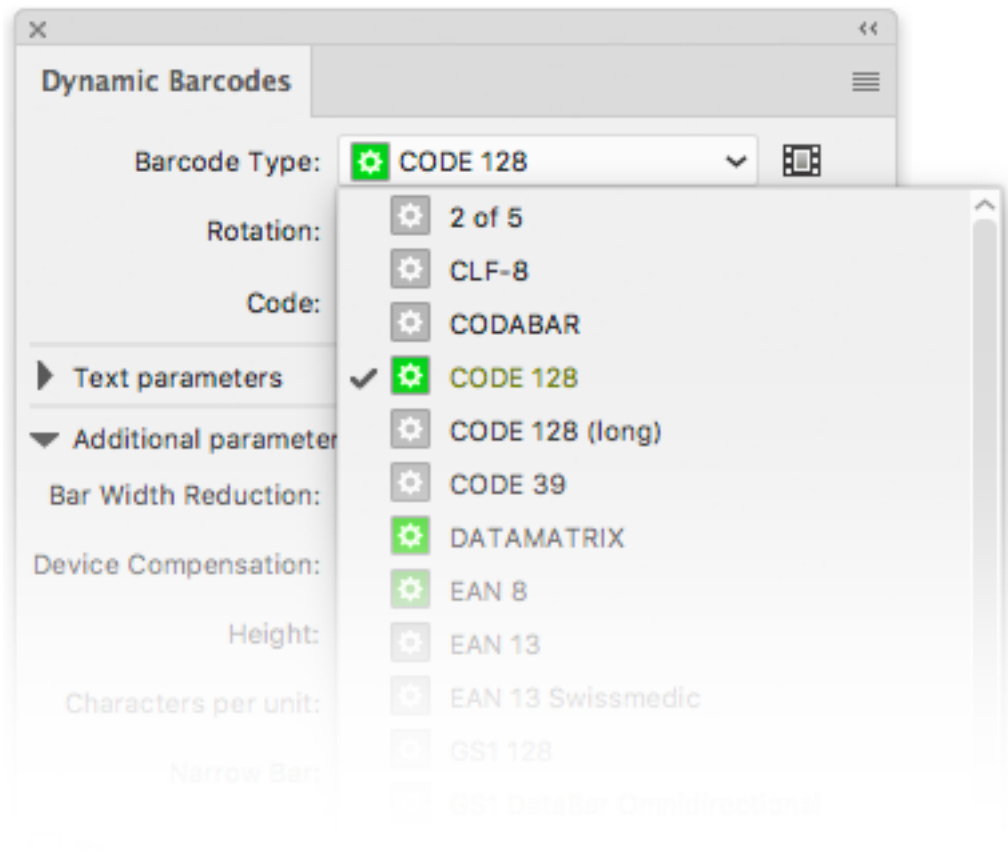
To use the Barcode properties from the Job Folder, enable the **Get Properties from Job Setup**.

When enabled, the icon on the right will indicate the status:

- Gray: the feature is disabled
- Green: the connection is established
- Red: the file is not in a Job Folder, or the connection is down.

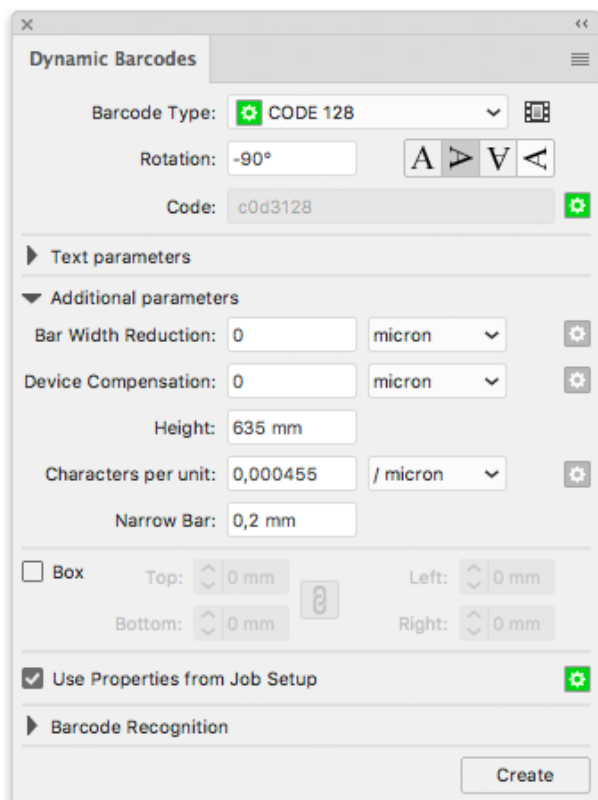
### 5.8.3. Use Barcode parameters from Job Setup

To use the barcode parameters from Job Setup, select a barcode type from the Barcode Type list that is defined in the Job setup. You can recognize these barcode types by the green icon in front.



As soon as you select one of the barcode types defined in the Job Setup, all parameters that are defined in the job setup will be entered (and no longer be editable), indicated by the same green icon.





In the example above, only the **Code** is defined in the Job Setup. All other parameters can be entered freely.

#### 5.8.4. Updating barcode parameters from Job Setup

If a barcode is connected to the Job Setup, any changes to the barcode parameters in the Job Setup, whether it is a changed parameter or a newly added parameter, will automatically and immediately be taken into account in Dynamic Barcodes.

When opening a file, all barcodes with the **Get Properties from Job Setup** option enabled will be updated automatically

If a barcode type is removed from the Job Setup, the corresponding barcodes in the job will no longer be connected, so the **Get Properties from Job Setup** option is disabled.

A barcode will also be disconnected and the **Get Properties from Job Setup** option will be disabled in case the barcode parameters in the Job Setup are invalid for the given barcode type. You will need to change the parameters in the Job Setup. Note that after correcting the parameters, you need to manually reconnect the barcode by enabling **Get Properties from Job Setup**.

## 6. PDF Import

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### 6.1. The PDF Import plug-in

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The **PDF Import** plug-in allows opening Esko PDF files in Adobe Illustrator. Almost every PDF object or construction that can be present in an Esko PDF is supported, and non-native art (also known as foreign art) is created only for free-form gradients and very complex meshes..

In addition to the artwork content, various high-level information or **metadata** is preserved.

It also improves speed and memory allocation of Adobe Illustrator when a single raster file is linked multiple times into the Illustrator document, even when PDF Import is not directly used to import the document.

Errors and warnings generated during the import are logged to the **Messages** palette.

#### Known limitations:

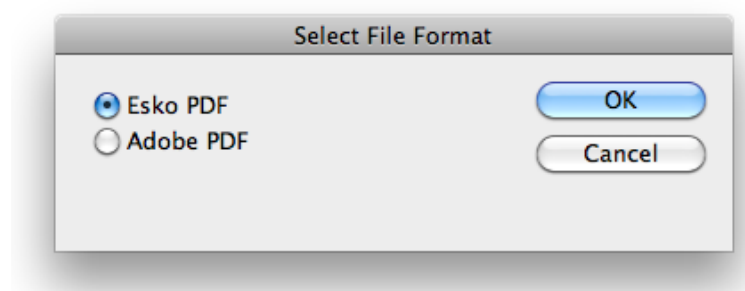
Gradients of type Conical, Rectangle and Parallelogramic created by PackEdge cannot be imported in Adobe Illustrator, because Adobe Illustrator doesn't support those types of gradients

### 6.2. Opening a PDF file

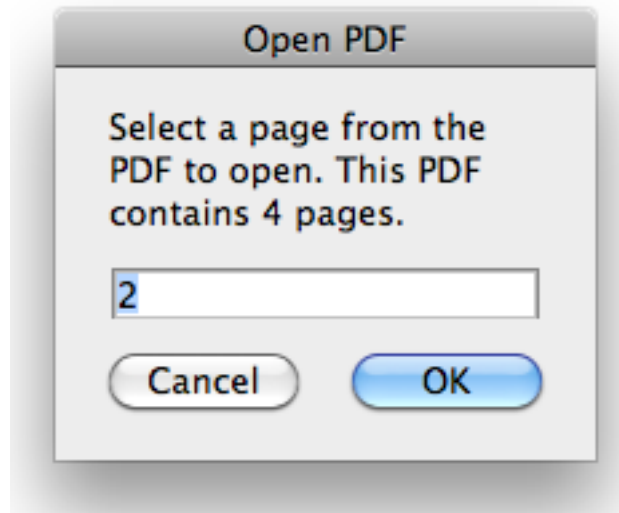
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The behavior of the PDF Import plug-in and Illustrator depends on the type of file being opened:

- `.inpdf` : When the file being opened has the suffix `.inpdf`, it is automatically opened by PDF Import.
- `.pdf` with Illustrator data: When the file being opened is an Adobe PDF with preserved Illustrator editability, it is opened as Illustrator document.
- Regular `.pdf` : For all other PDF files, the following dialog is shown. PDF Import is used when the first option (Esko PDF) is chosen. Adobe Illustrator shows this dialog automatically when multiple file import filters support the file being opened.



When the PDF file has multiple pages, a dialog will pop up, allowing you to specify the page you want to import



If you enter a page number that is not in the PDF file, the nearest possible page number will be taken.

## 6.3. High-level information preserved by PDF Import

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### 6.3.1. Layers

All Layer names are preserved, as well as the locked status and the printability flag.

**Note:**

The Normalized PDF format does not support the hidden/visible flag, therefore all layers (and artwork) present in the PDF file are imported as visible.

### 6.3.2. Named objects

For named objects, the names of the artwork are preserved.

### 6.3.3. Inks

Esko screenings, ink types, ink books, ink order and Printing Method as shown in the Ink Manager are preserved.

### 6.3.4. Object based screening

Object based Esko screening is preserved and shown in the InkManager. The Screening plug-in is not needed for this functionality.

### 6.3.5. Structural Design (CAD) data

The original structural design file is reimported using the Structural Design plug-in that is part of **Esko Data Exchange**.

The original placement origin, rotation angle, front/back side, and printable part selection are preserved. When the structural design file cannot be found, the user is asked to browse for it. When it still can't be found or importing fails, the original Structural Design layer is imported in expanded state and the link to the external file is lost.

### 6.3.6. Page boxes

All page boxes (Media Box, Trim Box, Crop Box, Art Box and Bleed Box) are imported and shown by the Trim Box and Media Box plug-in.

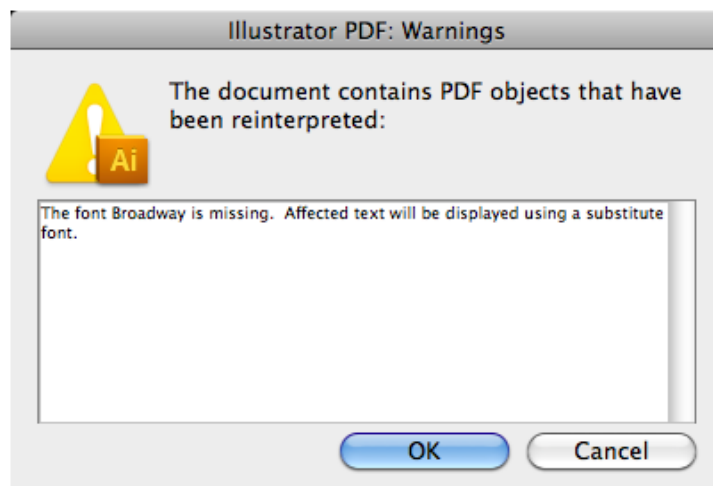
### 6.3.7. Text and fonts

When importing a PDF+, text box and paragraph parameters are retrieved from the PDF+ metadata, and will be preserved.

When importing a Normalized PDF, PDF Import will try to reassemble text objects into paragraph and restore high-level typesetting information, so that you can edit these text objects as native text in Adobe Illustrator. If this reassembly doesn't work, it may happen that text is split into several

text objects, where each object has a constant font style. In very rare circumstances, when it is not possible to determine the encoding, the text is contoured.

Any font available to Illustrator can be used without any limitations. When a font not available to Illustrator is used, a substitution is used. However, the original font name is preserved in the Illustrator document. Illustrator gives the following warning in such cases:



When such a document is saved and reopened on a system with the font installed, it will be correctly rendered without any warning.

### 6.3.8. Linework with mixed (DeviceN) colors

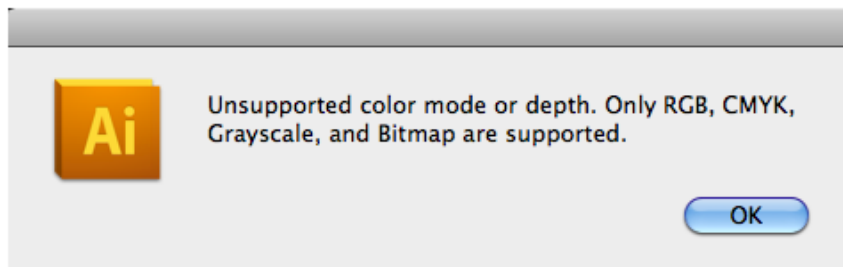
Adobe Illustrator does not support mixing multiple inks (combinations of multiple spot inks or process inks and a spot ink) in a single fill or stroke. Instead, they are simulated by multiple fills resp. strokes visible in the Appearance palette.

When PDF Import encounters a path object with a DeviceN fill or stroke, it is imported as multiple appearances with additional fills resp. strokes put into overprint. Such appearances are supported by boostX Ink Mix which can work with them further. However, the Ink Mix plug-in is not needed for this functionality of PDF Import.

### 6.3.9. Linked images

PDF Import supports links to external images. The links are preserved.

Some file formats for external images are supported in a (Normalized) PDF, but are not supported by Adobe Illustrator. For example multichannel PSD files can be placed in PackEdge or ArtPro, but it is not possible to open such Normalized PDF using this plugin because Adobe Illustrator does not support this variant of PSD. A workaround is to embed the PSD in PackEdge or ArtPro first. The following error is shown by Adobe Illustrator in such cases:



The **Image Extractor** plug-in is used for linked Esko CT/LP files. This is a free (non-licensed) functionality of Image Extractor.

Linked files with remapped inks are imported as Channel Mapped images. The visual representation will be correct, however a valid license for the Channel Mapping plug-in is needed to edit the channel mapping.

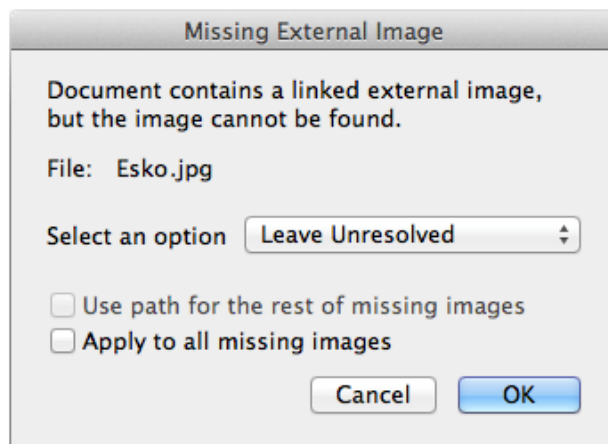
Adobe Illustrator has performance problems when a single document contains many linked rasters, or few linked files are referenced many times. It may sometimes cause that only Outline preview can be used. The PDF Import plug-in improves the handling of such documents.

**Note:**

This optimization works also for non-Normalized PDF files, including native Adobe Illustrator documents, but only as long as the PDF Import is installed.

**Missing images**

It sometimes happens that the referenced file is not found. Then the following dialog pops up:



There are 3 options:

- **Leave Unresolved** : Only a single-pixel placeholder is embedded.

The link to the original file is lost. The **Links** palette can be used to relink to the original file when it becomes available (or to any other file).

- **Use Embedded** : The image preview embedded in the PDF is used. Normalized PDF often contains a preview with a low resolution (up to 72 dpi). However, often there is just a single-pixel placeholder. The link to the original file is lost. The **Links** palette can be used to relink to the original file when it becomes available (or to any other file).
- **Relink** : the standard file dialog opens, asking the user to find the missing linked file. When this option is selected, the **Use path for the rest of missing images** option becomes enabled.

### 6.3.10. Dynamic Barcodes

Barcodes in Normalized PDF, created by PackEdge or an Automation Engine server task, are preserved and recognised as barcode objects. If the Dynamic Barcode plug-in is installed and licensed, it allows user to modify parameters of the barcodes supported by the Dynamic Barcode plugin.

As from version 16, also live Bar Codes created by ArtPro+, saved in PDF+ format, will be imported.

### 6.3.11. Notes

Notes written by PackEdge, Plato or using the Notes plug-in in Adobe Illustrator, will be imported.

For more information on working with notes, see [Working with Notes](#) on page 215

### 6.3.12. Inspection Points

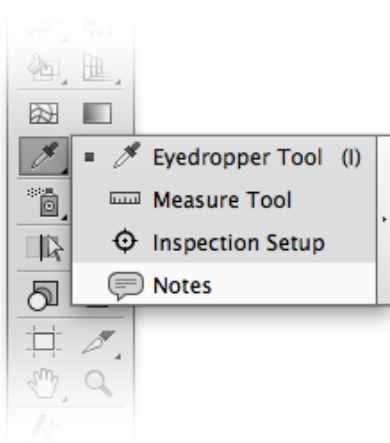
Inspection Points and Inspection Boxes written by PackEdge, Plato or the Inspection Setup Plug-in in Adobe Illustrator, will be imported.

For more information we refer to the **Inspection Setup Plug-in** documentation, which is part of the Esko Data Exchange documentation. See <https://www.esko.com/en/Support/Product?id=Esko%20Data%20Exchange%20for%20Adobe%20Illustrator>

## 6.4. Working with Notes

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Using the Notes tool, you can add and edit notes in your document.



**Importing and saving notes**

Notes are saved in the Normalized PDF file as regular PDF Comments, and will show up as "Sticky notes" in Adobe Acrobat. Sticky notes created in Acrobat will also show up in Adobe Illustrator, while other types of comments (text corrections, highlights, ...), and note properties or statuses are disregarded when opening a PDF file in Adobe Illustrator.

When importing a Normalized PDF containing notes created in ArtPro, PackEdge, Plato or DeskPack, these notes will also show up in Adobe Illustrator.

**Notes in Adobe Illustrator**



When selecting the **Notes** tool from the toolbox, all Notes become visible in the document.

A note consists of two parts: the **Note** itself, the yellow balloon indicating the location of the note, and the **Note Pop-up**, containing text, the name of the user that created it, and the time of creation.

When hovering over a note, the Note Pop-up is temporarily shown. When clicking the note, the Note Pop-up is opened, and you can edit its content. It will stay open until you close it using the **X** button.



### **Adding and editing notes**

- To create a note, select the **Note tool** and click in your document.
- To move a note, click and drag the note.
- Select another tool to hide all notes and note pop-ups. Selecting the Note tool will make all notes visible again. The note pop-ups that were open before will be reopened.
- To delete a note, hover over the note, and click the red cross.
- To hide a note pop-up, click the X in the top right corner. This doesn't affect the note itself, it only hides the pop-up

## 7. Preflight

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### 7.1. The Preflight for Illustrator Concept

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#### 7.1.1. What is Preflight for Illustrator ?

Preflight for Illustrator is a plug-in designed to evaluate the contents of your Adobe Illustrator document by comparing each object attribute to a user-defined set of design or print specifications. After checking, Preflight for Illustrator locates every problem object and allows you to edit. Validation can be done interactively.

Another feature of Preflight for Illustrator lets you collect all items related to the job, which makes it the ideal companion plug-in if you regularly transfer files to printshops.

#### 7.1.2. Import/Export of parameter sets

A pre press shop could create some parameter sets, which are distributed to all the design houses they work with. These companies can check their designs with these parameter sets. This will reduce costs at both sides: the design houses deliver better artwork (avoiding potential additional costs for fixing problems in the print shop), and the print shop knows upfront if a job is good quality or not.

#### 7.1.3. How Preflight for Illustrator works

Preflight for Illustrator compares the values of object attributes to the values stored in a Parameter Set. This means that relations between objects are ignored. The above has an impact on the Preflight for Illustrator definition of "NEGATIVE" strokes: A 3% cyan stroke with a 1 mm width on top of a dark background is regarded as "negative", while 2 dark rectangles with a 1 mm gap inbetween on a 3% cyan background do not trigger a "negative" situation. Actually, the program does not look at the background (since only individual object attributes are regarded), if a stroke has a color of which the sum of percentages of ink components is below the predefined value, the stroke will be assigned "negative", regardless of the underlying color. Finally, the detection of a negative line (or color, for "negative fonts")

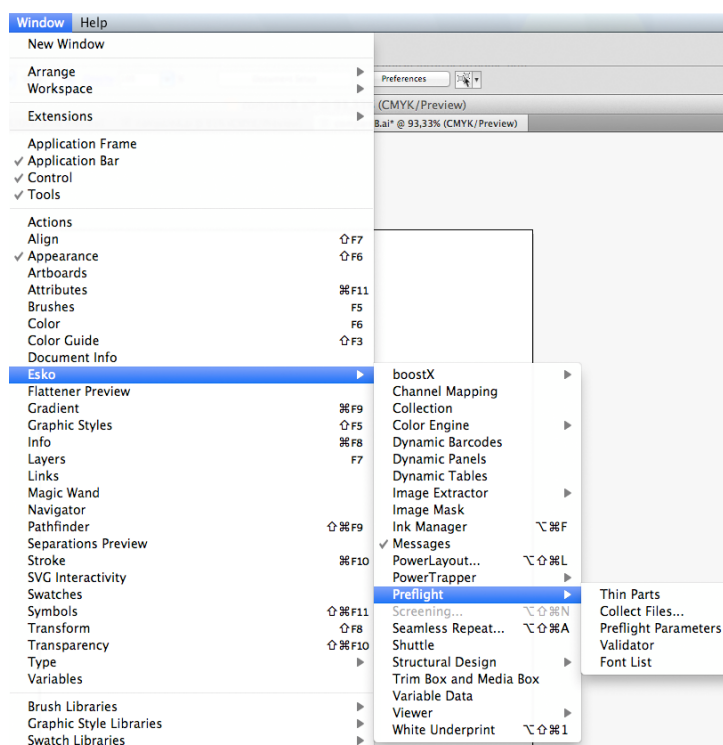
is based on the sum of all ink percentages, and so NOT on the luminance of an object. 5% yellow is as negative as 5% black or 2% cyan plus 3% magenta.

### 7.1.4. Units

**Note:**

Preflight for Illustrator adapts the Units and Undo settings from the AI preferences menu.

## 7.2. The Window Submenu



Preflight for Illustrator adds a new sub menu to Window menu, containing the following entries:

**Thin Parts** allows to search for areas where objects are thinner than a given minimum width.

**Collect Files...** opens a preferences dialog box which lets you collect all external files of the current job, and write them to a separate directory. External files include images, fonts and ICC profiles.

**Preflight Parameters** shows the palette for editing parameters that will be used when checking.

**Validator** shows the check palette which is used for checking and selecting objects that do not match the specified values.

The **Font List** tool is used to manage the classification of used fonts.

Depending on the installation sequence, the order of appearance of the above items can change. In this guide, they will be explained according to what we think is a preferred workflow.

**Note:**

The first time that Show Check or Show Edit Parameters is activated, either of the windows will open together with the other in one window. Corresponding with the standard Illustrator windows, this window is subdivided in tabs. The selected menu item will be shown as the tab in front. As with the other Illustrator window tabs, these tabs can be dragged outside the window to create a new window with only this tab.

## 7.3. The Preflight for Illustrator Parameter Tabsheet

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This tabsheet contains all parameters that can be specified for checking. The window is divided in tabs:

- *Color* on page 221: color and/or ink related settings
- *Image* on page 223: external image settings
- *Line* on page 223: line width and other line settings
- *Font* on page 224: text settings
- *Other* on page 225: miscellaneous settings.

Each tab can be enabled/disabled.

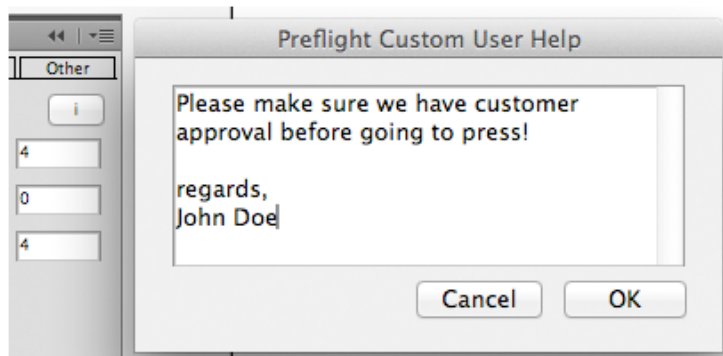
The bottom of the dialog contains the 'current parameter set' name, and a hint whether this set has been modified or not: if modified, the name is suffixed with a '+' sign. The Revert button at the bottom right restores the saved parameter settings from the current set.

Many parameters or parameter groups have an info button at the right side of the dialog box. Clicking this button opens a text entry dialog, where user information related to that particular parameter can be entered.

When the Preflight for Illustrator Custom User Help Info Dialog Box has opened, clicking inside the text window allows you to add or edit text.

Clicking the OK button stores the text to the current parameter set, while clicking Cancel disregards the changes.

The info can be seen either by clicking the info button, or in the info window of the Validator when the appropriate rule is selected.



The Info Dialog Box can be particularly useful for explaining non-experienced users why certain parameters require specific values. It helps you to understand the printing process and, therefore, to avoid more mistakes.

### 7.3.1. Color

This tab allows you to define parameters regarding color and ink usage in a job.

Following parameters can be set:

- Maximum Number of Allowed Process Inks determines how many process inks can be used in the job.
- Maximum Number of Allowed Spot Colors determines how many spot colors can be used.
- Maximum Number of Allowed Inks determines how many inks can be used altogether.
- Always Include in Ink Count: determines the process colors that must be counted as a used ink even when not used in the job (see remark).
- Warn on RGB Inks Usage: Preflight for Illustrator will report all objects that use an RGB color specification. Only RGB colors defined in Illustrator are considered, if e.g. an RGB image is imported, Illustrator does not generate extra colors.
- Treat Registration Color as Process Color: When activated, the color "registration" is regarded as CMYK components, thus counted as 4 inks, even if no or less than 4 process inks are in the job. This is useful in a composite workflow, where often registration marks are converted to CMYK by default.

**Note:**

Always Include in Ink Count: This feature can be important if changing an ink in a printing tower is not allowed. Some printers always keep all process colors on their press because changing an ink comes too expensive. This means that, for example on a five color press, only 1 spot color can be used on that press.

This is a traditional CMYK setup, for a 4 tower press which only prints process inks. If any spot colors are defined and used in the job, Preflight for Illustrator will report this and request to convert to CMYK.

Maximum Number of Allowed Process Inks

Maximum Number of Allowed Spot Colors

Maximum Number of Allowed Inks

Always Include in Ink Count:

Process Cyan

Process Magenta

Process Yellow

Process Black

Maximum Number of Allowed Process Inks

Maximum Number of Allowed Spot Colors

Maximum Number of Allowed Inks

Always Include in Ink Count:

Process Cyan

Process Magenta

Process Yellow

Process Black

Maximum Number of Allowed Process Inks

Maximum Number of Allowed Spot Colors

Maximum Number of Allowed Inks

Always Include in Ink Count:

Process Cyan

Process Magenta

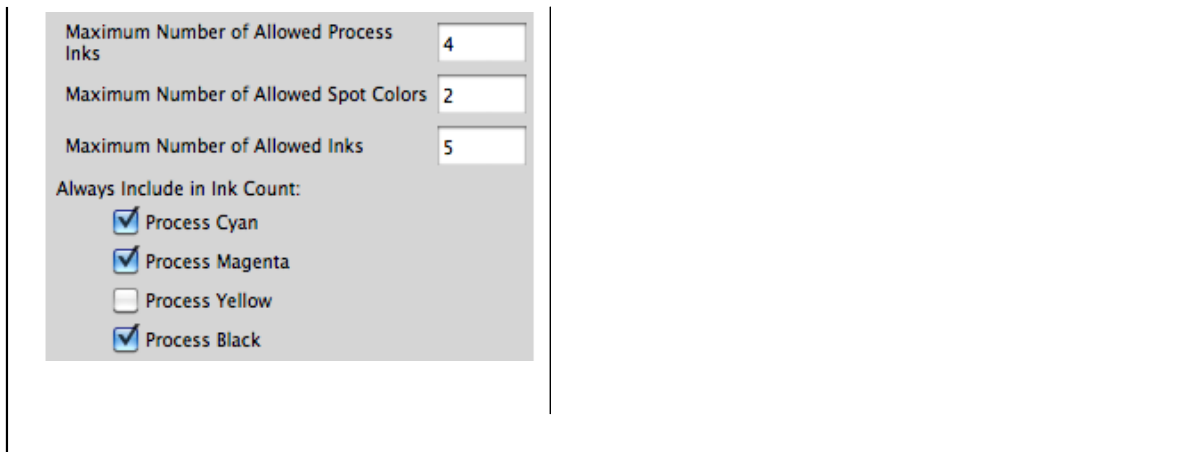
Process Yellow

Process Black

In this setup, the 4 process colors plus one spot color may be used. If more than one spot color is used in the design, Preflight for Illustrator will notify you.

This is an example for a 5 tower press, where 3 spot colors can be used. If the design contains 2 process inks only, and 3 spot colors, there is a valid situation. Other valid combinations are: 3 process / 2 spot 4 process / 1 spot.

In this example the C, M and K ink should always be counted, even if they are not used. This means that, if the job contains e.g. black, cyan, yellow and 2 spot colors, an error will be reported, although only five inks are used.



### 7.3.2. Image

This tab allows you to define parameters regarding imported images.

Following parameters can be set:

- Check on EPSF images If any EPSF (EPS) images are referred to in the job, Preflight for Illustrator will notify you.
- Check on TIFF images, If any TIFF images are referred to in the job, Preflight for Illustrator will notify you.
- Check on Other images, this option will invoke notification if the design references external images which are not EPSF and/or TIFF.
- Check on Embedded images, this option signals if the design contains embedded images (not linked).
- Check on RGB images, this option signals whether the design uses RGB images of any type.
- List Resolution of Images when enabled, the resolution of all images will be compared to the specified values. A minimum and a maximum resolution setting is available for both Contone and Bitmap images.

### 7.3.3. Line

The line tab sets parameters for linewidths.

Min Width for Negative Line will report a problem for negative lines that are thinner than the specified width (see How Preflight for Illustrator works for a definition of “negative”).The value for “negative ” color can be defined in the Other tab, with the Color is Negative if Percent Below... parameter.

Min Width for Single Ink Line will report a problem for single color lines that are thinner than the specified width (single color means that the color of the line only contains one ink component).

Min Width for Multi Ink Line will report a problem for multi ink lines that are thinner than the specified width (multi ink means that the color of the line contains more than one ink component).

Warn if Line has More Than 1 Ink will report a problem if the design contains stroked objects where the stroke color contains more than 1 ink.



**Caution:**

Preflight for Illustrator does not take brushstrokes into account.

### 7.3.4. Font

The Font tab parameters search your job for fonts that may cause difficulties in printing because their size is too small or some parts of the characters are too small.

Also, text which is perceived as 'negative' will be more difficult to print in the same small sizes as 'positive' characters.

Small text built up with more than one ink can be misregistered and, as a consequence, look fuzzy in print.

Following parameters can be set regarding Fonts:



Minimum size for Single Ink text will report a problem if single ink text is found that has a smaller font size than the specified value (where single ink means that the color of the text only contains one ink component).



Minimum size for Negative text will report a problem if negative text is found that has a smaller font size than the specified value (negative is defined later in this document).



Minimum size for Multi Ink text will report a problem if negative text is found that has a smaller font size than the specified value (where multi ink means that the color of the text contains more than one ink component).



By default, the same settings apply for all types of fonts. However, separate settings can be entered for Serif fonts and Bold fonts (Serif fonts have a short decorative line at the start or finish of a stroke in a letter, and are therefore more difficult to print).

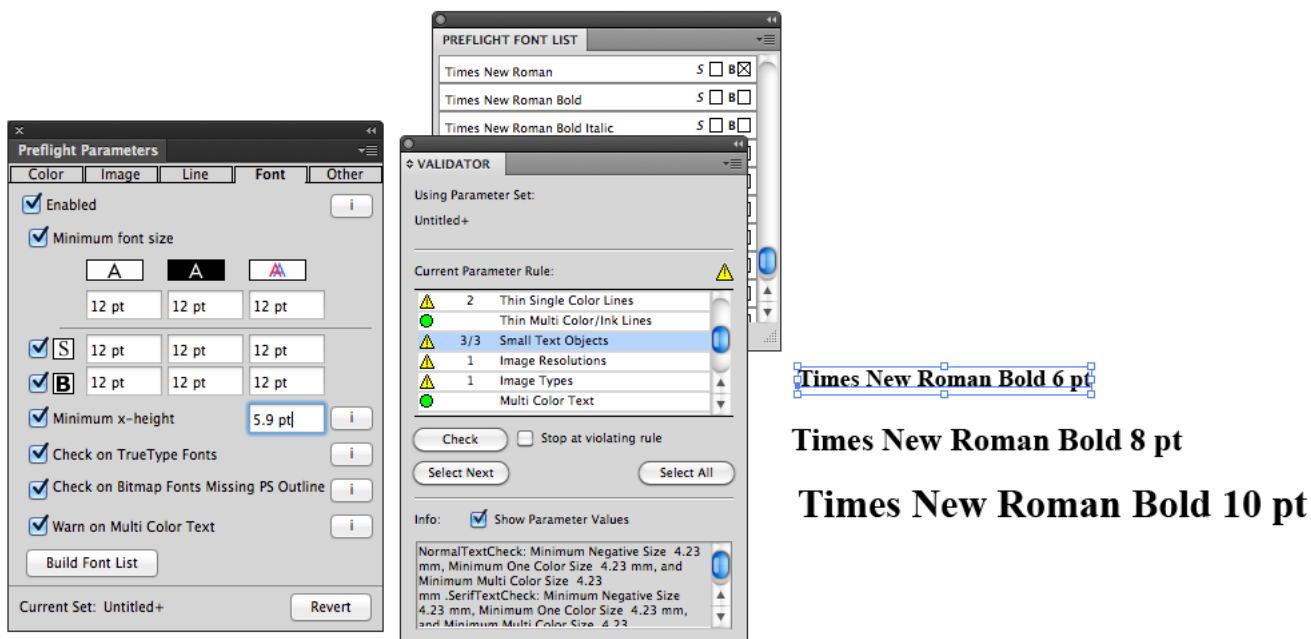


The following logic applies when checking fonts:

- if a font is both Serif and Bold: If 'Check on Serif Fonts' is enabled, the Serif parameter setting is applied. If 'Check on Bold Fonts' is enabled, the Bold parameter setting is applied. If both items are checked, the highest value will apply (see examples).
- For Bold fonts: If 'Check on Bold Fonts' is enabled, the Bold parameter is applied. Otherwise the 'standard' settings are applied.
- For Serif fonts: If 'Check on Serif Fonts' is enabled, the Serif parameter is applied. Otherwise the 'standard' settings are applied.



- For all other fonts, the 'standard' settings are applied.



The font in this example (Times New Roman) has been defined as 'Bold' in the Font List (see the Preflight Fonts List part). 3 lines of text are placed in the job, at respective font sizes of 6, 8, and 10 points. The parameters for standard single ink fonts are set to 12 points, for serif fonts to 14 points and for bold fonts to 10 points. After checking, Preflight for Illustrator reports 3 small text object, while only the 6 and 8 point text is lower than what was defined for bold text: 10 points.

**Minimum x-height** allows to check for a minimum x-height of the font family. The x-height is the height of the letter "x"

**Build Font List** This option will build a list with all fonts available on your system. Clicking this button has the same result as selecting the Show Font List option in the Window Submenu.

This list is automatically created or updated when launching Illustrator, but in some situations (e.g. when activating new fonts while working on a job) an update might be necessary.

For more details on this, refer to the chapter The Font List.

### 7.3.5. Other

The Other tab contains all parameters that are difficult to be catalogued within one of the other tabs:

Minimum Dot percentage will report a problem, if colors are used that have an ink component using a density value below the specified percentage. Zero percent will always be ignored.

Maximum Dot percentage will report a problem, if colors are used that have a component using a density value above the specified percentage. 100% is treated as an exception: if 'Include Solid' is enabled, 100% components will also report a problem, while if disabled, no problem will be reported.

Minimum Object size will report a problem, if objects are found that have a bounding box that is smaller than the specified value in horizontal and/or vertical direction. The unit of measurement is adapted from the current settings in the Illustrator Units & Undo Preferences.

Maximum Total Density will report a problem if the total sum of color components of a color exceeds the specified value.

Color is Negative determines the total sum of percentages of ink components that still determine whether a color is negative: if the sum is below the specified value, the color is regarded as negative.

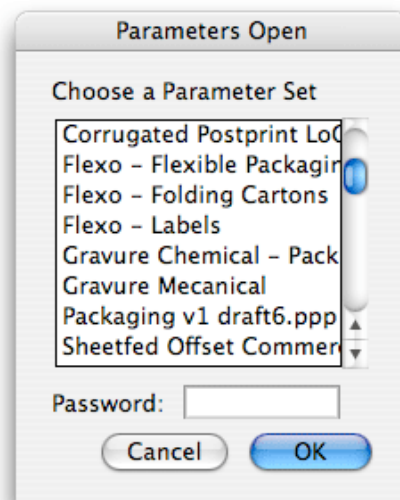
Check for Non-Printing Layers will report a problem if a layer is non-printable.

**Note:**

A known limitation: Assume the check parameters are set as follows: min: 3%, max 97 %, assume that you have a gradient from 0% to 97%. This gradient will not be flagged as wrong even though the minima are not respected. This is because white (0%) is always ignored and because Preflight for Illustrator does not check in between stops, it only checks the actual stops, in this case: 0% and 97%.

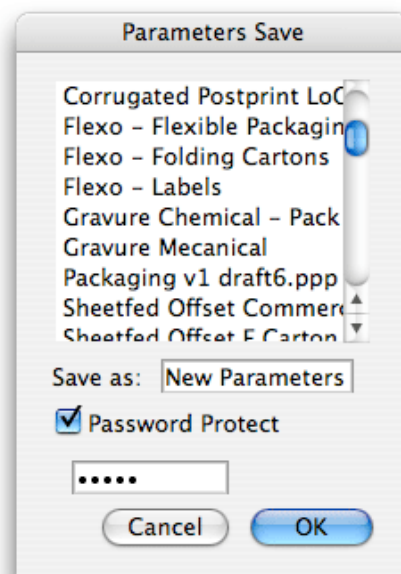
### 7.3.6. Parameter options

When the Parameters Tab is active, clicking the arrow in the top right corner of the window folds out a management menu for Parameter sets:



Open Parameter Set... allows you to open a previously saved parameter set. There is no need to browse, Preflight for Illustrator stores its parameter sets in a dedicated directory. If a set is password protected, the password must be entered in order to load the set.

Save Parameter Set will save the current parameter set in a predefined Preflight for Illustrator directory on the BackStage Server or on a DeskPack Container. Enter an appropriate name for the set, according to company workflow standards. If applicable, enter a password in the password field. It then will be requested when loading the set.



Save Parameter Set as... allows you to save the current parameter set with a different name.

New Parameter Set... creates a new parameter set with the default values.

Import Parameter File... allows you to browse to a user-defined folder or location, imports a previously exported parameter set and adds it to the used parameter set list.

Export Parameter File... allows you to browse to a user defined folder or location and save the parameter file with the current parameter file name, or allows you to enter a new name, possibly with a password.

## 7.4. The Validator Tabsheet

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The actual checking is performed using the Validator palette. This dialog contains an overview of all rules that will be checked. The list can grow or shrink according to the options or tab sheets that are enabled.




First, a parameter file is selected. This is done either by interactively defining the parameters in the Parameters tab, or by selecting a parameter file in the Parameter Options menu.

Parameter sets can also be selected in the Validator tab. A pulldown menu allows you to choose from sets which were previously imported with the Import Parameter File... option in the Validator Options Menu.

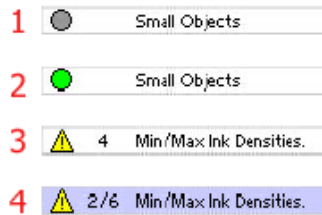
The Check button will perform the actual inspection. The list is then updated to reflect the reported problems and/or occurrences.

Stop at violating rule This option determines whether Preflight for Illustrator will perform all tests or stops at the first one that reports problems.

The indicator on the right, above the list box is the overall status indicator. Whenever one or more rules indicate irregularities, this icon reflects this, to avoid missing out an error while scrolling the list:

-  A grey dot means that the job has not been checked yet, or the design was changed after the latest check, possibly introducing new problems, which makes a new inspection necessary.
-  A green dot indicates the job has been checked and no problems have been found.
-  An exclamation sign means that anomalies have been found.

Each rule can be in 4 states:



1. The rule has not been checked, or the latest check is no longer valid.
2. The rule has been checked successfully.
3. The rule has been checked, and 4 anomalies were found.
4. The rule has been checked, 6 anomalies were found, and the 2nd irregular object is currently selected in the Illustrator job.

After checking, the dialog changes as follows: If Stop at Violating Rule is enabled, the rule indicators will turn green upto the one that reports an irregularity. This one shows a yellow exclamation mark. The following rule indicators will stay grey. If Stop at Violating Rule is disabled, all rule indicators will show green except for those with a problem, which will be yellow.

In both cases, the Select First button will be enabled after a check. Clicking it will select the first violating object. The button then changes to Select Next. After every violating object has been selected, the button is disabled again. Activating the Select All button selects all violating instances for the currently selected rule. Clicking Check again will recheck the design, from the selected rule onwards.

**Note:**

If AI Units and Undo preferences are set on pixels, the Validator will provide no information (e.g. on minimum object size and such).

### 7.4.1. The Validator Options Menu

Clicking the black triangle in the top right corner of the Validator tab sheet displays following options: Show/Hide Info This toggle adds or removes an extra info field at the bottom of the Validator window. After checking your job, selecting individual report lines then shows extra information, like the parameters used for that particular report line. If the button Show Parameter Values is disabled above the info field, the text window will only show user defined info. Import Parameter File... imports a parameter file that was exported with Preflight for Illustrator. The parameter file is saved automatically in a dedicated directory, and added to the parameter file list in Preflight for Illustrator Ignore Invisible Layers This feature will prevent Preflight for Illustrator from analyzing invisible layers, hereby

overruling the setting in the Preflight for Illustrator Parameters Other tab. Auto Select First Violation If any, this option automatically selects the first anomalies found after a check. Zoom to Selection When activated, the object which reports anomalies will be zoomed into, and centered in the Document Window.

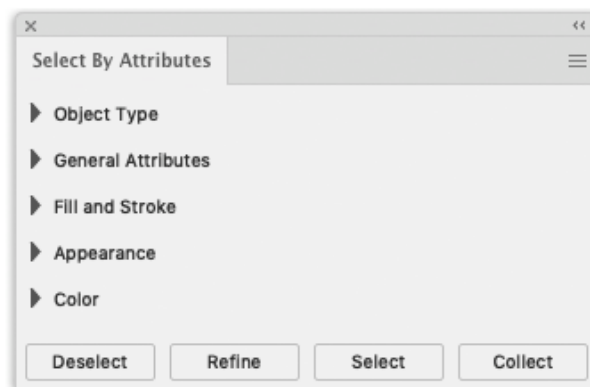
## 7.5. Select by Attributes

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The Select by Attributes option opens the Select by Attributes palette, from which you can define a custom selection filter based on the attributes of the objects in the Illustrator document. Select By Attribute is both a productivity and a QA tool. It allows you to quickly select all elements in the file (or sub-select within a selection) that comply with your criteria; color, object type, appearance and even the shape of the object. Use it as a QA tool to trace elements in your document that are outside the printing specifications (small text, thin lines, ...). Click **Select > Esko > Select By Attributes**, to open the Select By Attributes palette.

### Why Select by Attributes?

By combining multiple selection criteria in the Select by Attributes panel, you can create your own special, tailor-made selection filter.



The Select By Attributes option comes with four buttons **Select**, **Refine**, **Deselect** and **Collect**.

- **Select:** Select all objects in the document that match the criteria that are currently selected .
- **Refine:** Refine the current selection by adding additional selection criteria. This allows you to quickly fine tune your result.
- **Deselect:** Deselect all objects that match the new selection criteria within the current selection.
- **Collect:** Make a Collection of all the objects in the document that match the criteria that are currently selected. See [Collection](#) on page 107

### Selection groups

The following groups of selection criteria are available:

- Object Type
- General Attributes
- Fill and Stroke
- Appearance

- Color

It's good to know that Select By Attributes works differently when combining selections within the same selection group or when combining selection criteria in different selection groups.

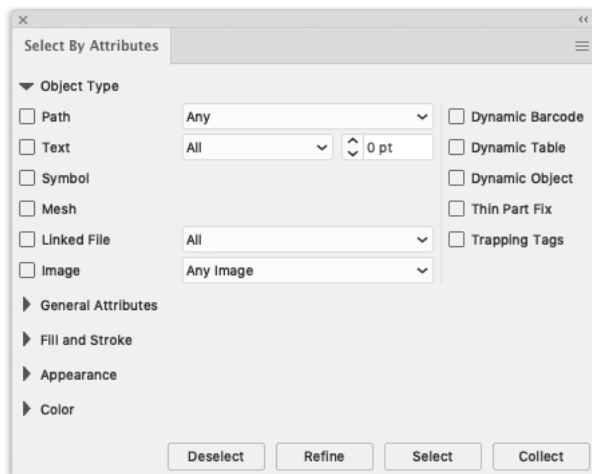
When adding selection criteria in the same selection group, Select by Attributes will simply add the search criteria, e.g. searching in "Object Type" for a "Path", "Text" and a "Mesh" will result in a selection of all paths, all text and all mesh objects.

However when combining selections in different selection groups, Select by Attributes will combine the selection criteria. e.g. searching for "Text" in "Object Type" and "Stroke" in "Fill and Stroke" will only select text objects colored with a stroke.

**Note:** Click on a triangle to collapse or expand the section. Alt-click on an expanded section to open all the sections. Alt-click on a collapsed section to expand that section and collapse all others.

### 7.5.1. Object Type

The Object Type group has ten options:



**Path:** Select objects based on the path type: Open, Closed or Compound. Using **Any option**, the selection is made between objects which are Open, Closed or Compound.

**Text:** Select all text, or all text smaller than the point size you specify in the Text field.

**Symbol:** Select all the objects that are Adobe Illustrator symbols.

**Linked File:** Select objects or images which have been linked to (and not embedded into) the Adobe Illustrator file.

**Image:** Selects all placed image files of the file type defined in the list. The image has to be embedded in the file.

**Mesh:** Select all objects that are Adobe Illustrator Mesh objects.

**Dynamic Barcodes:** Select dynamic barcode objects generated by the Esko Dynamic Barcodes plug-in.

**Dynamic Table:** Select dynamic table objects generated by the Esko Dynamic Tables plug-in.

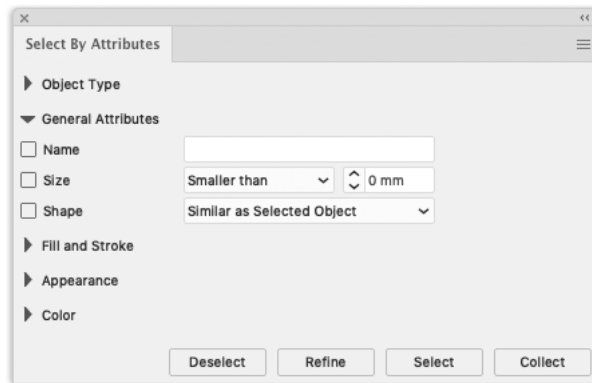
**Dynamic Object:** Select XML-driven dynamic objects generated by the Esko Dynamic Content plug-in.

**Thin Part Fix:** Select objects created by using the **Fix** button in the Thin Parts function of the Preflight For Illustrator plugin.

**Trapping Tags:** Select objects that have a Trapping Tag defined, used by Esko Trapping.

## 7.5.2. General Attributes

The General Attributes group has three options:



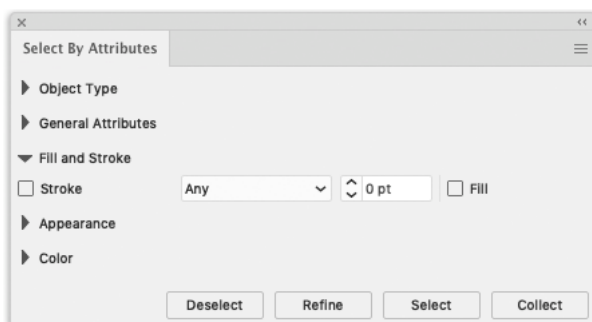
**Name:** Select an object by typing its name. The name of an object can be found and modified in the Illustrator Layer palette. Object names are by default placed between angled brackets (< >). Note that you do not need to type the brackets, and that object names are case sensitive.

**Size:** Select the size of the object (smaller or bigger than the typed size in mm).

**Shape:** Select the objects which are of the same shapes as defined in the list. Note that the Similar as Selected Objects option will only function if an object is selected.

## 7.5.3. Fill and Stroke

The Fill and Strokes group has two options:

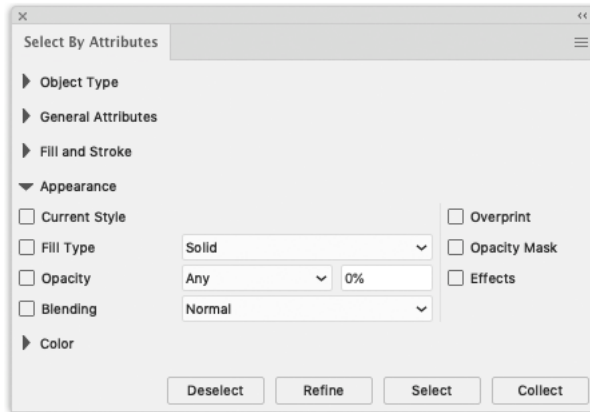


**Fill:** Select the objects with a fill.

**Stroke:** Select all strokes, or strokes smaller than the size you specify in the Text field.

### 7.5.4. Appearance

The Appearance group has seven options:



**Current Style:** Select objects similar to the selected object. The selection is tied to the style of the Illustrator color palette. This means that you can also search for any object with a certain style.

**Fill Type:** Select the objects with a certain Fill type. You can choose between Solid, Gradient or Pattern.

**Opacity :** Select the objects that have a fill or a stroke with an opacity level or transparency lower than a certain percentage.

**Blending:** Select objects that have a fill or a stroke set with one of the blending types, for example darken or multiply . Select a blending mode from the drop down list.

**Overprint:** Select the objects set in overprint.

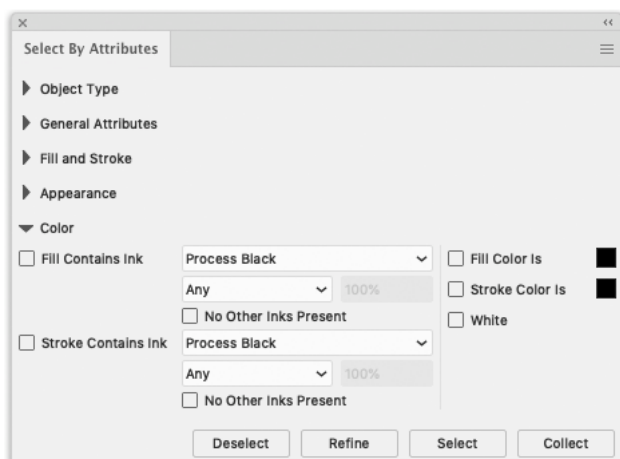
**Opacity Mask:** Select any objects with an Opacity mask linked to it. Opacity masks are used to alter the transparency of objects and can also be selected via the "Opacity" option.

**Effects:** Select any object that has an Adobe Illustrator Effect applied to it.

### 7.5.5. Color

The Color group has several options:





**Fill Color is:** Select an object based on the color used for its fill. By clicking once the color patch will take the color of the object currently selected or when no selection is made it takes the Illustrator current style. When multiple different objects are selected and you click once the default color black is chosen. Double-clicking the patch will open the Illustrator Color Picker.

**StrokeColor is:** Select an object based on the color used for its stroke. By clicking once the color patch will take the color of the object currently selected or when no selection is made it takes the Illustrator current style. When multiple different objects are selected and you click once the default color black is chosen. Double-clicking the patch will open the Illustrator Color Picker.

**Tip:** Change your current style for fill or stroke to "None" (see Tools palette or Appearance) and select all objects with no fill or no stroke.

**Fill Contains Ink:** Select an object based on the ink used for its fill. This can be a process color ink or a spot color ink.

- Use the "Lower than" and "Higher than" options to only select the objects with certain percentages of the ink.
- Select the **No other inks present** check box if you only want to select objects with a fill in the selected ink, but without other additional inks.

**Stroke Contains Ink:** Select an object based on the ink used for its stroke. This can be a process color ink or a spot color ink.

- Use the "Lower than" and "Higher than" options to only select the objects with certain percentages of the ink.
- Select **No other inks present** check box if you only want to select objects with a stroke in the selected ink, but without other additional inks.

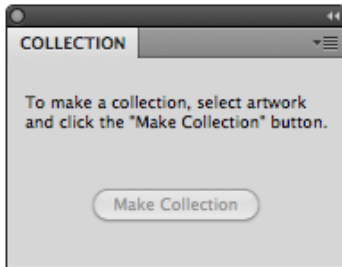
**White:** Select any object with a white fill or stroke.

## 7.6. Collection

A **Collection** is a temporary set of objects, based on a selection. It allows to navigate through the objects in the Collection, automatically zooming in on them.

A collection is temporary, and only kept until it is cleared, or until the document is closed.

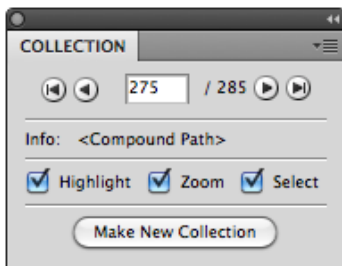
1. Select a number of objects.  
You can select objects manually, or by using e.g. **Select by Attribute**
2. Choose **Window > Esko > Collection...** to open the Collection dialog



3. Click the **Make Collection** button to make a collection based on the selection

**Note:** By clicking the **Collect** button in the **Select by Attribute** palette, you can skip step 2 and 3, and immediately create a collection based on the properties set in the Select by Attribute palette. See also [Select by Attributes](#) on page 102

4. Browse through the collection



The Collection dialog will show the number of objects in the Collection

- Use the browse buttons to navigate through the different objects in the collection
- The Info field shows the type of object currently selected
- Select the **Zoom** option to automatically zoom in on the currently browsed object.
- Select the **Select** option to automatically select the currently browsed object.

**Note:**

Selecting or deselecting objects doesn't change the collection. You can still select and/or edit objects, without losing your collection.

### 7.6.1. Modifying a Collection

You can modify the Collection using one of the functions in the fly-out menu of the Collection palette:

- Click the **Make New Collection** button or select **Make Collection** from the fly-out menu to "forget" the current collection, and create a new collection based on the current selection.

- Select **Clear Collection** from the fly-out menu to "forget" the current collection.
- Select one or more objects in the job, and select **Add Selection** from the fly-out menu to add the selected objects to the collection.
- Browse to an object in the collection, and select **Remove Selection** from the fly-out menu to remove the selected objects from the collection.

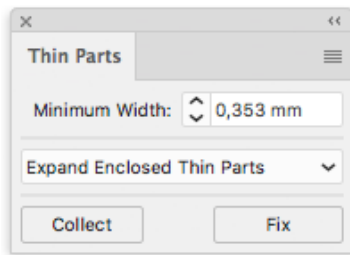
**Note:** Objects that are removed in the job, are automatically removed from the collection.

- Select **Select All** from the fly-out menu to select all objects in the collection.

## 7.7. Thin parts

The **Thin Parts** function allows to search for areas where objects are thinner than a given minimum width.

The Thin parts dialog can be opened by selecting **Window > Esko > Preflight > Thin Parts**

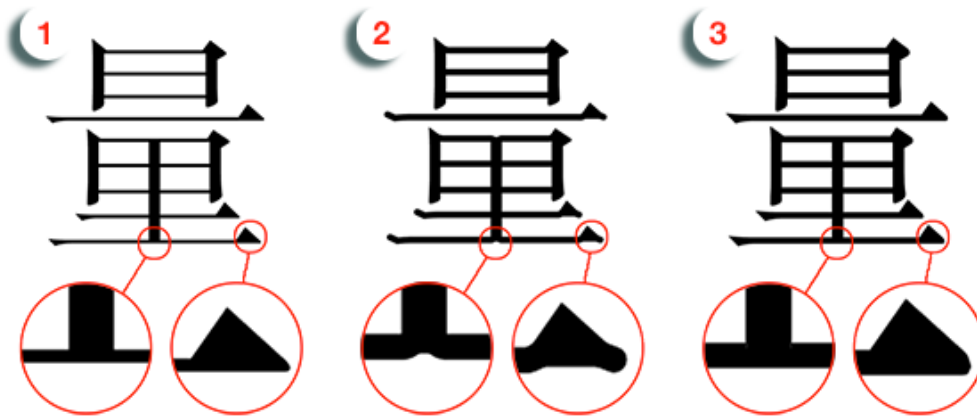


There are two methods to fix Thin Parts.

- You can **Expand** thin parts. This creates small objects over the areas where thin parts are found. You can use this method by selecting **Expand All Thin Parts** or **Expand Enclosed Thin Parts**. See [Expand Thin Parts](#) on page 236
- You can use **Offset Selection**, which creates duplicates of the selected objects shifted over a set (small) distance, hence fixing any thin parts. This gives better results e.g. for chinese characters. See [Offset Selection](#) on page 239

The image underneath shows:

1. The original
2. The result of fixing using **Expand**
3. The result of fixing using **Offset Selection**.



You can remove all thin part fixes in your selection by selecting **Remove Fixes** from the fly-out menu.

### 7.7.1. Expand Thin Parts

Expanding Thin Parts creates small objects over the areas where thin parts are found. You can use this method by selecting **Expand All Thin Parts** or **Expand Enclosed Thin Parts**

Clicking the **Collect** button, will create a Collection of all occurrences, showing all locations where parts of objects are thinner than the entered **Minimum Width**.

**Note:** Keep in mind that strokes are NOT considered.

**Note:** Patterns are not supported. Objects with patterns might cause unexpected results when using the Thin Parts functions.

The Collection palette will open, so you can browse through all occurrences found. See [Collection](#) on page 107 for more information on using a Collection.

Be aware that the Collection generated by **Thin Parts**, unlike normal collections, does NOT contain any real objects. Instead it contains "occurrences", virtual outlines of places where objects are thinner than the entered Minimum Width, possibly including the suggested fix.

In the example underneath you can see that at the ends, the lines around the logo are smaller than the Minimum Width. The red (virtual) objects show the suggested fix.



**Note:** Since the Collection doesn't contain real objects, the **Select** option is disabled in the Collection palette.

### Fixing all Thin Parts

You can use the Thin Parts function to automatically create fixes:

1. Open the Thin Parts palette and select **Expand All Thin Parts** or **Expand Enclosed Thin Parts**
2. Enter the desired Minimum Width
3. Click **Collect**


In the **Collect** palette, you can browse through the Thin Parts, and check the suggested fixes.

- 4.
5. In the **Thin Parts** palette, click the **Fix** button.  
The **Fix** function will create objects (as shown in the Collection), immediately on top of the original objects, fixing all Thin Part occurrences.
6. In the **Select By Attribute** palette, select "Thin Parts" in the Object Type section.
7. Click the **Collect** button
8. In the **Collection** palette, browse through all fixes, and correct or delete them as necessary.

### Fix Thin Parts tool

You can use the Thin Part Tool to interactive create fixes:

1. Open the Thin Parts palette and select **Expand All Thin Parts** or **Expand Enclosed Thin Parts**
2. Enter the desired Minimum Width
3. Click **Collect**
4. In the Collect palette, browse through the Thin Parts, and check the suggested fixes.

5. Select the Fix Thin Part tool 
6. Click the Thin Parts you want to fix

The Fix Thin Parts function will create objects (as shown in the Collection), immediately on top of the original object.

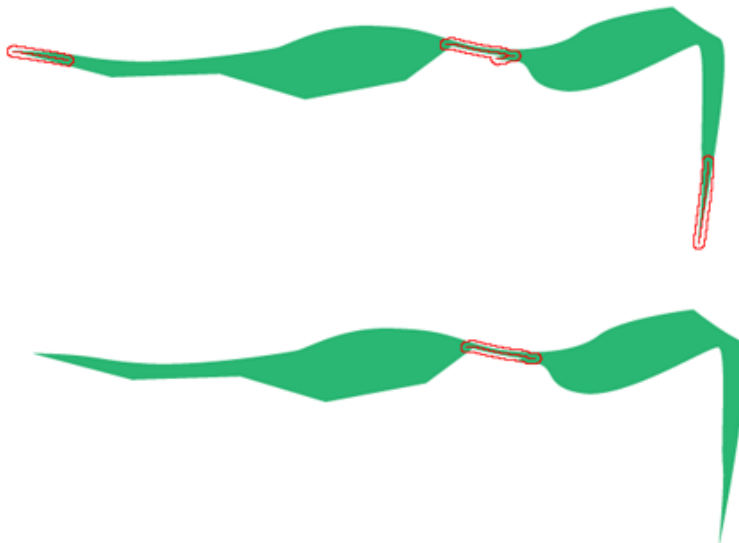
Thin Part fixes created with the Fix Thin Part tool can also be selected using Select By Attribute. See [Select by Attributes](#) on page 102

### Thin Parts settings

**Minimum Width:** the minimum width below which parts of objects are shown as a "Thin Part" occurrence.

**Expand All Thin Parts:** If this option is chosen, all thin parts will be flagged. (In the example underneath: the result on top)

**Expand Enclosed Thin Parts:** If this option is chosen, parts of objects are only flagged as Thin Parts if the thin part is in between two parts of the object above the Minimum Width. (In the example below: the result shown at the bottom)



**Suggest Fixes** (in the Fly-out menu): If this option is enabled, Thin Parts will show the suggested fix, instead of just highlighting the Thin Part itself.

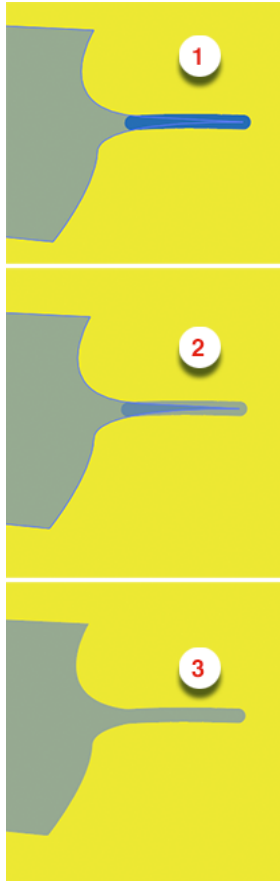
**Show Centerline** (in the Fly-out menu): If this option is enabled, the centerline of the thin part is shown.

### Thin Part fixes with transparency

When fixing Thin Parts on objects with transparency, the Thin Part Fix will have no transparency set. This is shown in the image underneath, where you see an object with 50% opacity, and the thin part fix at 100% (1).

Although it seems an easy fix, changing the opacity of the Thin Part Fix to 50% does not give the expected result (2).

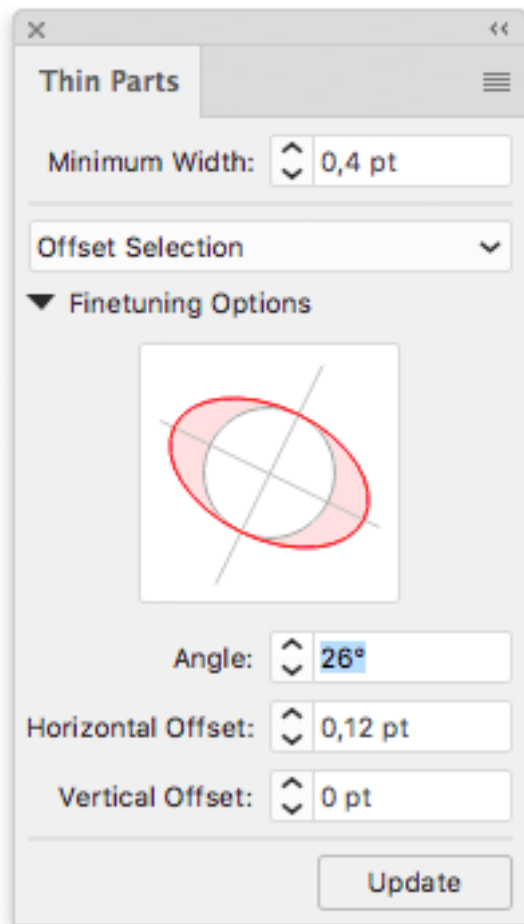
The workaround is to set both the object and the Thin Part fix at 100%, put them in a group and apply the 50% opacity on the group (3).



## 7.7.2. Offset Selection

Unlike the Expand options, the **Offset Selection** option will affect the complete selected objects, and not only the detected thin parts.

It will create a visual offset of the original object, over the Angle, the Horizontal Offset and Vertical Offset as defined in the **Finetuning Options**. The image in the palette gives an indication of the result.



1. Select the object you want to fix
2. Open the Thin Parts palette and select **Offset Selection**
3. Click the **Fix** button to create the Offset using the default values
4. In the **Finetuning Options** you can modify the **Angle**, **Horizontal Offset** or **Vertical Offset**
5. Click the **Update** button to apply the values you entered.

**Note:** The Offset Selection option can only be used in combination with the Fix button. You can not create a Collection, or use the manual Fix Thin Parts tool.

## 7.8. The Font List

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### 7.8.1. Why would you use font classification?





Some font families are less printable than others when it comes to small font sizes. “Serif” fonts, like e.g. Times Roman, have small decorative extensions at corners or extremities of each character. These extensions tend to disappear or fade in print when using extremely small font sizes. Not every printing process suffers equally from this phenomenon. The “bold” font family members, on the other hand, facilitate the printing of small, thus allowing smaller font sizes than normal typefaces.

The information on which characteristics a specific typeface has, is not consistently stored in the fontdata, making it impossible to automatically detect the nature of the font. The font list menu brings a solution to this, allowing the user to manually classify typefaces. This may seem to be a tedious job at first, but after initial classification, the font database can gradually be updated when more fonts are added.

However, this classification is not compulsory. If there is no need to distinguish between bold, serif and normal fonts in the workflow, assigning a minimum value for normal fonts only will work in most cases, every type instance will be compared to this value only, which can be an average for bold, serif and normal fonts.

Also bear in mind that not every “sans serif” font (a font without these decorative extensions) is easier to print than a serif font, since some font types have both thin and thick parts, which makes it more logical to classify them as “serif” fonts than as “sans serif”.

The assigned values will be stored locally, allowing Preflight for Illustrator to use this database for every job to be checked. This database can be exported for use at other sites where Preflight for Illustrator is applied.

## 7.8.2. Parameter Fonts

Each font family member occupies one line in the font list. Next to the font name, 2 checkboxes allow you to classify the typeface with a single click. For serif fonts, mark the box preceded by a capital ‘S’ with the caps accented in red. Bold fonts get a checkmark in the box preceded by a capital ‘B’. The combination of the two is also possible of course.

When Illustrator is launched, your system is scanned for active fonts. These can be fonts residing in your system folder, or fonts activated with a font management tool like ATM, Suitcase or others. If new fonts are active at that moment, they will be added to the Preflight for Illustrator font list.

Depending on the availability and the state of classification of the font, each font entry can have one of four different colors:

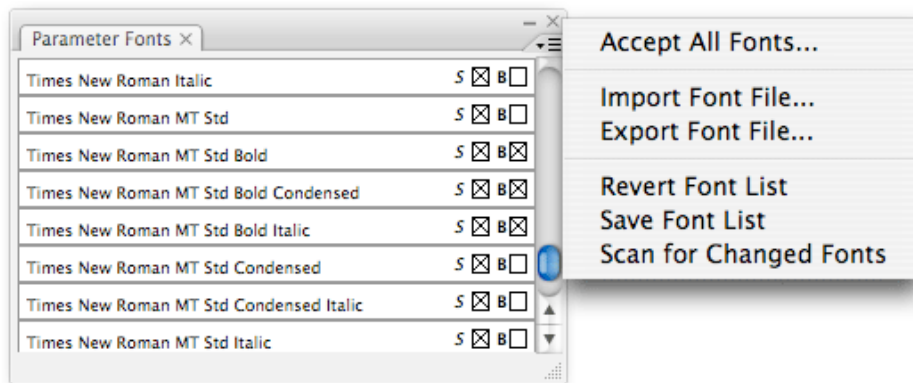
1. White: the font is classified and available on your system.
2. Blue: the font is NOT classified yet, but detected as active on your system.
3. Yellow: The font has been classified before, but is now unavailable on your system.
4. Purple: The font has not been classified yet and is currently unavailable on your system.

The latter case will happen only rarely, but it may occur in a situation in which a font scan is done on one system, without assigning some fonts, then exporting the font list to another site where the font is currently not unavailable.

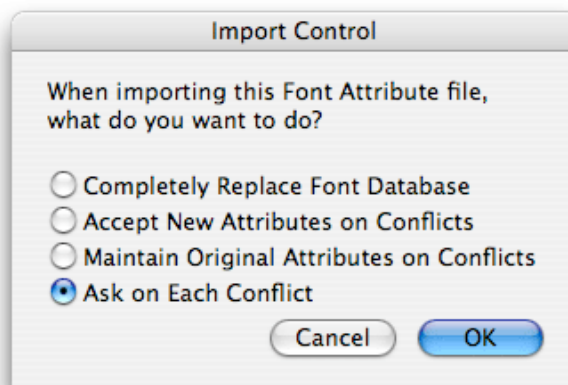
### 7.8.3. Font List Options menu

Clicking the black triangle in the top right corner of the Font List tab sheet reveals additional options:

**Accept All Fonts** will change the state of every unclassified font entry to 'classified'.



**Import Font File ...** Allows you to import a font classification database generated on another system. Selecting this option invokes a standard file browser. After selecting the font database file, an import control dialog opens.



It prompts the action Preflight for Illustrator should perform if the imported list contains other classification parameters for the same fonts than those in the current font List. The options are:

- **Completely Replace Font Database:** this option specifies that all entries in the current Font List will be removed, and the parameters from the imported file will be kept.
- **Accept New Attributes on Conflicts:** the imported entries are merged with the current Font List, and if there are conflicts, the settings from the import are assigned.

- **Maintain Original Attributes on Conflicts:** the imported font classification entries are merged with the current font list, and if there are conflicts, the settings from the original font list are assigned.
- **Ask on Each Conflict:** the imported entries are merged with the current font list, and in case of conflicts, the user will be prompted to assign the desired classification.

If the last option is selected, a dialog appears when a conflict occurs:

For every conflicting classification, the name of the font is displayed, followed by the original (local) classification, and then the new (imported) classification.

Following options can be selected:

- **Keep Original:** leaves the classification for this font face as defined on this machine.
- **Use New:** will assign the classification from the imported file.
- **Always Use Original:** stops prompting the user, keeping the local classification for every conflicting font face.
- **Always Use New:** stops prompting the user, assigning the classification from the imported file for every conflicting font face.

**Export Font File** will export the current font list settings into an external file.

**Revert Font List** will revert any change made in the Font List to the last Save version of the Font List.

**Save Font List** will save the current Font List settings on your hard disk.

**Scan for changed fonts** refreshes the font list.

## 7.9. Collect Files...

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This function will collect all necessary items needed to successfully open the current job on a remote site.

Collected files include:

- The actual Illustrator file.
- External referenced objects (images, imported linework EPS...)
- Fonts used in the design
- Used ICC profiles

The collected items can be saved in a folder as native files, or they can be packed in a zip file.

**Successful completion** The collection of files will be successful if following criteria are met.

- All linked objects are found (images, fonts)
- the target disk has enough free space.

**If collection fails, every item collected so far will be removed again.**

### Note:

A frequently occurring situation for failed collection is when an Illustrator file is opened, and a warning about missing fonts is ignored.

**Note:**

Collection fails if Preflight for Illustrator cannot locate the external files or used fonts.

**Caution:**

Collection will not work with multi file DCS2 files.

## 8. Viewer

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### 8.1. Welcome to Viewer

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#### Benefits of using Viewer

**Viewer** is a very accurate separation viewer with a lot of extra production tools. It eliminates the need for separated proofs and will help you to avoid bad plate-making.

You can preview the separations of your document as they would be produced by exporting the document using Launch Workflow, and rasterizing it on an Esko FlexRip.

#### Note:

Separations shown in Viewer may differ from the final output when an alternative workflow is used.

#### Basic concepts

Viewer works with Press Settings. The Press Settings allow you to define press-specific characteristics such as the first printable dot, dot gain, dot gain curves, and more.

After defining your Press Settings, you can generate an accurate separation preview.

In this preview, you have access to advanced tools such as the Densitometer, TAC Limit Preview, Plate Preview, Print Preview and Registration Error Preview.

### 8.2. Define Press Settings

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Before you can start working with Viewer in a meaningful way, you should define your **Press Settings**. Without basic information on the properties of the press you are using, Viewer cannot simulate accurately.

You can open the Press Settings window by selecting **Press Settings...** in the fly-out menu

#### 8.2.1. The Default Press Settings

If no **Press Settings Folder** is defined in the Viewer Preferences, a fixed setting will be used, and you will not be able to change or create Press Settings. See [Viewer Preferences](#) on page 259.

In the list of Press Settings, there is always one Press Setting called **Default**, which you can edit but not delete.

You can select it by selecting it in the **Press** dropdown in the **Viewer** dialog, and edit it using **Press Settings...** in the fly-out menu

### 8.2.2. Creating a Press Setting

To create a Press Setting in **Viewer**:

1. Select **Press Settings...** in the fly-out menu .
2. Click **New...** in the Press Settings dialog.
3. Enter the name of the new press setting in the **New** dialog.
4. Click **OK**

### 8.2.3. Copying a Press Setting

To copy (duplicate) a Press Setting:

1. Select it in the **Press Settings** dialog.
2. Click the **Copy...** button.
3. Give it a new **Name**.
4. Change its parameters as you wish (see [The Press Settings in Detail](#) on page 247).
5. Click **OK**.

### 8.2.4. Editing a Press Setting

To edit a Press Setting:

1. Select it in the **Press Settings** dialog.
2. Click the **Modify...** button.
3. Change its parameters as you wish (see [The Press Settings in Detail](#) on page 247).
4. Click **OK**.

### 8.2.5. Deleting a Press Setting

To delete a Press Setting:

1. Select it in the **Press Settings** dialog.
2. Click the **Delete** button.

3. Confirm that you want to delete it.

## 8.2.6. Choosing a Press Setting

- To select a Press Setting, select it in the **Press** dropdown in the **Viewer** dialog

## 8.2.7. The Press Settings in Detail

### First Dot (%)

Specifies which minimal gray value (expressed in %) in the file still will yield a dot on the plate, provided the RIP and platemaking occur under normal conditions.

**Note:**

Normal conditions indicate that the DGC must have been set up completely. The value does not correspond with any measurement that has been made prior or during DGC set up, nor does it correspond with any densitometer measurement on plate or on print. In fact, this value is (implicitly) chosen by the person who set up the DGC and plate-making. Typical values range from 0.4% to 1.6%.

Adobe Illustrator uses 8-bit precision, yielding 256 different possible gray values. A single gray value in an image may make the difference between a dot or no dot on a flexo plate. To allow for this precision, Viewer uses percentages with one decimal digit.

8-bit gray value in Illustrator	Percentage
0	0.0%
1	0.4%
2	0.8%
3	1.2%
...	...
254	99.6%
255	100%

**Note:**

If you do not specify a first dot, you will not be able to use the following Viewer view modes for this press setting:

- The **Flexo Plate Preview**
- The **Flexo Print Preview**

### Dot Gain in Highlights

When you have specified a First Dot job percentage, you can also specify how dark it should actually print. Enable Dot Gain In Highlights and specify the dot gain parameters:

- **First Dot Prints As:** indicates the dot gain for the first dot. Typical values range from 5% to 15% depending on the substrate. The value is a job percentage, that will print on an ideal reference press as dark as the first dot prints on this press.
- **Range:** while the previous value measured the amount of dot gain in the highlights, this value expresses how far this effect penetrates into the midtones. Typically plate making is configured in such a way that the mid-tones print like an offset press.

**Note:**

If you do not specify Dot Gain In Highlights, you will not be able to use the following Viewer viewing mode: **Flexo Print Preview**.

**Limited Total Area Coverage**

The **Total Area Coverage** is the sum of percentages of the different channels on the same location. A higher total area coverage means more of the various inks is printed on top of each other.

If you want, you can specify the Maximum Total Area Coverage to specify the maximum amount of ink that the substrate can take on the same spot on your press.

**Note:**

Exceeding the Maximum Total Area Coverage for the press may cause drying problems, unexpected color results, and other problems.

**Registration Error**

Specifies the average maximum Registration Error on your press.

If you enable this option in the Press Settings, you can use the **Registration Errors** preview in Viewer to check whether your trapping is sufficient to compensate for possible registration errors on the press.

**Moiré Settings**

In the Moiré Detection settings of the Press Settings, you can define the default values for the settings in the Moiré Detection window.

For more info on the different settings, see [Moire Detection](#) on page 258

## 8.3. Generate the Preview

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Before you can use Viewer, you have to generate a preview of the current document, based on your specific Press Settings.

After you make changes to the document, you need to update the preview. This is reflected in the Viewer palette: the **Generate** button changes to the **Update** button.

- Click the **Generate** or **Update** button to render a Viewer preview on your computer.

The preview is displayed in the Viewer palette once the rendering finishes.

You can also use the shortcuts:

- Command+option+V (Mac) or Control+option+V (Windows) to open the Viewer window
- Command+shift+7 (Mac) or Control+shift+7 (Windows) to generate / update the Viewer preview



### 8.3.1. Navigating in the Preview

The Viewer window shows the preview of your document in the left pane, and the list of used inks in the right pane of your Viewer palette.

At the bottom of the palette, you will find:



1. a zoom-in and zoom-out button and a dropdown menu with several zoom percentages, and two extra zoom factors: fit artboard and fit graphics.
2. a zoom-link button. When in link mode, the Viewer window will reflect what your Adobe Illustrator Document window does.
3. a Densitometer (see [Measure Ink Densities](#) on page 251), Measure tool (see [Measure Tool](#) on page 251) and Zoom tool (see below).
1. a Pan tool (see below), a Zoom tool (see below) and a Densitometer tool (see [Measure Ink Densities](#) on page 251)
2. a zoom-in and zoom-out button and a field showing the current zoom percentage.
3. the Refresh button.
4. the Minimize button.

#### Zoom in - zoom out

To zoom in the preview pane of the Viewer palette, select the zoom tool and just click, and the view will zoom in using the clicked point as center point.

To zoom out, click while holding the ALT key pressed, and the view will zoom out using the clicked point as center point.

You can also drag a rectangle to zoom in, and the new viewport will be a closest match to the rectangle you dragged.

To pan the view, hold down the spacebar and drag a line in the preview pane. The view will move the direction and the length of the line you drag.

**Note:**

You can minimize the user interface by selecting **Hide options** from the dropdown menu.



## 8.4. The Viewer window

### 8.4.1. Viewing options

Options particular to certain **Viewer** previews are grouped under **View Options**. You can expand or collapse them using the triangle beside **View Options**.

The following options are available in all Previews:

#### Separation visibility

In the Ink list, you can:

- Click the eye icon in front of a separation/color name to show or hide it.
- Alt-click an eye button to quickly hide all other separations and go in single-separation mode. Alt-click the same eye button again to show all separations.

**Note:** If **Show Technical Inks** in the fly-out menu of the Viewer is enabled, Technical Inks are also shown in this list. See also [Technical inks in Viewer](#) on page 259

### Measure Ink Densities

- To use the Densitometer, select **Separations** from the Viewer preview list, and click in the Viewer preview window while holding down the **ALT** and **CONTROL** key (Windows) or **ALT** and **Command** key (Mac).

The densitometer will correctly measure through linework and images, even placed DCS2 multichannel images that normally cannot be measured in Adobe Illustrator.

Viewer is compatible with Xinet fullpress and Helios OPI systems and is able to show the high resolution images stored on the OPI server.

The densities are shown to the right of each separation. The total density of all inks on the point that is being measured (the TAC value) is shown at the bottom of the separation list.

	Ink Name	Density
	Process Cyan	64.7%
	Process Magenta	0.0%
	Process Yellow	100.0%
	Process Black	0.0%
	Reflex Blue	0.0%
	2034	0.0%
		Σ 164.7%

**Note:**

When the TAC value exceeds the TAC limit specified in the currently selected press settings, a warning icon will be displayed next to the TAC value.

**Note:** The percentages of technical inks are not included in the TAC. See also [Technical inks in Viewer](#) on page 259

### Measure Tool

Measure tool helps you to measure the:

- Horizontal and vertical distance from the Adobe Illustrator axis zero point.
- Horizontal and vertical distance between first and second point.
- The total distance and the angle between first and second point.

**To use the Measure Tool:**

- Click the Measure tool  on the Viewer pallet.

2. Click the first point and then click or drag to the second point on the Preview.

The following details are displayed on the right hand side;

- X: x-axis
- Y: y-axis
- D: Distance between the first and second point.
- W: Width
- H: Height
- A: Angle

X: 574,667 px	W: 714,667 px
Y: 463 px	H: -370,667 px
D: 805,073 px	A: -27.4 degr.

### Scale Ink Densities

When viewing a document containing very dark overprinting areas (e.g. traps into dark colors) it is sometimes difficult to examine the color composition of such areas in Viewer.

Therefore the Separations view mode offers a slider control to temporarily dim (= reduce the density of) one or more selected separations.

For example: setting the density value to 50% will reduce the actual density values of the selected separations by 50% when computing the composite (RGB) view.

- Select the ink(s) you want to dim in the ink list and use the **Density (%)** slider or the edit field to scale down the density of the selected separations.

## 8.4.2. Separations

The first viewing mode shows a list of all used inks.

In the fly-out menu, you can set if you want to see the **Ruling, Angle, Dot Shape, DGC Curve** and **Printing Method** for every ink in the list.

**Note:** The separation list in Viewer will show the DGC Curve defined for an ink, but this DGC curves are not used when rendering the file.

### Mode

By default a separation is displayed in color. In order to see a separation as it would appear on film, you can switch to "Show as Film: Positive".

By switching to "Show as Film: Negative", the visible separation will be shown in negative.

**Note:**

As both "Show as Film: Positive" and "Show as Film: Negative" are only useful on a single separation, the **Mode** radio buttons are disabled if more than one separation is shown.

**Highlight**

**Transparency**

This will highlight all objects that have an opacity percentage, a blend mode or an opacity mask (regardless of what is underneath).

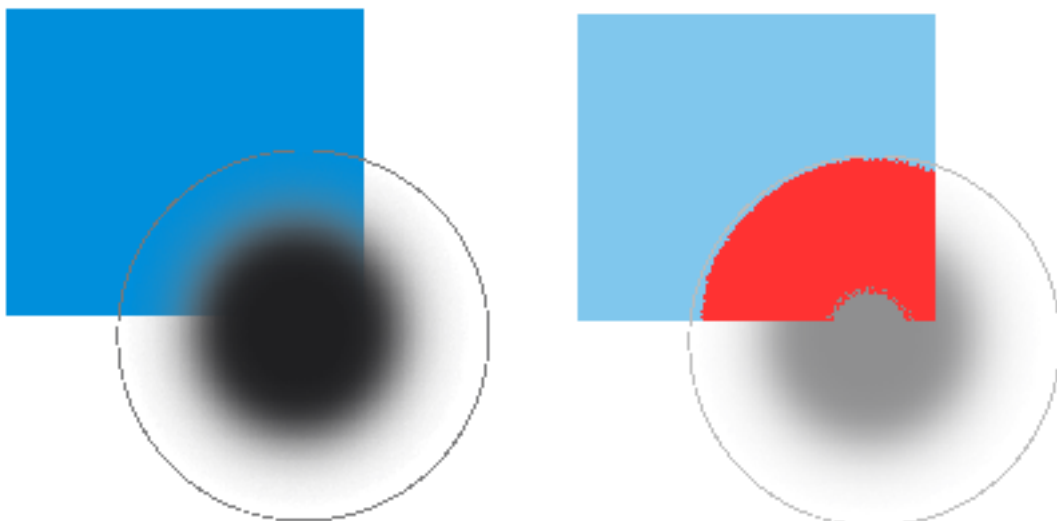
**Overprint**

Highlight Overprint will highlight the areas where an “overprint” setting in the paint style takes effect.

**Screening Conflict**

The Screening Conflict checkbox highlights areas where a screening conflict can occur. They can occur if an object with transparency (opacity mask, opacity percentage or blend mode) is overlapping on an object with another screening. The PDF definition clearly states that screening is always taken from the topmost object, even if that object is completely transparent in some areas. In most cases, this is not what you would expect.

In the example underneath, you can see a cyan rectangle, and a circle on top, with an opacity mask. The objects have a different screening. Where the circle is on top of the cyan rectangle, the cyan will take the screening of the blended circle. Therefore, as shown on the right, these areas will be highlighted as Screen Conflict.



**Color**

When you enable a Highlight option, the objects are highlighted in the color you chose in the Color Picker.

**8.4.3. Total Area Coverage**

The Total Area Coverage (TAC) is the sum of all separation-densities at a certain point in your document.

**TAC Limit**

The **TAC Limit** is the maximal Total Area Coverage that your document may contain. This value depends on the press and the substrate your design will be printed on. Your printer should provide you with the TAC Limit value to use.

**Defining the TAC Limit**

The TAC limit is defined in the Press settings. See [Define Press Settings](#) on page 245). By default the TAC Limit is set to 270%.

**Viewing areas over the TAC Limit**

When you switch to the **Total Area Coverage** preview, the image in the preview pane will be dimmed and all areas where the sum of the densities is higher than the TAC limit specified in the current Press Setting will be displayed in 100% black.



**Note:**  
 You can Alt-Control-click (Windows) or Alt-Command-click (Mac) the black pixels to use the densitometer tool, and to measure the actual TAC amount in that specific area. See [Measure Ink Densities](#) on page 251.

To quickly see the maximum TAC in your document, use the **TAC Limit** slider.  
 Move the slider to the right to use a TAC Limit value higher than that used by your current Press Setting. The more you move the slider to the right, the less pixels will typically be over the TAC Limit.

**Note:** Technical Inks are not taken into account. See also [Technical inks in Viewer](#) on page 259

#### 8.4.4. Flexo Plate

If you change the **Viewer** Preview mode to **Flexo Plate**, a single separation (by default the first in the list) will be shown as a simulated flexo plate.

**Note:**

In this Preview mode, only one separation can be viewed at a time.

**Note:**

**Viewer** uses the same technology as the Esko Flexo Tools for Photoshop.



#### First Visible Dot

The Flexo Plate preview will use the **First Visible Dot** percentage from the press settings (see [Define Press Settings](#) on page 245).

Pixels with a percentage lower than the First Visible Dot percentage will be shown as areas without dots.

Pixels with a percentage equal or higher than the First Visible Dot percentage will be shown as areas with dots.

### Plate Color

The Flexo Plate preview predicts how clean your flexo plates will be. Especially in very light or very dark areas, you could end up with isolated dots or holes on the flexo plate, and those areas are difficult to hold on the plate or the substrate.

You can choose the plate color (Cyrel Red, Blue, Green or Safran Yellow, or a High Contrast Blue&White) to match the type of plate you are using.

### 8.4.5. Flexo Print

This **Viewer** preview mode shows the effect of highlight dot gain on the image.



This effect is equivalent to a curve adjustment. To determine this curve, the Flexo Print Preview will use the **First dot** and the **Dot gain in highlights** settings from the Press Settings (see [Define Press Settings](#) on page 245).

Going from light to dark:

- The Flexo Print Preview will display percentages below the **First visible dot** percentage as 0%.
- The **First visible dot** percentage will be shown using the **First Dot Prints as** percentage.
- Percentages above the **First visible dot** percentage will be shown darker.
- Towards the midtones this darkening effect will fade out until the **Range** value.



- Percentages above the **Range** value are displayed unchanged.

### 8.4.6. Registration Error

The Registration Error Preview is a simulation of a design printed with registration errors of a specific press (defined in the Press Settings, see [Define Press Settings](#) on page 245). It can be very helpful to see if trapping is applied sufficiently and correctly.

The **Registration Error** value is taken from the Press Setting you selected.

The separations are randomly shifted. In fact, all separations are moved exactly the distance of the Registration Error, but all under a random angle.

If you want to see another random registration error simulation, click the **Simulate Again** button.



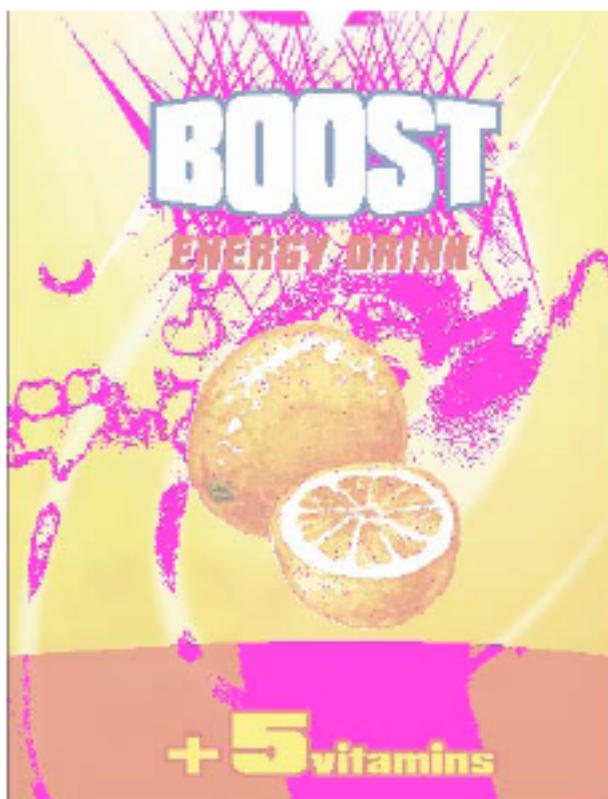
In the example above, you can see a small area of a job in regular preview (left) and with registration errors (right). In this case, you can clearly see no trapping was applied, so white lines appear at the registration shifts.

### 8.4.7. Breakout

A Breakout is an area where the percentage of a single separation is lower than the **First Visible Dot** value. This can be used to track areas that won't show up on print because the values are too low.

Your printer should provide you with the First visible Dot value. The First visible dot is set in the Press Settings: see [Define Press Settings](#) on page 245. When switching to Breakout mode, the preview will be dimmed and all areas where a single separation has a value lower than the **First Visible Dot** value (but higher than 0%), will be displayed in highlight color.

You can measure the actual percentages in that specific area using the densitometer (see [Measure Ink Densities](#) on page 251).



**Note:** Technical Inks are not taken into account. See also [Technical inks in Viewer](#) on page 259

### 8.4.8. Moire Detection

**Moire Detection** allows to detect possible screening problems (Moire) in the file.

You can set the options to **highlight overlapping areas**, to detect situations in which Moire might occur:

- when the two overlapping areas have screening angles that do not differ 30 degrees.
- when the two overlapping areas have the same angle
- when the two overlapping areas have different rulings
- when the two overlapping areas have different dot shapes.

You can use the **ignore inks** option to ignore inks that have

- a density lower than a certain value,
- a density higher than a certain value
- a Luminance higher than a certain value

as in all those cases, the Moire patterning will hardly be visible.

All these Moire Detection options are stored in the Press Settings. See [Define Press Settings](#) on page 245

**Note:** Technical Inks are not taken into account. See also [Technical inks in Viewer](#) on page 259

### 8.4.9. Technical inks in Viewer

By default, all **technical inks** are shown in Viewer, and rendered as opaque inks.

You can disable **Show Technical Inks** in the fly-out menu of the Viewer. In that case, technical inks will not be shown in the Viewer, nor in the separation list. However, if a technical ink influences another separation (e.g. if an object in a technical ink is knocking out the background), this will still be visible.

Even when shown, technical inks have no influence on the TAC limit, Breakout or Moire Detection. See [Total Area Coverage](#) on page 253, [Breakout](#) on page 257 and [Moire Detection](#) on page 258

Technical inks are also not included in the total ink value below the separation list when measuring a color. See [Measure Ink Densities](#) on page 251

## 8.5. Viewer Preferences

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Open the Viewer **Preferences** dialog by choosing **Preferences > Esko > Viewer Preferences** to set one or more of the following options:

#### **Image Display Quality:**

Allows you to selected the preferred quality for displaying the contone images present in a document.

Following options can be selected:

- **Low:** A low resolution preview image (< 72dpi) will be used (if present). When such preview image is not available, a gray box will be displayed.
- **High:** A preview image of at least 150dpi will be used. When such preview image is not available, a gray box will be displayed. This is the default option.
- **Very High:** If sufficient memory is available, the real data (not subsampled) of the image will be displayed. When the image is too large to fit into memory (typically if the size is larger than 64MB) a high resolution display image will be shown.

**Anti-Aliasing:** This preference offers control over the Anti-Aliasing method used to prevent display-artifacts like rough ("blocky") edges in rendered artwork.

Following settings are available:

- Off: Do not perform any anti-aliasing (default value, fastest).
- Low: Some anti-aliasing (slower).
- High: Highly accuracte anti-aliasing (slowest).

#### **Note:**

Setting Anti-Aliasing to "High" will result in high-quality preview at the expense of significantly slower rendering / viewing speed (up to ten times slower than when Anti-Aliasing is turned off). It is advised to only use the "High" setting on fast workstations (Macintosh with a 1.8 Ghz G5 processor or higher).

**Densitometer Mode:** This option lets you select the preferred resolution of the densitometer.

Following options are offered:

- Exact: Ink densities will be measured with an accuracy (resolution) of 1/255 percent. This corresponds to the (8 bits per pixel) accuracy typically used by a Rip for outputting (unscreened)

separations. In other words what is measured will correspond “exactly” to the digital output of the Rip.

- **Rounded:** Ink densities will be measured and presented with an accuracy of 1%. Densities with a non-integral (e.g. 33.2%) value will be rounded to the nearest integral value (e.g. 33%).

If Densitometer Mode is set to "Rounded", the values shown in the Ink Coverage palette will also be rounded.

**Press Settings Folder:** allows to define the folder from which the Press Settings should be loaded.

If no folder is set up, Viewer will try to use the default location: `DeskPack Container/Settings/Press`. If there is no DeskPack Container mounted or available, then it will automatically switch to `Users/Shared/EskoArtwork/Settings/Press` on Mac OS, or `C:/Users/Public/Documents/EskoArtwork/Settings/Press` on Windows. The Viewer installer will automatically create these folders.

If no Press Settings Folder is available (e.g. the defined or default folder has been removed), you will not be able to change or create Press Settings.

## 8.6. Viewer Compare Tool

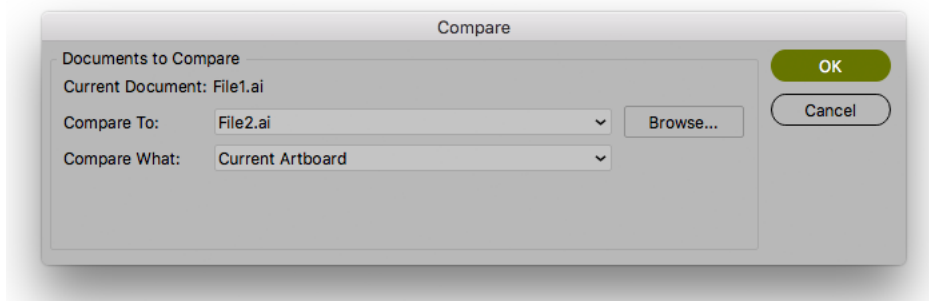
---

You can use the Viewer Compare tool to compare the active document with another document.

To compare the active job:

1. Go to **Window > Esko > Viewer > Compare...**

The Compare dialog opens, and the name for the Current Document is shown.



2. Select the file you want to compare the active document to:
  - If you want to compare it to an open document, select its file name from the dropdown list
  - If you want to compare it to a document on disk, click the browse button and select the file
3. Define what to compare:
  - all artwork
  - the current Artboard
  - only Trim Box or Media Box (if they are defined)
  - only the selected area.
4. Click **OK**

A **Viewer Compare** window will open, showing a comparison between the two jobs.

**Note:**

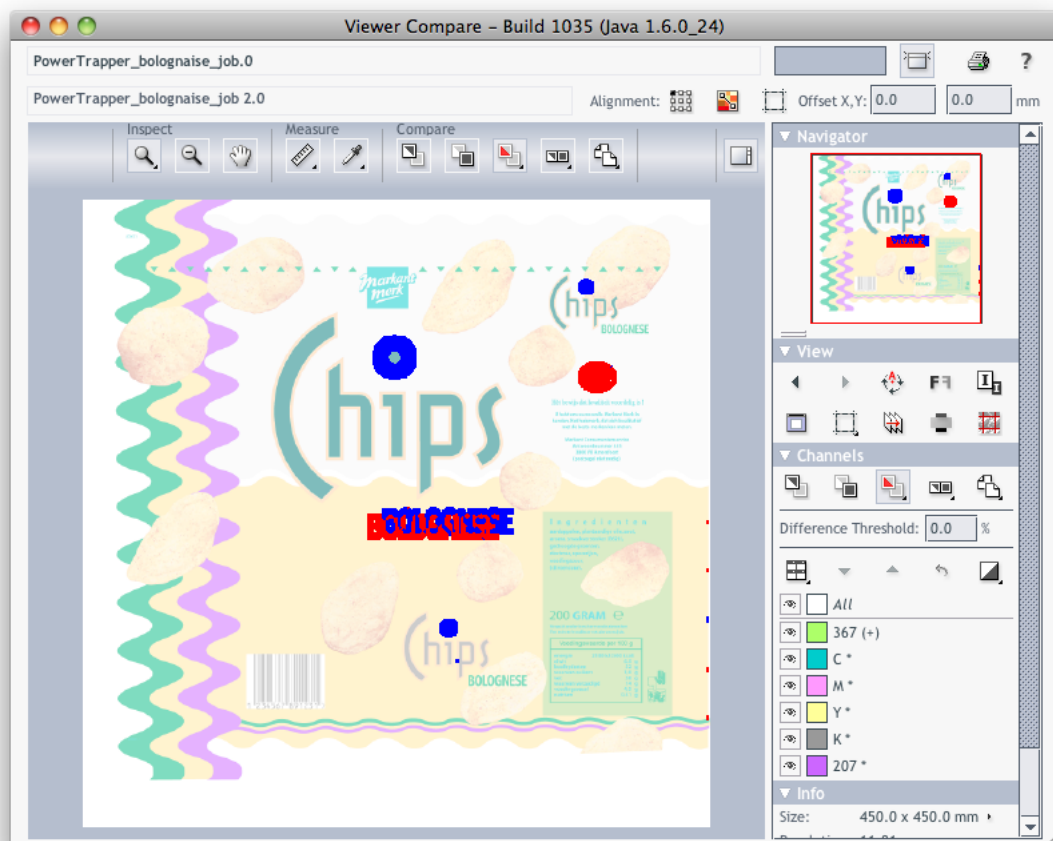
If you have a Trim Box defined in the Illustrator job, the Viewer Compare tool will only show what's inside the trim box.

### 8.6.1. The Viewer Compare window

The Viewer Compare window shows the two jobs and their differences, and contains a number of tools and buttons to inspect these differences in various ways.

Move over a button with the cursor and the tooltip will indicate what it stands for.

Buttons with a triangle in the lower right corner contain additional options: Control-click (Windows) or Command-click (Mac) the button, or click and hold the button to see the extra options.



### 8.6.2. Navigating the Viewer Compare window

The Viewer Compare window contains different ways to navigate:

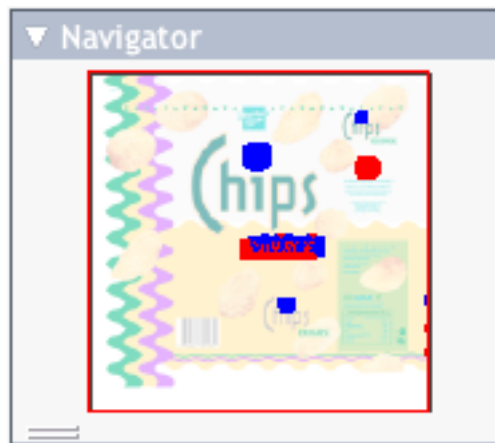
### The Inspect tools



- The **Zoom** tool. Under the zoom tool you find
  - Zoom out
  - Fit document in view
  - Fit document width / height
  - Zoom to 1:1 view
  - Show Zoom Options (showing all these options as individual buttons)
- The **Zoom out** tool
- The **Pan** tool

### The Navigator

By dragging the red rectangle (when zoomed in), you can navigate through the job.



### The View options

The **View** options allow to go back to the previous view, or use additional settings, such as rotate, invert or mirror the view.



### 8.6.3. Compare modes

Using the **Compare** buttons, you can choose different Compare modes / views



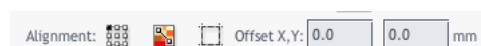
- **View Current version** only
- **View Reference version** only
- **View Both** documents on top of each other.

Additional options:

- **View Both** in their original colors
- **View Both - Show difference**: the differences will be shown in the "Added" and "Substracted" highlight colors.
- **View Both - highlight difference**: same as above, but the identical parts are dimmed.
- **View Both - only difference**: same as above, but the identical parts are hidden.
- **Change "Added" Highlight Color, Change "Substracted" Highlight Color and Change Both Highlight Color**, to change the colors in which differences are shown
- **Reset Difference Highlight Colors** to reset the default colors
- **Channel Matching**, to match corresponding channels/inks for the two documents.
- **View Both - side by side** shows both versions next to each other. You can choose between
  - Automatic tiling
  - Horizontal tiling
  - Vertical tiling.
- **View both - mirror reference** shows the current document on top of the mirrored reference document.

### 8.6.4. Alignment



Comparing files with different sizes may seem like a challenge as they are not aligned in the Viewer Compare window, but it provides some tools that make it very easy.




- **Alignment**
  - on one of 9 corner / center points
  - **Align From Ruler:** see [Align from Ruler](#) on page 264
  - **Auto Align From Ruler:** see [Auto Align from Ruler](#) on page 265
  - **Auto Align:** see [Auto Align](#) on page 265
- **Auto Align:** see [Auto Align](#) on page 265
- **Use trim box for alignment**
- **Offset,** Horizontal and Vertical

### Align from Ruler

The ruler tool works by defining two points (one in each file) that have to be aligned.

1.  Select the reference version of the file by clicking the icon.
2.  Select the Ruler tool
3. Indicate the ruler anchor point



4.  Switch to the other version by clicking the icon (or use **Ctrl + S**).  
The anchor point, here in the red circle, will be in a different location in the second file version.
5. Indicate the point that should be positioned on the ruler anchor point (here in the blue circle)





6.



Click the **Alignment** button and select **Align From Ruler**. The files are now aligned.

**Note:** Depending on how precisely you defined the second ruler point, you may have to zoom in and repeat the alignment procedure to align your files with more precision.

### Auto Align from Ruler

Auto Align from Ruler is used the same way as the Align from Ruler tool, but is more accurate at high resolution.

If the details of the alignment points match, the viewer will be able to increase the alignment precision (and have a good alignment with fewer iterations).

### Auto Align

Auto Align does not use the ruler, but rather the currently visible view of the two compared images to attempt an automatic alignment.

For convenience, a separate tool button is available to perform an Auto Align operation without having to open the Alignment pop-up menu. Clicking this button will perform an Auto Align from Ruler if a ruler selection is active, otherwise an Auto Align (from view).

## 8.6.5. Viewer Compare Preferences

You can open the Compare Preferences by choosing **Illustrator > Preferences > Esko > Viewer Compare Preferences** (on Mac OS) or **Edit > Preferences > Esko > Viewer Compare Preferences** (on Windows).

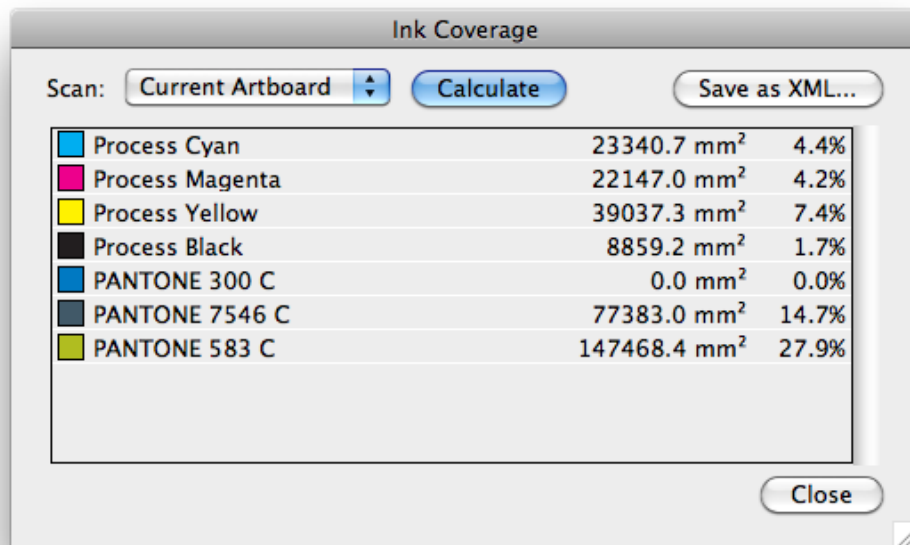
You can define the resolution for the Viewer Compare previews: either based on the document size, or at a fixed resolution. "Based on Document Size" will result in a low resolution for big documents, so e.g. aligning will become more difficult when zooming in. On the other hand, a "Fixed Resolution" can result in a very heavy preview calculation if the fixed resolution is high and the document is large.

You can define if anti-aliasing should be applied.

## 8.7. Ink Coverage

With **Ink Coverage**, you can calculate the ink usage for every ink.

1. Click **Window > Esko > Viewer > Ink Coverage...** to open the Ink Coverage dialog.



2. In the dropdown, select the area you want to scan. By default, Ink Coverage is calculated on the **Current Artboard**
3. Click **Calculate**

For every separation, the size (in square mm or square inch) and percentage of the total surface is shown.

**Note:** By setting the **Densitometer Mode** to "Rounded" in the Viewer preferences, the values in the Ink Coverage palette will be rounded off.

4. Click **Save as XML...** to save the result of the Ink Coverage calculation into an XML file.
5. Click **Close** to close the Ink Coverage dialog.

**Note:** Technical inks will not be presented in the list, nor in the exported XML.

## 9. White Underprint

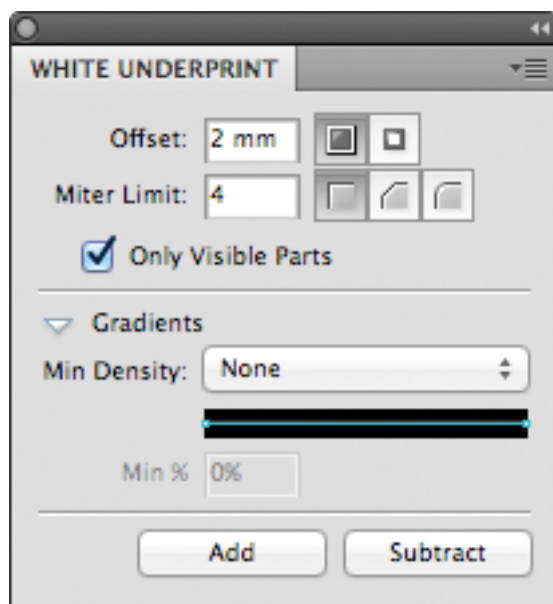
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### 9.1. White Underprint

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White Underprint allows you to create a white background underneath the selected objects. This white background can be necessary when printing on transparent or metal material. The White Underprint plug-in can generate white underprint objects for all kinds of Illustrator objects.

To open the White Underprint palette, click **Window > Esko > White Underprint**. The White Underprint palette appears.



### 9.2. Adding and Removing White Underprint

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White Underprint objects will be created in a top-level "White Underprint" layer, and will be put in overprint.

A new White Underprint layer will be created:

- If a different White Underprint ink is used
- If the White Underprint layer doesn't exist yet
- If the White Underprint layer was locked, hidden or no longer positioned as top layer.

1. Click **Window > Esko > White Underprint** to open the White Underprint palette.
2. Select one or more objects in the Illustrator document.
3. Set the White Underprint settings: see [White Underprint settings](#) on page 268

#### 4. In the White Underprint palette:

- Click **Add** to add White Underprint for the selected artwork: the plug-in will compute the union of the selected artwork and add the resulting paths at the top of the White Underprint layer
- Click **Subtract** to subtract the selected artwork from the White Underprint layer. The plug-in will compute the union of the selected artwork, and put the resulting paths at the top of the White Underprint layer, in overprint, and at 0% of the selected White Underprint ink.

**Note:** If you want the White Underprint to be slightly bigger than the original objects, you should use a spread (an outward offset) when adding to the White Underprint layer, and a choke (an inward offset) when subtracting from the White Underprint layer. If the White Underprint should be slightly smaller, you should do it the other way around.

## 9.3. White Underprint settings

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To set up White Underprint:

1. Select **Window > Esko > White Underprint** to open White Underprint dialog box.
2. Define the **Offset**: the distance between the edge of the White Underprint layer and the edge of the object under which White Underprint is applied. By default the offset is set to Spread (outward offset). You can also choose to Choke (inward offset).
3. Set the **Miter Limit** as you would for trapping. Miter limit determines whether sharp corners in objects appear pointed or beveled. You can also select Bevel and Round options.

**Note:** The Miter Limit option is only available when using mitered corners.

4. Define if White Underprint should be generated only on visible parts of selected objects, by setting the **Only Visible Parts** option.
5. In the **Gradients** section, set how to handle Gradients.
  - **None:** By default objects with a gradient fill will be backed using a 100% solid white
  - **Choke by distance:** a gradient will be added to the White Underprint layer. The gradient will be choked over the entered distance, and run from the minimum % to 100%.
  - **Bump minimum %:** a gradient will be added to the White Underprint layer. The gradient will follow the same density as the original object, but values below the minimum % will be bumped up to the minimum value.
  - **Clip to minimum %:** a gradient will be added to the White Underprint layer. The gradient will follow the same density as the original object, but values below the minimum % will be clipped to 0%.

## 9.4. White Underprint Ink

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The Ink used for White Underprint can be defined by selecting **Options** from the fly-out menu of the **White Underprint** palette, and entering the name of the Ink to be used for White Underprint.

In case the defined ink doesn't exist yet, a new spot color will be added to the swatches, using the Ink name and the Color patch.

When the name of an existing swatch is entered, this ink will be used for White Underprint.

**Note:** White Underprint can only use Spot Colors. If an existing swatch name is entered, and the swatch is not a spot color, a warning will be generated: "A swatch by this name already exists but is not defined as a Spot Color".

Multiple White Underprint inks can be used in 1 document. After you've applied White Underprint using a first ink, just change the name and color patch of the White Underprint ink in the Options dialog. As of then, any new White Underprint objects will be generated using the new White Underprint ink.

**Note:** In order to prevent changes to existing White Underprint objects, be sure not to have any active selections while changing the White Underprint ink. If you wish to modify the color values of the existing White Underprint ink, please do so directly in the Swatch library.

## 9.5. Include White Objects

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The **Include White Objects** option can be set by selecting **Options** from the fly-out menu of the **White Underprint** palette.

If the option is disabled (default), no White Underprint is generated for white objects (colored with CMYK 0/0/0/0). By selecting the option, those objects will also get a White Underprint.

**Note:** Uncolored objects (i.e. if the fill and the stroke color is set to "none") will never get a White Underprint, regardless of this option.