

How to Manage a White Ink Workflow

Operator Guidelines for White Ink

Introduction

This chapter is necessary only if you have an Océ Arizona 6100 Series printer with the white ink option.

Managing White Ink

White ink is re-circulated in the system to limit any settling of the ink. For this to take place, **the printer must be left powered on at all times**. Regular maintenance is required to keep the white printheads functioning properly.

Before you begin

If your printer includes the white ink option, an ink bag must be present and all must contain white ink in order for the printer to function properly.



IMPORTANT

Clean the media if the printer is in a dusty environment, or when there are fibers protruding from the media. A dirty or dusty environment is harmful to the printheads because particles can plug the nozzles and result in poor image quality. Avoid close proximity to routers and other sources of dust and debris. Also avoid placing your printer close to solvent printers as the fumes can have a negative effect on the printheads.

Procedure

1. Agitate the white ink bag gently as described on the bag label at least once a week.
2. Perform Printhead Maintenance for white at least one time every workday and more often, if required. Do this even if the printer is not used that day.



NOTE

Refer to the Printhead Maintenance section of the Maintenance chapter for an explanation of how to perform daily maintenance.

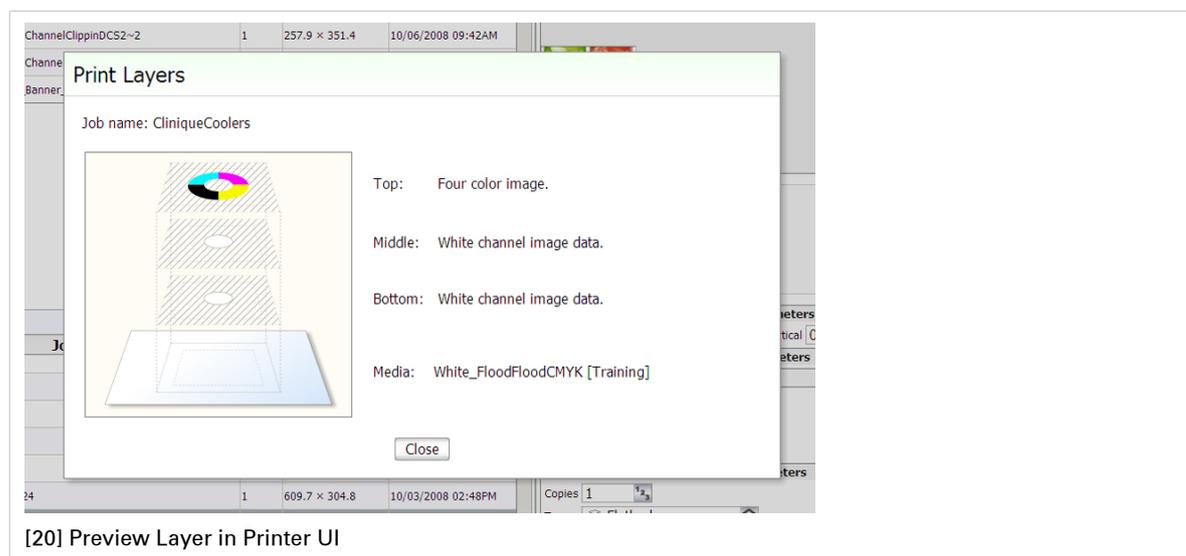
White Ink Workflow Overview

Introduction

Océ Arizona printers with the White Ink Option provide under-printing for non-white media or objects, over-printing for backlit applications on transparent media and/or printing white as a spot color.

When working with white ink there are three data layers available that allow you to determine the area the white ink will cover and also how it will appear (or not appear) in relation to other colors, depending on the layer it is placed in. You can determine the density of the white ink by altering the drop size. The layer setup is defined in the media model but can be modified as a job printer setting within the ONYX software. When the white ink information is properly prepared according to the methods described in this chapter and the print job is sent from the ONYX software (either ProductionHouse or THRIVE) to the printer, you have an opportunity to verify that the layers are properly embedded in the job.

With the white ink print job selected in the Job Control module of the printer software, click the Layers button to activate a graphical representation of the Print Layers that allows you to verify the layer order.



Printer Flood Fill Versus Job Data

White ink can be printed using flood fill data generated by the printer or job spot data. A printer flood fill cover the whole image area while spot data is assigned in specific areas. Job data is separated by the ONYX software into six data planes: C, M, Y, K, Spot 1, and Spot 2. The white ink channels are usually configured to print using the Spot 1 or Spot 2 data plane or a printer flood fill, but can also be printed using the C,M,Y or K data plane.

White Ink Workflow Data Preparation

White ink print job output can be accomplished in a variety of ways depending on the desired results and preferred working process. There are three primary methods and they can be used either independently or all at the same time. The workflow options are:

- Printer Flood Fill Layer Configuration,
- ONYX software Spot Layer Tool, and

White Spot Data Image Preparation.

Printer Flood Fill Layer Configuration in an ONYX workflow does not require any pre-rip file preparation and is the easiest method of achieving white ink output. All that is required is to set up the Layer Configuration to include a printer flood layer. The printer flood layer encompasses the bounding box (the outer border of the image) of the file being processed. There is also an option to control the amount of flood by choosing the drop level. The higher the drop level number the greater the amount of white ink.

ONYX Software Spot Layer Tool offers many options to process an image, and thus allows various possible configuration choices. You can save these configurations as Filters and place them in a Quick Set and this makes it possible to re-create with minimal effort settings that are often used. All work with the Spot Layer tool requires an ONYX media profile with at least one spot color.

White Spot Data Image Preparation requires that the white data be prepared in image editing programs such as Adobe Illustrator®, InDesign, or PhotoShop®. You must use specific naming conventions and image use protocols in order for the Onyx RIP-Queue software to process the data as desired. This method may be the best choice if the desired white ink spot data includes complicated selections or if data is being created for outsourcing. A reasonable level of proficiency in these programs is recommended to use this technique.

All of these methods can also be used either alone or in conjunction with each other to create the desired output results. For example, you may generate the spot layer information for parts of an image in PhotoShop and then go on to specify a Flood Layer Configuration in Production House. This can result in a Flood Layer and a Spot Layer followed by a CMYK Layer. The spot data and the flood will occupy two layers of white density and the CMYK image data can occupy the third layer. You can determine the print order of these layers in ProductionHouse or THRIVE.

Layers can be defined at any of the following locations:

- Defined in the media when the media is created - Mode Options
- Selected in a Quick Set - Media Options
- Modify the printer settings of a processed job in RIP Queue - right-click the job, edit printer settings.

You are not required to use layers when you print white spot data. It can also be printed with print modes other than Quality-Layered.

White Ink Applications

The following are some specific examples of the ways that the white ink workflow can be applied.

White Ink Layer Options

Application	Bottom	Middle	Top	Notes
Backlit First Surface (printing on the front side of the media)	White	CMYK	CMYK	CMYK layers contain same data.
Backlit Second Surface (printing on the back side of clear media)	Reverse printed CMYK	Reverse printed CMYK	White	
Day-Night (First or Second surface)	CMYK	White	CMYK	CMYK data is reversed or right-reading
Opaque	White	White	CMYK	3 layers
Opaque	<empty>	White	CMYK	2 layers

- **Backlit Application**

The backlit application involves printing onto a transparent or translucent material and mounting the finished piece onto a light box or location where illumination from behind is possible. In the backlit application, white ink is intended to provide a light diffusing layer. This application is possible using either 2 or 3 layers.

- **Day-Night Application**

Similar to backlit, the day-night application also involves printing onto a transparent or translucent material. A day-night print can be viewed either front-lit or backlit. This is achieved by printing color data on two separate layers with a white diffusing layer in the middle.

- **Opaque Application**

The opaque application involves printing CMYK data onto non-white media. For this application, white ink is required both to enable the printer to produce images where white forms part of the image content, as well as to act as a base for the CMYK color set.

Configure ONYX Software for White Ink

Introduction

This section describes how to configure ONYX software (either THRIVE or ProductionHouse) to recognize white ink workflow elements and thus allow you to apply the approach that is best for your print job application. In order for the ONYX software to successfully address white ink workflow data, there are options in the software that must be configured. It also explains how you need to use specific ONYX media profiles to prepare white ink print jobs.

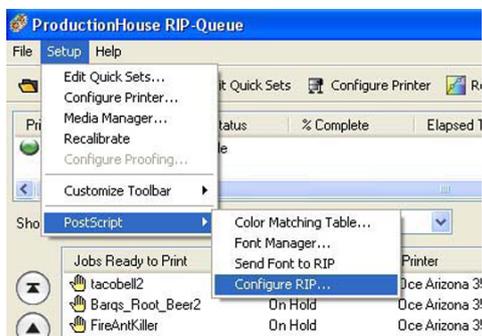


NOTE

Step 1 and 2 below are required for ProductionHouse only. Step 3 is needed for both ProductionHouse and THRIVE.

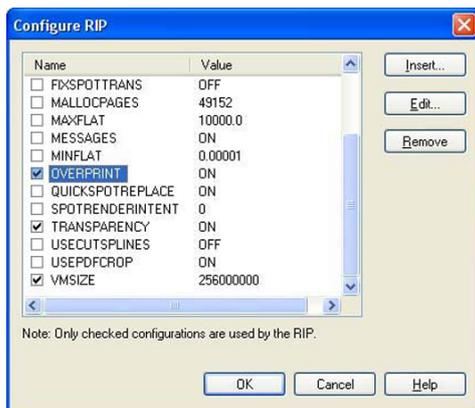
Procedure

1. Within Rip-Queue, access the Configure Rip Options Palette.

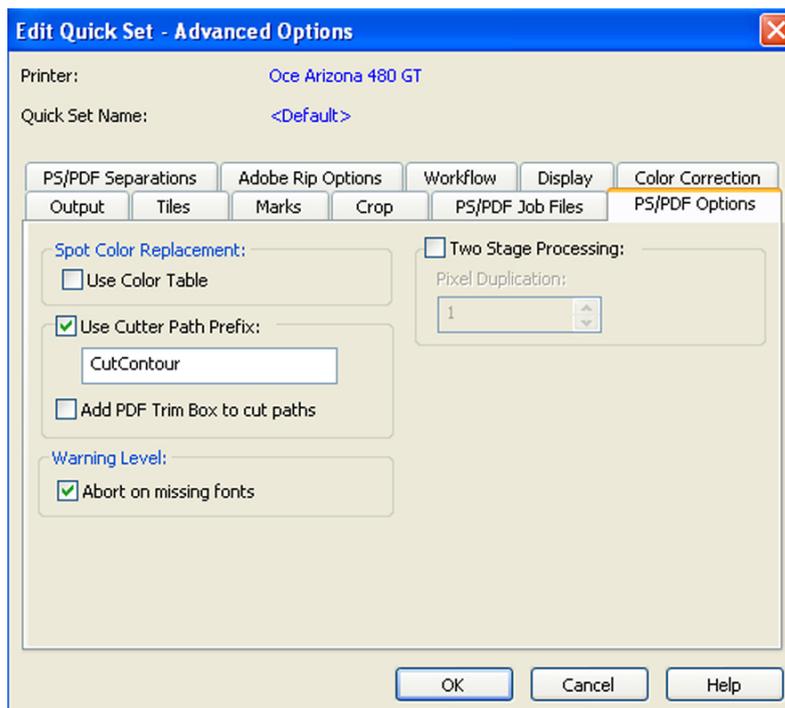


[21] Set up ONYX RIP

2. Once here, ensure that Overprint is turned on (checked).



3. In your Quick Set, or in Preflight/Job Properties/Postscript turn off two-stage processing (make sure the box is not checked).



[22] Turn off Two Stage Processing

ONYX software will now accept print jobs with white ink data. To prepare a print job for white ink you need to use an ONYX media profile (media model) as shown in the next section.

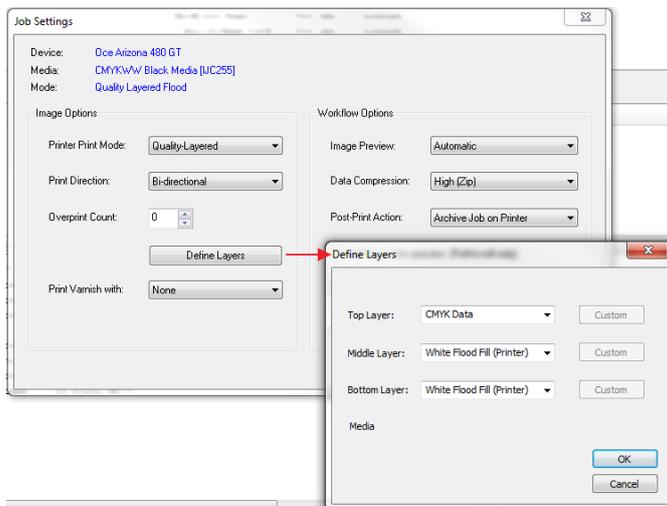
ONYX Media Profiles for White Ink

Introduction

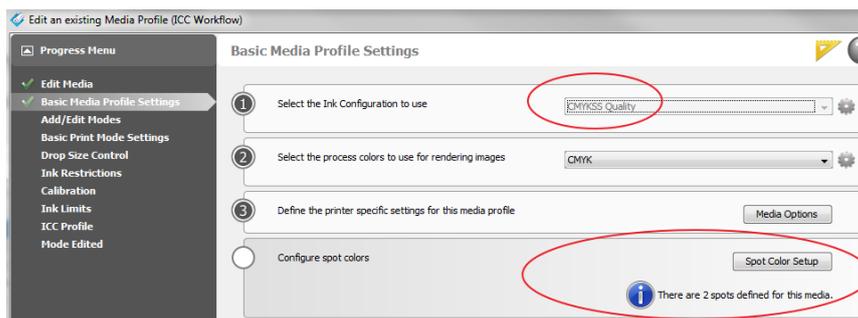
White Ink print jobs require media profiles with a particular ink configuration and spot colors defined.

White Ink ONYX Media Profiles

Océ Arizona Quality-Layered print mode is used to print white ink applications such as under-printing for non-white media, over-printing for backlit applications viewed second surface or as middle layer for a day-night application.



Print modes other than Quality-Layered mode can also be used to print only white ink, or areas of white ink in an image, as long as the ONYX media profile (media model) has been made with a CMYKSS ink configuration with spot colors defined.



NOTE

When printing white ink using print modes other than Quality-Layered, it is not recommended to print white ink in the same area of an image as CMYK inks. The white ink does not mix well with the other ink colors.

How to Prepare White Ink Print Jobs

Introduction

When working with white ink choose the workflow that best fits your needs from three main approaches:

1. Printer Flood Fill Mode - uses the Printer Flood Fill Configuration.
2. ONYX Spot Layer Tool - generate the white spot data in ONYX ProductionHouse or Thrive.
3. Spot Data (pre-defined) - spot data is created in image editing application such as Adobe Illustrator, InDesign, or Photoshop.

The sections that follow explain how to prepare images for the three different workflow approaches.

How to Setup a Printer Flood Fill

Prepare a Printer Flood Fill

With the Printer Flood Fill approach, white ink is set up as a layer that is embedded in the print job.

Purpose

The Printer Flood Fill mode allows you to print an image with a white flood fill as an underlay or an overlay. The edges of the image bounding box (the outer perimeter of the image) will determine the extent of the flood fill area.

When to do

This approach is used when an image is rectangular in shape and requires a white flood fill. The printer itself provides the flood fill rather than the ONYX Spot Layer Tool or an image editing application, so no additional data preparation is required.



NOTE

If jobs are nested in the ONYX software, white is printed between jobs when you use this technique because the outer extent of the entire nested job is used to define the flood area.

How to Print a White ink Flood Fill Layer

Refer to the section "White Ink QuickStart" for more details.

How to Create Spot Data with the Spot Layer Tool

Introduction

The Spot Layer Tool can be used to set up two spot data planes that define areas where Spot 1 and Spot 2 data are added to a print job. The tool is used with the Océ Arizona printers that both have two extra channels to provide varnish or white ink as well as with CMYK only printers. Both white ink and varnish can be printed using either Spot 1 or Spot 2 data. The same spot data can be used to print either white ink, varnish, or both.

In this section, you'll learn how to access and set up the Spot Layer Tool. The tool provides a variety of options for generation of spot layers, and you may want to explore them with a sample file of your own to familiarize yourself with the functionality. Remember that any actions you set for this tool will only work successfully when used in conjunction with properly constructed layers. The tool is located in Preflight on the Color Correction tab.

The Spot Layer Tool provides options for generating spot layers for your image in ProductionHouse rather than in image editing programs such as Illustrator or Photoshop. The tool has many advanced options and this section will explain them so that you can set them up to best achieve your desired results. The tool options and settings to use it for spot data creation are listed here and are followed by instructions to access the tool.

How to Use the Spot Layer Tool

The Spot Layer Tool Provides These Options:

Generation Options - Set Media

Set media color is optional and serves two purposes:

- If you want to preview the media color in Preflight, you can set the media color either from the image or from the color dialog menu.
- If you have areas in your image that use the media color and you want that color to be handled with special consideration. For example; if you want the media color from the image to show through the design, you must first define your fill options, then set the media color and define the Media Color Handling Options as either "Spot Knockout" or "Full Knockout".



NOTE

The generation options are used in combination with the fill options, except when the media color handling is set to "No Knockout". If you want to use the Spot Layer Tool to create flood fills, underlay fills or mask fills it is not always necessary to set a mask or media color to get the desired results.

To set the media color: Click the sample box to activate the color picker or use the drop down arrow to access the Color Dialog menu.

Generation Options - Set Mask

The mask allows you to determine the area that you wish to print with spot data. Setting the mask color is optional. If the image you are printing contains white or varnish data in more than the mask area, you will need to set up a different background color not used anywhere else in the file to use as your mask. This must be done in an image-editing program prior to bringing the image into the Spot Layer Tool.

To set the mask color: Click the sample box to activate the color picker or use the drop-down arrow to pick the color from the preview.

Generation Options - Media Color Handling

If you have set a media color, you have three options for how you would like the media color to be handled. The term “Knockout” means to remove from the selection. If you’ve set a media color, chances are you want some portion of the design to be removed to use the media color. These are the option you have to choose from:

- No Knockout - If you’ve set a media color to help you visualize your output, choose this option. This will print the image and spot data with no knockout.
- Spot Knockout - If you choose this option, RIP-Queue removes the spot data anywhere the image data matches the media color that you set. Use this option when you want to knockout the spot data but still print the image data that matches the media color.
- Full Knockout - If you choose this option, RIP-Queue removes the spot data and the image data anywhere the image data matches the media color that you set. Use this option when you want to knockout the spot data and the image data, allowing the media to fully show through.

Spot Channel

The Océ Arizona 460, 480, and 660 printers have two spot channels available. The names that appears here should be the ones you used to create the media in Media Manager. The recommended spot channel names are: "Spot 1" and "Spot 2".



NOTE

ONYX software treats Spot 1 and Spot1 as equivalent. The space between "t" and "1" is not important but the case is, so the "S" must always be capitalized.

Flood Fill

This option generates a flood fill for the entire image by combining the underlay and mask fills together. When you check this option, the underlay and mask fill sliders lock together and are set at 100%. You can change the opacity for the flood fill by moving either of the sliders.

Underlay Fill Opacity

This option generates a fill in the selected spot channel where image data exists. The fill will be generated anywhere image data does not match the mask.

Mask Fill Opacity

This option generates a fill in the selected spot channel where mask data exists. The fill will be generated anywhere the image data matches the mask color.

Choke and Spread

Choke reduces the outer edge of the underlay. Use choke when you want to eliminate white from peeking out of the edge of your image. Spread increases the outer edge of the underlay fill. Use spread when you want a deliberate halo around the edge of your image. Choke and Spread work in tandem. Each mark on the slider represents 1 pixel width of choke or spread up to 10 pixels (+-). The actual preview in Preflight is exaggerated from what is printed. This exaggerated display makes it easier for you to see the results from moving the slider. When you use the Spot Layer Tool for masks, we recommend a choke value of 3 ticks.

Diffuse Edge

Use this option when you want a gradual transition from the underlay to the mask to create a soft edge for the fill. We do not recommend use of this option.

Filter

Once you’ve defined your settings, save them by exporting a Filter to use on similar jobs. Filters are a global color correction that can be applied to Quick Sets to automate the printing process for multiple jobs that use the same settings.



NOTE

Many of the Quick Set and Filter settings for a job can be overridden in RIP-Queue or Preflight, if desired.

This manual assumes that you have some experience with graphics applications and with ONYX software. If you prefer a self-guided and hands-on tutorial, Customer Application Bulletin 22, "How to Use the Spot Layer Tool for White Ink Workflow" provides a simplified method to print with white ink (it does not mention varnish, but the same principles apply). It guides you through a simple tutorial that shows how to prepare an image for quick and easy white ink print production with spot data. You will learn how to isolate the white area of your image in Illustrator so that it will be recognized by the Spot Layer Tool and then printed as white by the printer. Download Application Bulletin 22 from the Customer Support web site: <http://dgs.oce.com/>.

How to Access the Spot Layer Tool

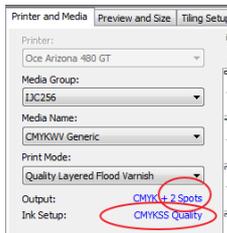
Procedure

1. Open a print job in Preflight using an ONYX profile (media model) that contains spot data channels.
2. Select the Color Corrections tab.
3. Click on Tools and select Spot Layer Tool. This will open the feature set.

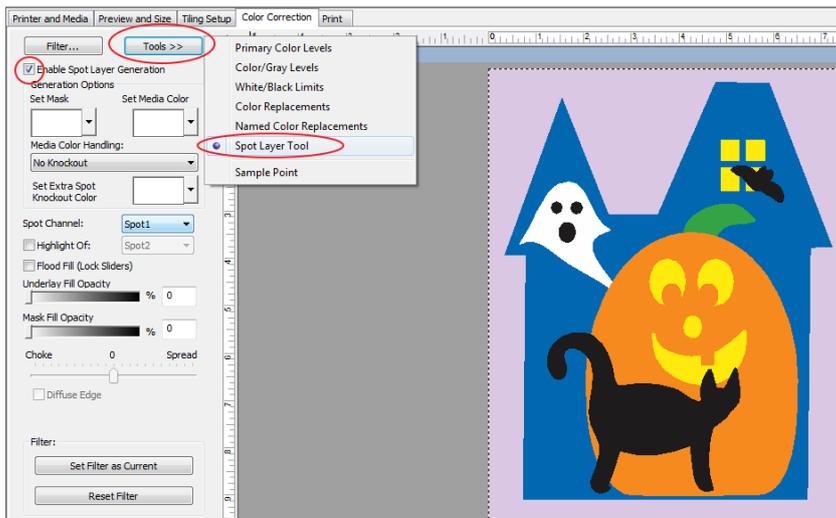


NOTE

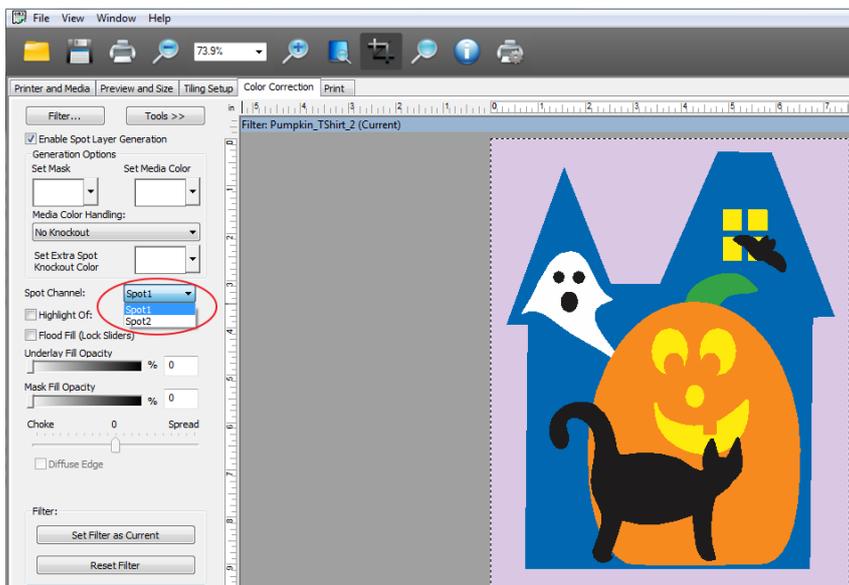
If the Enable checkbox won't activate, the media you used to open the job has not been configured with the Quality-Layered print mode. Create or Edit your media to support spot ink in Media Manager before you open the job in Preflight (or download a white ink media model from the web site).



[23] ONYX Profile with Spot Channels



[24] Select the Spot Layer Tool



[25] Spot Channel Selection

4. Check Enable Spot Layer Generation to activate the tool.
5. Select the spot channel you will use to create data, then use the explanations of the Spot Layer Tool options at the beginning of this section to help you use the tool.

How to Prepare Spot Data in Adobe Illustrator

Introduction

This section explains how to prepare images that include spot data with vector-based image editing applications such as Adobe Illustrator®. In order to print with white ink or varnish, you must first have an ONYX profile (media model) properly configured for the use of spot data.

To add spot color data to your image in Illustrator, you need to create a layer within the image as a new spot channel. It is possible to have more than one spot element in an image, but each element must be on the same spot channel, and therefore have the same opacity level, or else ProductionHouse will treat the saved document as a separation file. Since the Arizona printers with white ink or varnish support two spot channels, you can create one spot channel for Spot 1 data and another for Spot 2 data. CMYK is the preferred mode as the actions required for spot data creation are simpler than those for RGB.



NOTE

You can use vector-based image editing applications other than Illustrator as long as it has the Overprint feature and the ability to create a spot color.

When to do

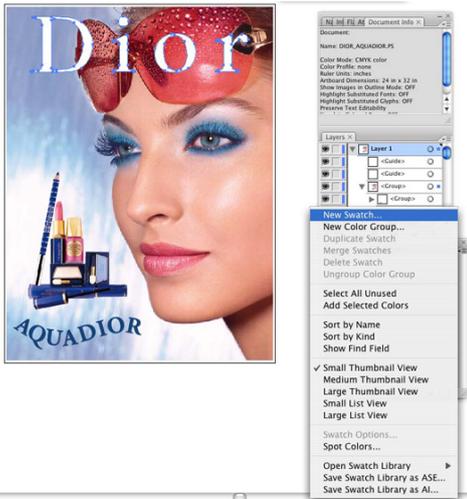
The first step in the white ink workflow is to prepare your source image to use the spot channel. The spot data must be designed entirely on a separate channel (either as a spot channel layer or a custom spot color) to be recognized by the Onyx RIP. The name you assign to this spot channel layer or custom spot color must be Spot 1 or Spot 2 and is the most important part of preparing the file. This named channel allows RIP-Queue to determine that the data in the source image needs to be output to the spot channel, in this case the white ink or varnish channel.

In preparing your file, only you can define what you want to print with "white ink" or "varnish" as part of your design and assign the color as described in this document. In Illustrator, the white ink data can be simple or complex and can range from vector shapes and text to placed bitmap images.

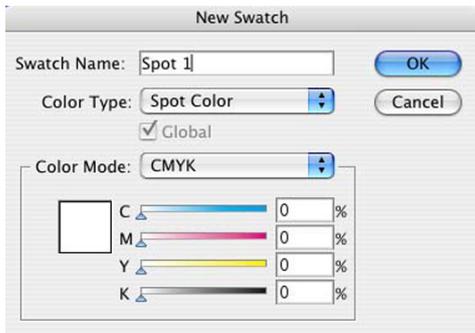
Use the following steps to configure an Adobe Illustrator file for use with white ink:

Procedure

1. In Illustrator, ensure that the Swatches tab is visible (under the Window menu click Swatches to view).
2. Click the arrow on the Swatches tab to display the Swatches menu.
3. Select New Swatch from the Swatches menu to open the Add Swatch dialog.
4. Within the Add Swatch dialog, enter the following information:

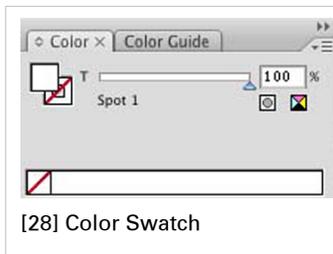


[26] New Swatch

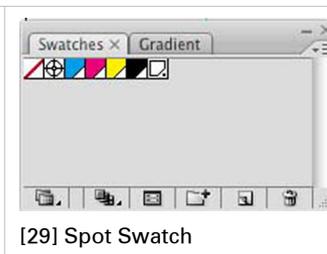


[27] New Swatch Name

- **Name** – Enter the name Spot 1 or Spot 2.
Note: For instructions on how to use a naming convention other than Spot 1 or Spot 2, refer to the sub-section at the end of this section "Naming Your Spot Data".
 - **Color Type** – Use the drop-down menu to select Spot Color.
 - **Swatch Color** – Use the sliders to adjust the swatch color. You can make this color any value that will help you see the design better.
5. Click OK to save your changes and close the Add Swatch dialog. You should now have a new Spot color in your swatch palette, which is indicated with a small dot on bottom right side of swatch.

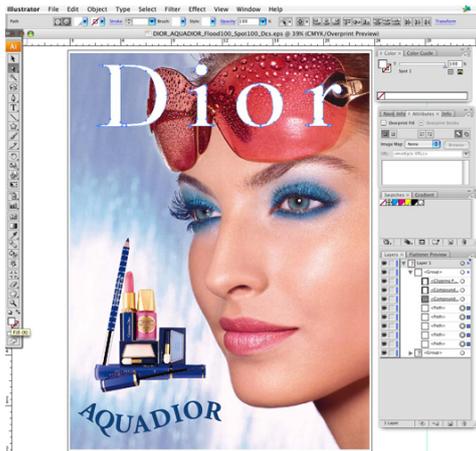


[28] Color Swatch



[29] Spot Swatch

6. Use the new swatch for any objects or fills which need to be printed with white ink. Clicking on new spot color swatch will make this the default fill color for this document. Select element you would like to be treated with Spot information and choose the fill swatch. See the example below.



[30] Select Spot Fill

7. Once you've configured your source image with white ink or varnish as your new spot color, save your work.

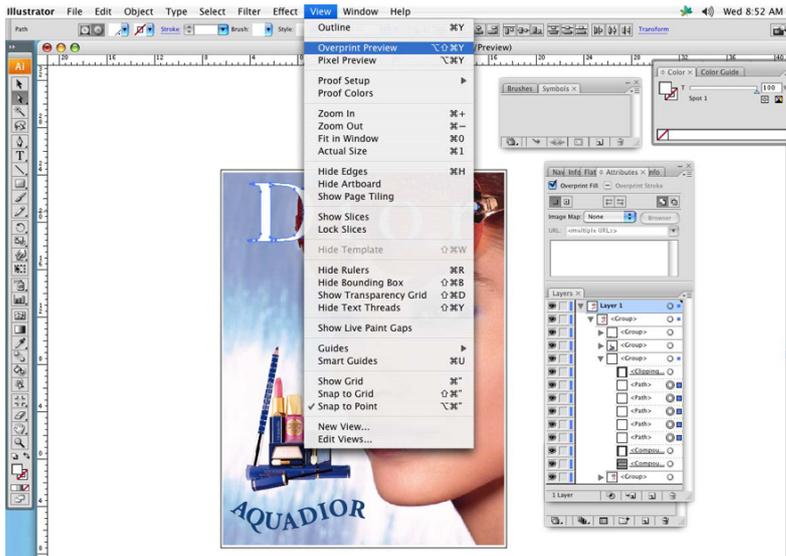
How to Overprint Spot Data in Illustrator

Set Up Overprint

By default, when you print opaque, overlapping colors, the top color knocks out (cuts a hole) in the area of colored image underneath. Overprinting prevents knockout and allows the colored image data to print over top of the other color being used, which in this case is white. You will want to overprint when the artwork needs to be printed over top of white, usually if the substrate material is non-white and therefore white is required to accurately render image data.

Procedure

1. Select the spot data object or objects that you want to overprint and place these above the image data layer that you would like to print. Or if you want them on the same layer the spot data objects should be in front of the image data.



[31] Overprint Preview



NOTE

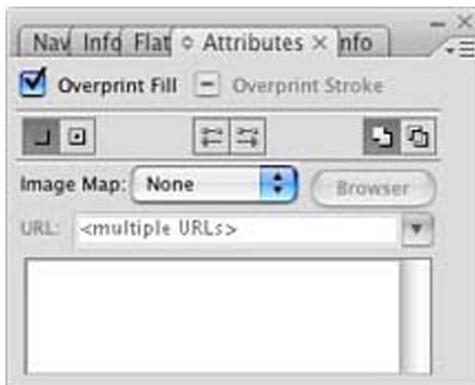
After you set overprinting options, you should use the Overprint Preview mode (View > Overprint Preview) to see an approximation of how the overprinting colors will print by providing an "ink preview" that approximates how transparency and overprinting will appear in output.

2. In the Attributes panel, select Overprint Fill, Overprint Stroke, or both.



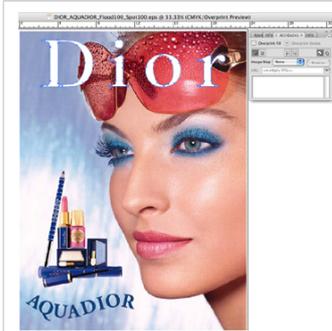
NOTE

While it is possible to set Overprint opacity levels less than 100%, ProductionHouse software only processes full opacity data. The opacity of regular knockout spot data can be set as desired.

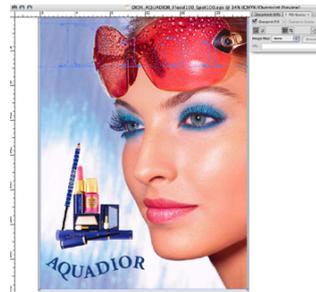


[32] Overprint Attributes

The images below shows white spot data with knockout and overprinting. In this case the spot data is meant to knockout in order to appear as white in the final document.



[33] Knockout



[34] Text Overprinting

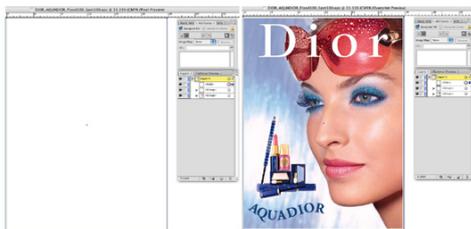
Spot Flood Fill Layers

If a spot flood layer were required in this file, it would be necessary to place flood data above the image data layer in order for the Rip to properly process the Spot data. In this case, you would need to select Overprinting, in order for image data not to be obliterated by spot flood. To properly view the image ensure that Overprint Preview is selected. See images below for a representation of how this will appear.



NOTE

When processing this file in ProductionHouse, media layers must be set up with a spot layer to represent this data, as Illustrator identifies this as a Spot, rather than a flood layer.

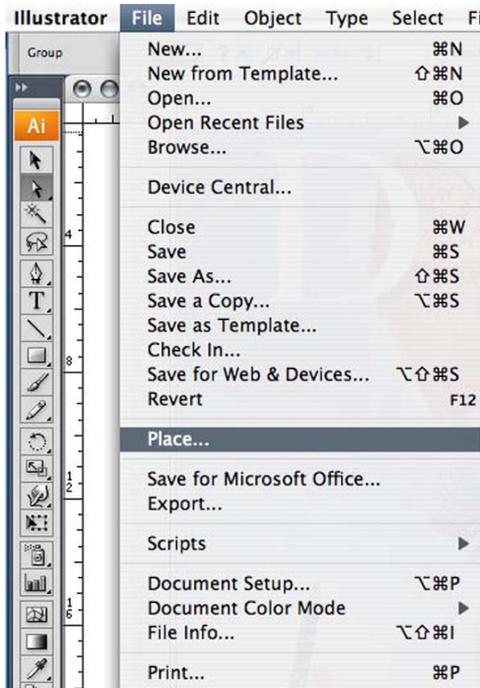


[35] Pixel Preview Flood

How to Place Raster Images in Illustrator

Procedure

1. Begin by placing the desired file. We recommend using .PSD files.

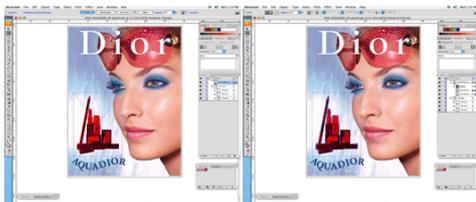


[36] Place File

2. Once the file has been brought into program, click the Embed button to place it in the Illustrator document. This step is necessary in order to make use of all channel data contained in the file.



[37] Embed File



[38] Embed Placed

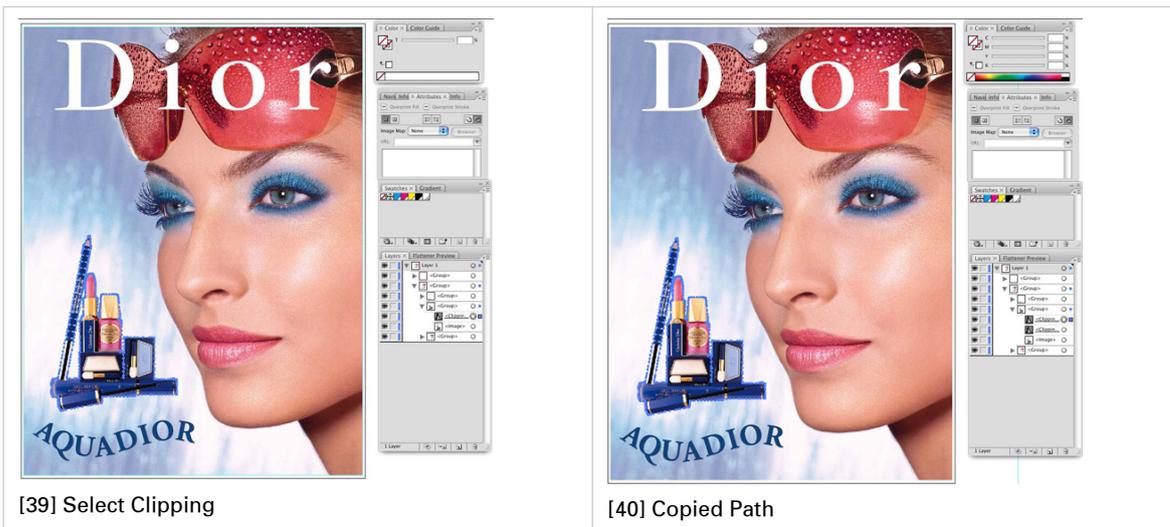
3. Note the information contained in the layers palette for file before and after embedding. Spot Channel data now resides in the layer above the image data, which is the necessary protocol in Illustrator.

How to Create a Spot Channel Path in Illustrator

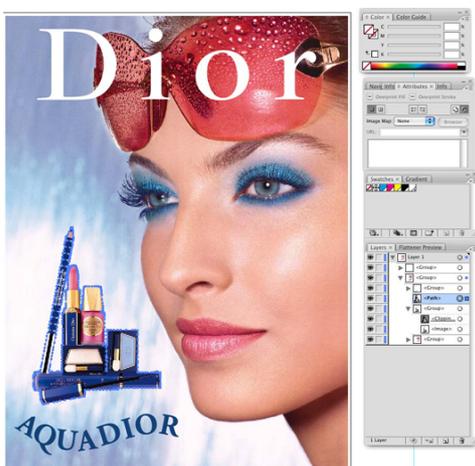
Conversely, you may place a raster file in your Illustrator document and create Spot data in Illustrator using the path creation tools. Create your path using the data as your guide and once the path is completed, fill this path with your Spot 1 or Spot 2 color. This filled path should be placed above image in layers palette. In this particular case, the complexity of the selection path may dictate it's creation in PhotoShop, and Illustrator may be better used for simpler objects.

Procedure

1. First, select your clipping path and make a copy of it.



2. Then move the new layer outside of the group it is in to un-link it from the clipping path.



3. Once outside the group, make sure path is selected and fill it with your Spot 1 or Spot 2 color.
4. Once that is done, replace path in the group above the image and clipping layers. Ensure that Overprint is turned on.

How to Set Up a File for Preflight's Spot Layer Tool

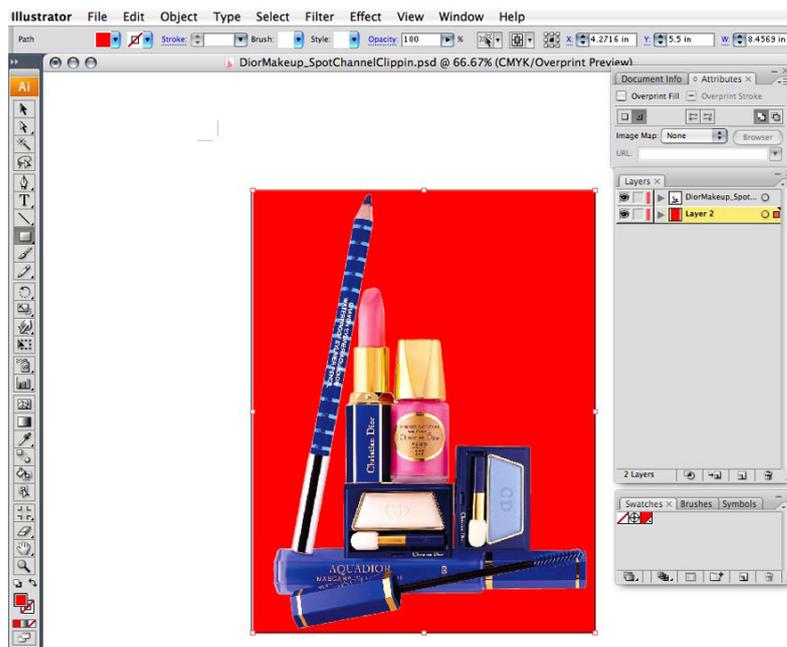
The Spot Layer Tool in Preflight can also make masks for data, and in some cases may be the preferred method of spot layer creation. To ensure that mask selection is made in Preflight without selecting those parts of your image that are of the same color, it is necessary to create a layer in Illustrator to serve as the mask.

Procedure

1. Create a box around your image using the Rectangle Tool or other appropriately shaped box tool.
2. Make sure this new box is selected and select Fill swatch located at the bottom of the Illustrator toolbar. This will fill the box with color. By double clicking on this swatch a dialog box will open allowing for color changes. Ensure that the chosen color does not appear anywhere in your image. For this example we have used red (composed of 100% Cyan and 100% Yellow).
3. Place this rectangle behind your image data, either underneath or in a new layer below. It is not necessary to choose Overprint attributes for this layer.

Result

The prepared file should look similar to the example below.



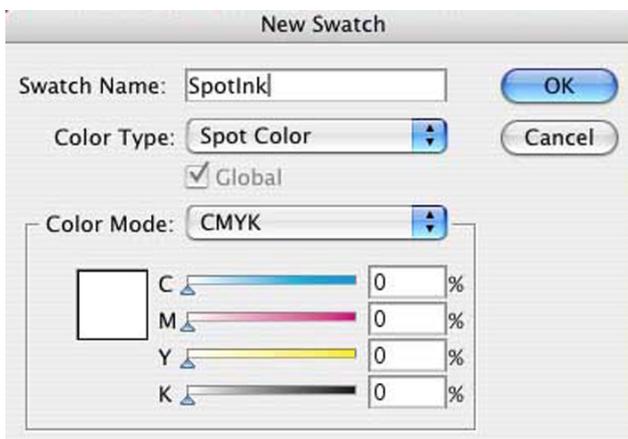
[43] Red Mask

How to Name Your Spot Data in Illustrator

In order for ProductionHouse to correctly distinguish and address Spot data, naming conventions for this data must be adhered to both in the image editing creation stage and the Rip. While using the default name Spot 1, is the simplest route requiring the fewest number of steps, there may be instances when using something other than this is desirable. For instance, when data is created by one individual and printed by another, naming spot data may make desired output results more clear. As well, if English is not your native language, use a name that is more meaningful in your language to be more effective. Please do not use the name "White" as this color flags ProductionHouse to be treated in a particular manner not desired for this workflow.

Procedure

1. When you create a new Spot Swatch in Illustrator, edit the name and replace it with your preferred name.



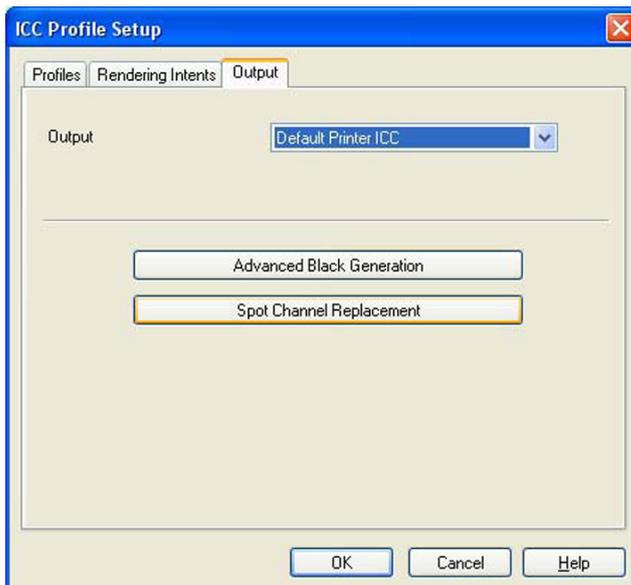
[44] Spot Ink Swatch

2. Edit the media to be used for this data in Media Manager, replacing the default name Spot 1, with your newly created name.



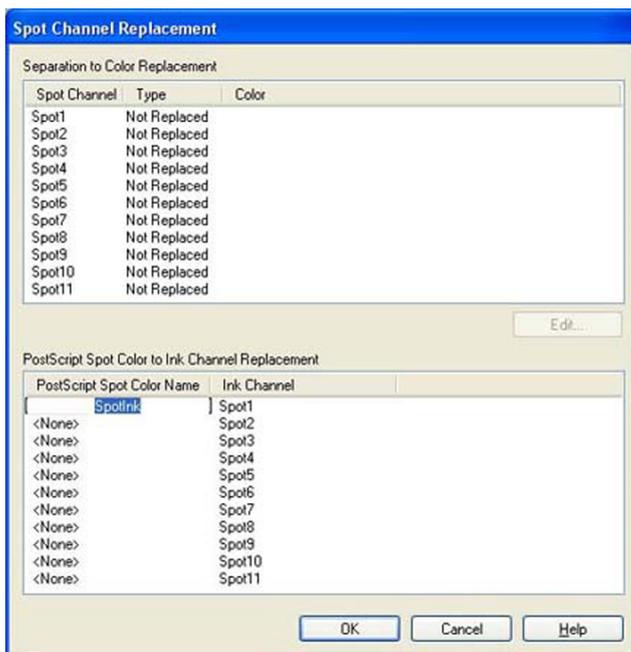
[45] Change Name

3. Open file in Preflight and access the Color Management/Edit Profiles tab. Click on Spot Channel Replacement box.



[46] Spot Channel Replacement

4. Enter the new name in PostScript Spot Color Name in Spot 1 space.



5. Click OK to save your settings.

How to Create Spot Data in Photoshop

Introduction

This section explains how to prepare images that include spot data with raster-based image editing applications such as Adobe Photoshop®. In order to print with white ink or varnish, you must have an ONYX profile (media model) properly configured for the use of spot data.

To add spot color data to your image in PhotoShop, you need to create a layer within the image as a new spot channel. It is possible to have more than one spot element in an image, but each element must be on the same spot channel, and therefore have the same opacity level, or else ProductionHouse will treat the saved document as a separation file. Since the Arizona printers with white ink or varnish support two spot channels, you can create one spot channel for Spot 1 data and another for Spot 2 data. CMYK is the preferred image mode as the actions required for spot data creation are simpler than those for RGB.



NOTE

You can use raster-based image editing applications other than Photoshop as long as it has the ability to create spot channels.

Purpose

When you have a raster-based image and need to have select areas of that image show up as white when the media is non-white or clear or translucent, you can prepare a spot channel for the white data in Photoshop.

When to do

The first step in the white ink or varnish workflow is to prepare your source image to use a spot ink channel. The spot data must be designed entirely on a separate channel (either as a spot channel layer or a custom spot color) to be recognized by the Onyx RIP. The name you assign to this spot channel layer or custom spot color must be Spot 1 or Spot 2 and is the most important part of preparing the file. This named channel allows RIP-Queue to determine that the data in the source image needs to be output to the spot channel. In preparing your file, only you can define what you want to print with "white ink" or "varnish" as part of your design and assign the color as described in this document. Using your graphic application program, the spot data can be simple or complex and can range from vector shapes and text to halftone bitmap images.

New Spot Channel Layer

Use the following steps to create a new spot channel layer:

Procedure

1. Open the desired file in PhotoShop (if the file is in RGB mode, then convert it to CMYK mode).
2. Use the desired selection tool (e.g. the Magic Wand) to select the area of the image you wish to print with white ink.

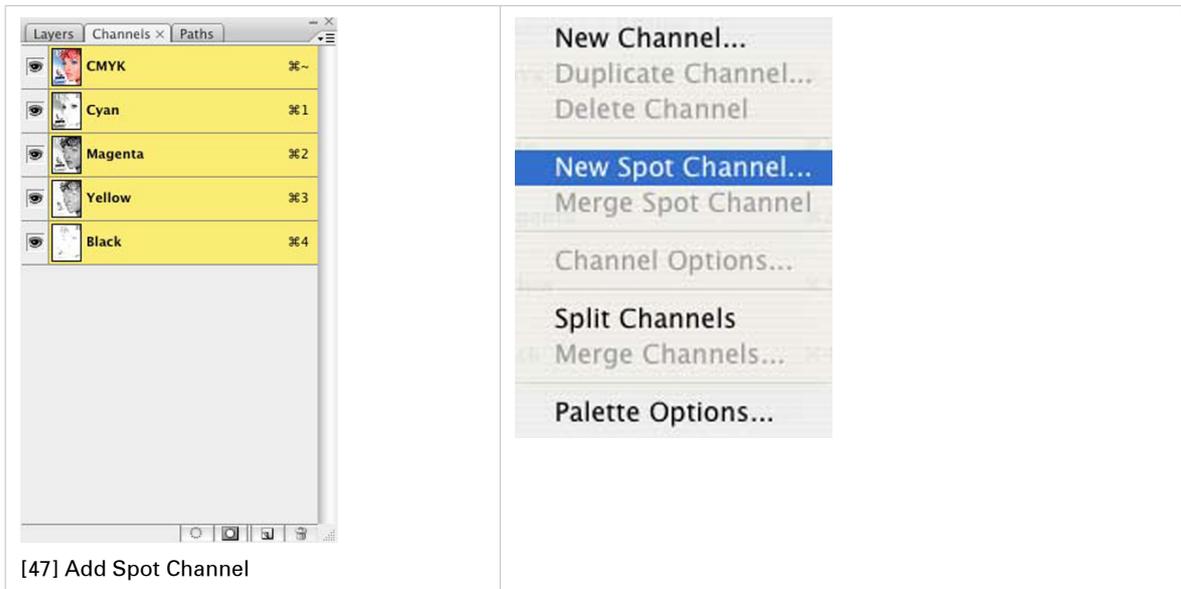


NOTE

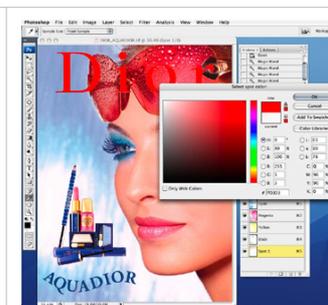
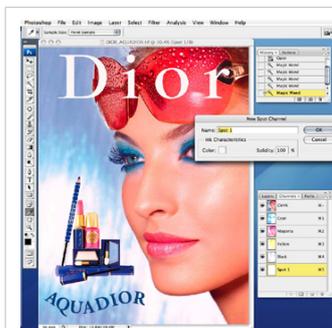
The image file used in this example is for illustration purposes only. For best results when working with text, we recommend that you use a vector-based program such as Adobe Illustrator.

3. In PhotoShop, ensure that the Channels tab is visible (under the Window menu click Channels to view the panel).
4. Click the arrow on the Channels tab to display the Channels menu.

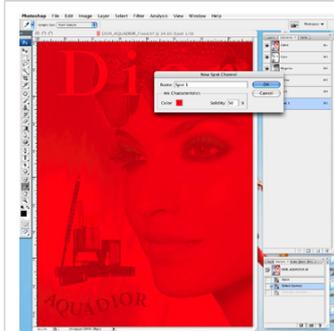
5. Select New Spot Channel from the Channels menu to open the Add Spot Channel dialog.



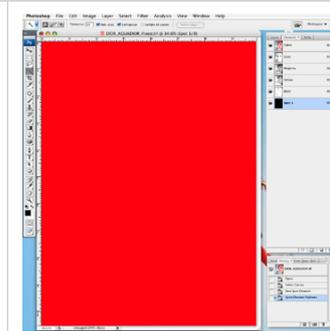
6. Within the Add Spot Channel dialog, enter the following information:
 - **Name** – Enter the name "Spot 1" or "Spot 2". This name is specifically reserved in RIP-Queue for this type of workflow, using any other name requires more steps to make spot information addressed by the Rip software.
 Note: For instructions on how to use a naming convention other than Spot 1 or Spot 2, refer to the sub-section at the end of this section "How to Name Your Spot Data".
 - **Opacity** – Set the opacity to 10%
 - Edit the channel **COLOR** by double-clicking on the swatch. Set the spot color in PhotoShop to a color similar to the spot ink in your printer. Since white can be hard to distinguish, this COLOR can be any value that will help you see the design better.



7. Click OK to save your changes and close the Add Spot Channel dialog.
8. You can create a flood layer in the same way by selecting the entire workspace (Select All) and then add the spot channel as described above. The example below shows what your workspace may look like with a 50% and 100% flood fill. If you need to see your image for editing purposes, simply turn off the visibility of the Spot Channel.

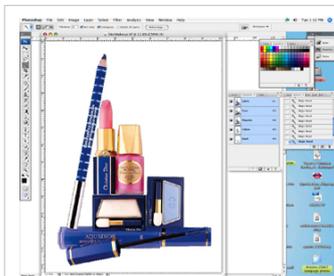


[50] Flood 50 PSD

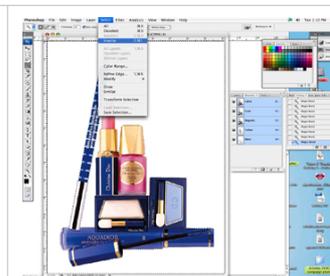


[51] Flood 100 PSD

9. In some cases, it may be easier to select the area in which you don't want any white ink data and then select the inverse.

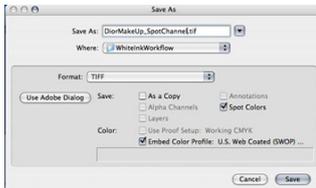


[52] Select



[53] Select Inverse

10. It is also possible to edit the spot channel much as you would any other data in a PhotoShop document, making use of such tools as the Eraser.
11. Save your image as a either a TIFF or PSD format file (see the points below to determine the best format).



[54] Save with Spot Option

- If you intend to use this file in a vector-based program such as Illustrator, save it as a .PSD file in order for all channel information to be carried over. The white spot color is printed in the order it appears in the Channels palette, with the spot channel printing underneath CMYK data. However, when exported as a .PSD to Illustrator, this data will appear above the image data. This is the correct format protocol for Illustrator.
- Save as TIFF and ensure that the spot colors option is enabled if you plan to bring this image directly into ProductionHouse.
- It is also possible and sometimes preferable to print directly from PhotoShop to Rip-Queue. For instructions on how to do this, see document provided on the Onyx web site "Printing From a Mac", which also contains information on printing from Windows-based systems.

White Ink QuickStart

Introduction

This section shows you how to print a simple job with a white flood fill. Océ Arizona Quality-Layered print mode is used to print white ink applications such as under-printing for non-white media, over-printing for backlit applications viewed 2nd surface or as middle layer for a day-night application. The following section provides more detail about the various options available when printing with white ink.

Purpose

This exercise will help you get familiar with some of the basic concepts involved when you print images with white ink.

Before you begin

Obtain and import an ONYX media profile (media model) that is set to Quality-Layered print mode.



NOTE

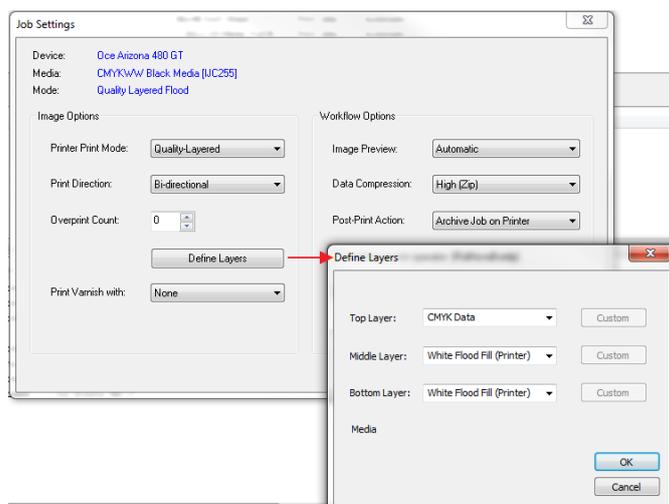
Sample Media profiles for white ink are available for download from the DGS website: <http://dgs.oce.com/>.

How to Print a Simple Job Using White Ink

Procedure

1. Open an image of your choice with an ONYX media profile that uses Quality-Layered print mode.
2. Take the printer offline in ONYX RIP-Queue so the job will not be automatically sent to the printer.
3. Process/rip the job.
4. Define one or two of the data layers as a white flood layer.

To define a white flood layer, modify the printer settings of a processed job in RIP Queue - right click the job, edit printer settings, select Quality-Layered for the Printer Print mode, then select Define Layers.



If you want to print first surface (e.g. opaque media) the bottom and middle layers can be configured to be white flood layers and the top layer to be a CMYK data layer. If you want to print

second surface (e.g., transparent media viewed from side that does not have ink on it), then the bottom layer should be a CMYK data layer and the middle and top layers white flood layers.

5. Put the printer back online in ONYX RIP-Queue and send the job to the printer.
6. Print the job.

How to Print White Ink Jobs

Introduction

White Ink can be printed in two ways:

- A. Multiple Layers - Using a Quality-Layered print mode
- B. Single Layer - Using any non Quality-Layered print mode that has been made with a CMYKSS ink configuration with spot colors defined.

A. Printing a Multiple Layer Print Job with White Ink

Océ Arizona Quality-Layered print mode is used to print white ink applications such as under-printing for non-white media, over-printing for backlit applications viewed 2nd surface or as middle layer for a day-night application

Print modes other than Quality-Layered mode can also be used to print only white ink, or area's of white ink in an image as long as the ONYX media profile (media model) has been made with a CMYKSS ink configuration with spot colors defined.



NOTE

When you print white ink using a print mode other than Quality-Layered, we recommend that you don't print white ink in the same area of an image as CMYK inks. The white ink does not mix well with the other ink colors.

For Quality-Layered print mode jobs:

1. Create spot data in a design application.



NOTE

Not required if only printing white ink using a printer generated white flood or using the ONYX Spot Layer Tool to create spot data (step 3).

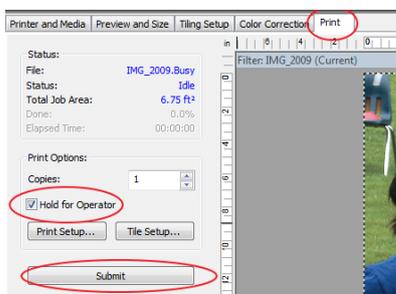
2. Open the job in ONYX workflow software using an ONYX media profile that has been made using the Quality-Layered print mode. (See section "White Ink and Varnish ONYX Media Profiles").
3. Create underlay or overlay spot data using the ONYX Spot Layer Tool.



NOTE

Not required if only printing white ink using a printer generated white flood or using spot data created in a design application (step 1).

4. If the desired layer definitions have not been predefined in the ONYX media profile or Quickset, select "Hold for Operator" prior to submitting the job to be printed (step 5), so that the job will not automatically be sent to the printer.



[55] Hold for Operator

5. Submit the print job (i.e., process/rip the job).
6. Define or verify the layer definitions prior to sending the job to the printer.

**NOTE**

Optional - not required if the layer definitions were correctly specified in the ONYX profile or quickset.

7. Send the job to the printer and then print it.

**NOTE**

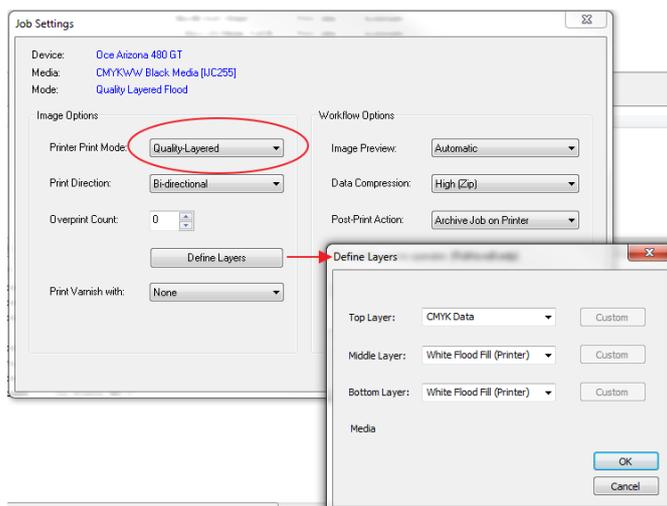
To preview the layer order of the job on the printer, click Layers for the job in the printer software UI.

Configuring Quality-Layered Print Mode To Print White Ink

The Quality-Layered print mode can be used to print three, two, or one layer of image data or printer generated flood data. All layers are independent of each other.

Where to Define Layers

Quality-Layered layers are defined in ONYX media - mode options, but may be optionally overridden within a Quick Set - Media Options, and optionally overridden on a per job basis by modifying the printer settings of a processed job in RIP Queue - right click the job and edit print settings. Editing the print settings for a job displays the following dialog:



Layer Definitions

The layers are identified as bottom, middle and top. The bottom layer is printed first (if it is not empty) and the top layer is printed last (if it is not empty).

Use the layer indicated to print the following white ink applications:

Under-printing white ink for non-white media

- Top - CMYK
- Middle - W (spot data or printer generated flood)
- Bottom - W (spot data or printer generated flood)

Over-printing white ink for backlit applications viewed 2nd surface

- Top - W (spot data or printer generated flood)
- Middle - CMYK (mirrored)
- Bottom - CMYK (mirrored)

Print white ink for middle layer for a day-night application viewed 2nd surface

- Top - CMYK (mirrored)

- Middle - W (spot data or printer generated flood)
- Bottom – CMYK (mirrored)

Each layer can be defined with one of the following choices:

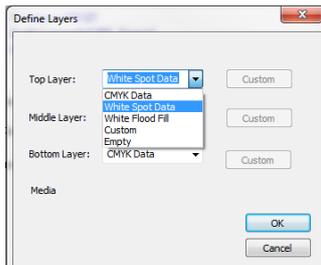
CMYK Data - CMYK image data

White Spot Data – Print Spot 1 data with white ink

White Flood Fill – Printer will generate flood data for the extent of the image data using the largest ink drop level

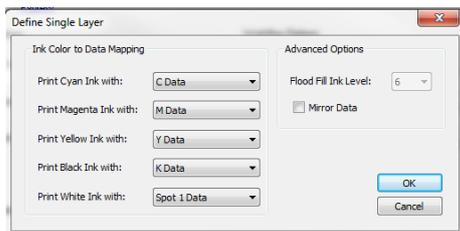
Custom - Custom ink color to data mapping and advanced options

Empty



Custom Layer Definition

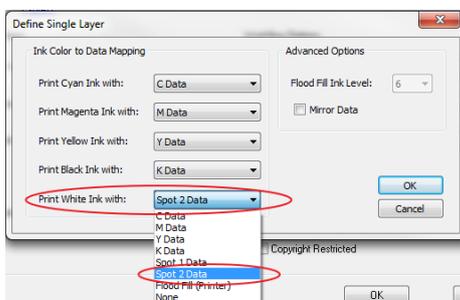
The "Custom" layer definition allows customer ink color to data mapping and advanced options for the selecting the printer flood level or mirroring the data.



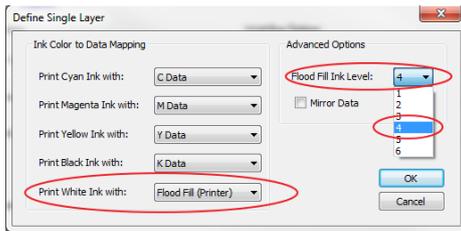
There are five color channels: C,M,Y,K and W, and six data planes: C,M,Y,K,Spot 1, and Spot 2 data.

Each color channel can be configured to print: nothing, any one of the six data planes, or have the printer generate flood data with a chosen drop level.

Example 1: White ink to be printed Spot 2 data



Example 2: White ink to be printed with printer generated drop level 4 (24 pl) data



B. Printing a Single Layer Print Job with White Ink

For print jobs that do not use Quality-Layered mode:



NOTE

When you print white ink with print modes other than Quality-Layered, it is not recommended to print white ink in the same area of an image as CMYK inks. The white ink does not mix well with the other ink colors.

1. Create spot data in a design application. (See section “How to Create Spot Data”)
2. Open the job in ONYX workflow software using any print mode other than Quality-Layered with an ONYX media profile that supports printing of white spot ink. (See section “White Ink and Varnish Media Profiles”)
3. Submit the print job (i.e., process/rip the job).
4. Send the job to the printer and then print it.

