

# FIELD TECHNICAL PROCEDURE

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	VUTEk QS, GS5000r, GS3250,
	GS3250LX, GS3250r,GS3200,
Printers Affected:	GS2000, PV200 +White;
	Rastek H650, H652, H700, T600,

T1000

# **File Preparation for White Ink**

This document provides comprehensive instruction on file preparation for the use of white ink. White ink can be used in a variety of useful and creative ways—it can be printed as a solid area, or applied as a tint or gradation. While some intended uses require no prepress intervention, some preparation is necessary for spot and shape white printing. The prepress procedures are not complicated, but they must be done in a specific manner to ensure success at the printer.

# **Before Starting**

Follow the instructions in this document prior to attempting the White\_Ink file preparation procedures.

- Read through this **entire document** before beginning any of the procedures.
- You should be familiar with the entire file preparation process before continuing.

# **File Preparation for White Ink Overview**

This section outlines the general installation steps.

- 1. Understanding White Ink: White in 3 Categories
- 2. <u>Flood</u>
- 3. Shape/Spot White
- 4. Prepress Procedures for Creating White Ink Data
- 5. Adobe Photoshop CS Series Shape/Spot White
- 6. Adobe Photoshop CS Series White Only Image
- 7. Adobe Illustrator CS Series Shape / Spot White
- 8. Adobe InDesign CS Series White
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- 13. InDesign CS Series
- 14. <u>Saving/Exporting a PDF</u>

# **Understanding White Ink: White in 3 Categories**

The application of white ink can be divided into 3 categories for easier understanding. Following is a brief description of each category. **Shape** and **Spot** *White* categories have been combined below due to similarity in file preparation.

## Flood

The dimensions of the area to be coated are determined by the dimensions of the file itself. This mode does not require prepress intervention because the operator applies the flood at the printer.

**Note:** When printing a flood, the flood area is larger than the image file.

## **Shape/Spot White**

These modes of white are applied to the substrate with some prepress work ahead of time. File preparation is the same for shape or spot white. Whether the white is applied under the CMYK or on top of it is determined at the printer.

It is essential to note that Spot White mode prints CMYK ink and white ink simultaneously. In any areas where white intersects CMYK data, white and CMYK inks will blend together when printed.

# **Prepress Procedures for Creating White Ink Data**

In normal printing processes, white data areas in image files are translated as <none> or the absence of ink. The white paper, or ground, serves as white in process printing.

The white ink prepress process will require typing the name **White\_Ink**. Using this correct naming convention, including upper and underscore usage is important to ensure success. XF will automatically recognize spot channels called **White\_Ink** as data used for white ink printing.

### Adobe Photoshop CS Series – Shape/Spot White

To utilize the white ink function in a Photoshop file, a spot color channel must be created. To accomplish this, make and save a selection as a spot channel. RGB and CMYK files are acceptable.

- 1. Using normal selection tools (Wand, Lasso, Quick Mask, Color Range, etc.) select the areas of the document that you want to contain white.
- Go to Select > Save Selection (Figure 1), and name the new channel White\_Ink (Figure 2).
- 3. Open the Channel Palette under **Window** > **Channels.**
- 4. Double-click on the name of the new channel to open the **Channel Options** dialog box, as shown in Error! Reference source not found..
- 5. Change the channel options to indicate **Spot Color** channel.

#### Figure 1: Select > Save Selection Screen

#### Figure 2: New Channel – White\_Ink Screen









6. Save the document as a PDF file with spot colors checked **ON** (See **File Preparation and PDF Saving/Exporting Instructions**).

### Adobe Photoshop CS Series – White Only Image

The preparation steps for creating a white-only image are much different from the previous Shape/Spot White section.

These steps are as follows:

- 1. Open an image. RGB and CMYK files are acceptable.
- 2. Go to Image>Mode>Grayscale, Figure 4.

#### Figure 4: Choose grayscale mode



- 3. Open the **Channel Palette** under **Window>Channels**. There is a single channel called **Gray**.
- 4. Under the palette menu, select **Duplicate channel**, as shown in **Figure 5**. Name the new Spot Channel **White\_Ink**, shown in **Figure 6**.



#### Figure 5: Duplicate channel

Figure 6: Name spot channel White\_Ink

		Duplicate Channel	
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	Name:		
Check Invert —	Invert 🗹		

- 5. Click on the check box that says **Invert**, then check **OK**. Remember the black/gray area of the image will print white.
- Double click on the name of the new channel to open the Channel Options dialog box. Change the channel options to indicate Spot Color channel. See Figure 7.



**Figure 7: Channel Options** 

- 7. From the Channel Pallette, select the **Gray** channel. Go to **Select > Select All**.
- 8. Navigate to **Edit>Clear**. This will remove the data from the Gray channel. See **Figure 8**.

Figure 8: Clear the data



9. Save the file as a PDF. Make sure that **Spot Colors** is checked ON.

### Adobe Illustrator CS Series – Shape / Spot White

To use the white ink function in Illustrator, the areas of white ink need to be defined in the file. Follow the steps provided to create a spot color named **White\_Ink**.

- 1. Open the Swatches palette (Window>Swatches).
- 2. From the swatches palette menu, select New Swatch. See Figure 9.
- 3. Set the Color Type to **Spot Color**, and the Mode to **CMYK**.
- 4. Name the new swatch White\_Ink.
- 5. For easy identification, set the swatch color to a color not used in the file.
- 6. In this example we will use 100% Magenta. This color will translate as white ink at the RIP.

New Swatch New Color Group Duplicate Swatch Merge Swatches Delete Swatch Ungroup Color Group	
Select All Unused Add Used Colors	
Sort by Name	New Swatch
Sort by Kind Show Find Field	Swatch Name: White_Ink OK
✓ Small Thumbnail View Medium Thumbnail View Large Thumbnail View Small List View Large List View	Color Type: Spot Color Color Type: Cancel Color Mode: CMYK
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Open Swatch Library Save Swatch Library as ASE Save Swatch Library as Al	

#### Figure 9: New Swatch - White\_Ink

7. In the file, select the shapes and elements to be white ink coverage (see **Figure 10**).



#### Figure 10: Apply Spot Color - White\_Ink

8. With the element selected, change the fill to the **White\_ink** spot color.

Important: White\_Ink data must often be set to Overprint Fill in Attributes, as shown in Figure 11.

Figure 11: Attributes set to Overprint Fill



9. Save the file as a PDF file (see **File Preparation and PDF Saving/Exporting Instructions**).

## Adobe InDesign CS Series – White

In most cases, White art should be created in Illustrator or Photoshop, saved as a PDF file, and then placed into InDesign. If a **White\_Ink** swatch has not been created yet, the **White\_Ink** swatch created in the Illustrator file will import with the file. In that instance, use the imported **White\_Ink** swatch instead of creating a new one. When exporting the final PDF file for printing see the **File Preparation** and **PDF Saving/Exporting Instructions** section of this document.

To utilize the white ink function in InDesign, the areas of white ink need to be defined in the file. Follow the steps provided to create a spot color named **White\_Ink**.

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Paper]       Black]       C=100 M=0 Y=0 K=0       C=0 M=100 Y=0 K=0       C=0 M=0 Y=100 K=0	New Tint Swatch New Gradient Swatch New Mixed Ink Swatch New Mixed Ink Group Duplicate Swatch Delete Swatch	
C=15 M=100 Y=100 K=0	Swatch Options	
C=75 M=5 Y=100 K=0	Load Swatches Save Swatches	New Color Swatch Swatch Name: White_Ink OK
	Select All Unused Add Unnamed Colors	Color Type Spot + Add
	✓ Name Small Name Small Swatch Large Swatch	Color Mode: CMYK Cyan 0 % Magenta 100 % Yellow 0 %
	Merge Swatches	Black 2 0 %
	Ink Manager	
	Hide Options	

#### Figure 12: New Swatch - White\_Ink

- 1. Open the **Swatches** palette (Window>Color>Swatches). See **Figure 12**.
- 2. From the Swatches Palette menu, select **New Color Swatch**.
- 3. Set the Color Type to **Spot Color** and the Mode to **CMYK**.
- 4. Name the new swatch **White\_Ink**.
- 5. For easy identification, set the swatch color to a color not used in the file.
- 6. In this example we will use 100% Magenta. This color will translate as white at the RIP.
- 7. In the file, select the shapes and elements to be white ink coverage.

#### Figure 13: Apply Spot Color - White\_Ink



Important: White\_Ink data must often be set to Overprint Fill in Attributes, as shown in Figure 13.

8. Export the file as a PDF (see **File Preparation and PDF Saving/Exporting Instructions**).

## **Choking White Ink**

It is recommended to choke white ink that is to be printed under graphics to avoid seeing the white ink show around the edges.

# **Adobe Photoshop CS Series**

1. Begin by making a selection of the image that will be printed with white. See **Figure 14**.



#### Figure 14: Select the image

#### Figure 15: Contract

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		Image: Creen         344           Image: Creen         344
200% 🔞 Doc: 7.79M/3.46M		

- 2. Go to Select>Modify>Contract as shown in Figure 15.
- 3. Contract by two pixels, Figure 16.

200% 🕞 Doc: 7.79M/3.46M



#### Figure 16: Contract by two pixels

4. With the **White\_Ink** layer selected in the channel menu, navigate to **Edit>Fill**, **Figure 17**.



Figure 17: Edit>Fill

5. Choose **Black** from Fill options, shown in **Figure 18**.

Figure 18: Choose black fill



6. The result of the fill is shown in **Figure 19**.



#### Figure 19: Fill result

7. Save the image as a PDF (see File Preparation and PDF Saving/Exporting Instructions).

## **Adobe Illustrator**

1. Make a selection of the image to be printed with white, **Figure 20**.



#### Figure 20: Select image

2. Go to **Object>Path>Offset Path**, shown in **Figure 21**.

Figure 21: Offset Path



3. Set amount of path offset. This can vary depending on size and scale of artwork. See **Figure 22**.



Figure 22: Set amount of path offset

4. Apply White\_ink spot color swatch, shown in Figure 23.



Figure 23: Apply White\_ink spot color swatch

5. In the **Attributes** tab, check **Overprint Fill**. See **Figure 24**.



Figure 24: Check Overprint Fill

6. Save the image as a PDF (see File Preparation and PDF Saving/Exporting Instructions).

# File Preparation and PDF Saving/Exporting Instructions

Please follow the program guidelines below before saving a file as a PDF.

### **Photoshop CS Series**

- For best image quality, the suggested image dpi range at 100% of scale is 100 to 300, regardless of printer resolution. Below 100 dpi, the image quality degrades. Above 300 dpi the quality is not enhanced, but the file size is substantially larger.
- Do not convert Pantone spot colors (channels) to process CMYK.
- Save file as a PDF.

### **Illustrator CS Series**

- Include all embedded/placed/linked images.
- Optional: Convert all fonts to outlines.
- Do not convert Pantone spot colors to process CMYK.
- Save file as a PDF.

### **InDesign CS Series**

- Optional: Convert all fonts to outlines.
- Export file as a PDF.

### Saving/Exporting a PDF

These settings are intended to save a 'RIP ready' PDF. This PDF format should not be used for editing the art after it is saved. Changes should be made to the *original* art and re-saved using these settings. These settings will hold information regarding fonts, working color spaces and spot colors.

This procedure outlines creating the **Adobe PDF Preset** to avoid having to change these settings every time you save a PDF.

When setting a preset for the first time, it is best to do it from Illustrator. This preset will then be available from the entire Adobe suite.

1. Begin by saving a file and selecting the **High Quality Print** preset, shown in **Figure 25**.

		S	ave Adobe PDF		
Adobe PDF Preset:	[High Quality Prin	it]			*
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#### Figure 25: Save Adobe PDF

2. Select **Compression** from the left menu. Disable Downsampling and Compression as shown in **Figure 26**. This will ensure you are saving the highest quality PDF.

Figure 26: Disable dov	insampling and compression
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	Save Adobe PDF	
Adobe Pl	DF Preset: [High Quality Print] (Modified)	
Compression	Standard: None   Compatibility: Acrobat 5 (PDF 1.4)	
General	Compression	<u></u>
Set to Do Not	Bleeds Color Bitmap Images	
Downsample Advanced Security	Compression: None Tile Size: 128 pixels	Set to None
Summary	Image Quality: Maximum ‡	
	Grayscale Bitmap Images	
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	Image Quality: Maximum ‡	
	Monochrome Bitmap Images	
	Do Not Downsample          ‡         1200         ppi for images above         1800         ppi         Compression:         None         ‡	
	Compress Text and Line Art	
Save	Preset Save PDF Cancel	

3. Select **Output** from the left menu as shown in **Figure 27**. Note that **Include Tagged Source Profiles** is selected. This will embed the working space and/or image files.

Standard:	None ± Com		
		patibility: Acrobat 5 (PDF 1.4)	
General Compression Marks and Bleeds	Output		
Output	Color Conversion:	No Conversion	\$
Advanced Security	Destination:	N/A	\$
Summary	Profile Inclusion Policy:	Include Tagged Source Profiles	\$
	Output Intent Profile Name:	N/A	÷
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	Description Describes the final RGB or CMYK output of standard.	device, such as your monitor or a certain press	
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#### Figure 27: Select Output

- 4. Click on the Save Preset button in the lower left corner, shown in Figure 27.
- 5. Name preset **XF-PDF**, and click OK. See **Figure 28**.

Figure 28: Save as XF-PDF

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- 6. Click Save PDF.
- 7. This preset will now be available as an option in the **Adobe PDF Preset** pull down menu in all Adobe programs.