

This tutorial demonstrates how to print jobs with special inks like white, primer and varnish. Obviously the ink set of the printer needs to contain such inks. Enabling an ink set with a special ink needs to be done with the configuration wizard (Help > Configuration wizard). White/Varnish and Primer inksets are only available on certain types of printers. This tutorial uses different printers and ink sets to illustrate the different applications.

Download the Asanti Sample Files via the Asanti Client (Help > Asanti Online > Download Sample Files).

## Part I: Printing with white ink

This first part contains exercises which teach you how jobs can be printed with white inks.

### 1. Printing white from image

In this exercise you will learn how to print white from objects present in the input file.

1. File Menu > New layout job.
  2. Select the job set-up > Media inspector > Generic media.
  3. Set the Media Size to at least to 650x500 mm.
  4. Select the for Application-Quality: “High Definition”.
  5. Expand and enable the **White** application in the Job Set-Up inspector.
  6. Select for Application-White: “From Image” and “Pre-white”.
- Notice that the Calibrated Printing Mode (CPM) should have a section “On White”, which means that the ICC profile was made with white of the ink set underneath the CMYK colors. Depending on the Quality, CPM’s may or may not contain settings for “On White” and “White” printing. Typically, CPM’s for “High Definition” quality will contain White printing information.

*Asanti uses a different ICC profile for Pre-white as for Post-white, automatically the correct profile of the CPM will be selected depending on the application mode (Pre- or Post -White)*

The image displays four screenshots from the Asanti software interface:

- Configuration Wizard:** Shows the configuration for a 'Jeti Titan HS' printer. The 'Ink set' is set to 'CMYKcm+WV (UV - A3 G4 OA + White G3 + Jeti Varnish)', which is highlighted with a red box.
- Job Set-up:** Shows the 'Application' section with 'White' checked. Under 'White', 'From Image (Asanti)' and 'Pre-white (On White calibration)' are selected, also highlighted with a red box.
- Colors:** Shows a color management table with 'White' selected in the 'Out' column, highlighted with a red box.
- Calibrated Printing Mode:** Shows the 'HighD - 10P Bi 720x1200 - 6C' mode. Under 'On White', the settings 'Profile: embedded' and 'PST/TAC: WF-LightGCR / 300%' are highlighted with a red box.

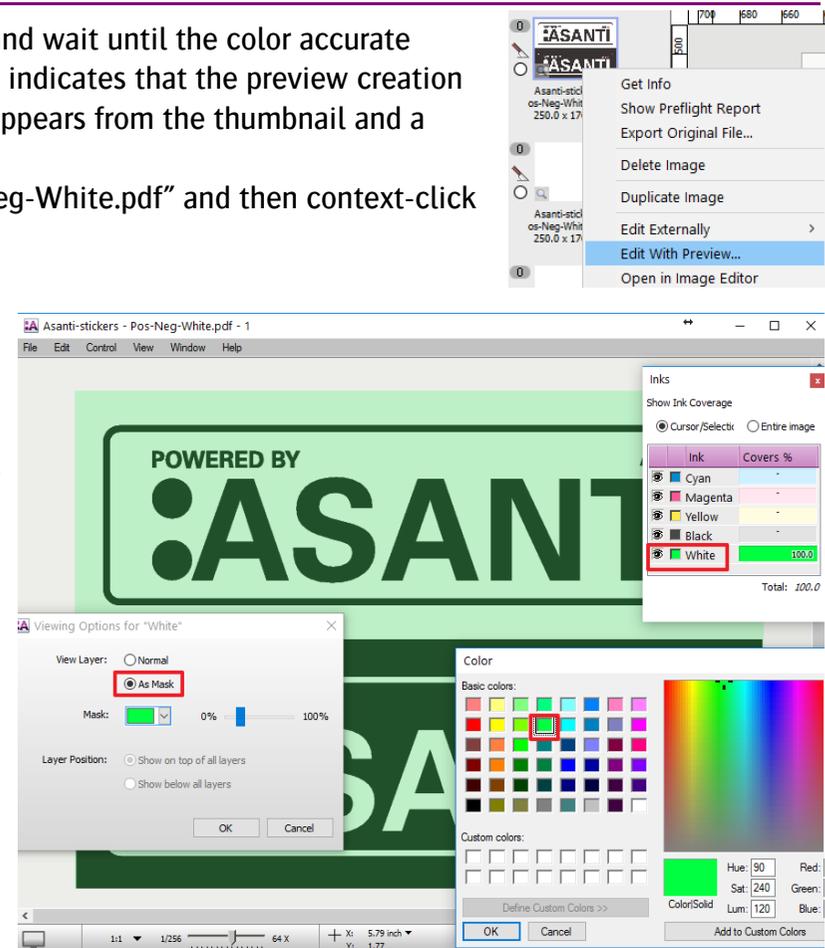
7. In the Image panel click “+” and browse for “Asanti-stickers - Pos-Neg-White.pdf”, click open.
8. Select the Colors Inspector and select the White color: Notice that the white color will be printed with White ink.

*In Asanti, vectors and alpha channels from the input documents can be assigned to the white ink of the printing press if these objects are drawn in a spot color. Several spot colors are automatically mapped to “White”. You can find them in the Color Books (CTRL+ALT+6) > Special Colors... (button at right top) > White category.*

9. Click on the “Create Previews” button (bottom right of Layout Editor) and wait until the color accurate previews are ready. A green rectangle on top of the image thumbnails, indicates that the preview creation is still going on. The previews are ready when the green rectangle disappears from the thumbnail and a small grey magnifying glass icon indicates that a Preview is made.
10. In the image panel, select the first page of the “Asanti-stickers-Pos-Neg-White.pdf” and then context-click the image, select “Edit With Preview”.
11. Show the inks palette from Window > Palettes (or CTRL+ALT+I).
12. In the Inks palette, double click on the white ink channel and enable the “As Mask” view, to view the white layer with a customizable color (e.g. Green) and an opacity level to inspect the content and positioning of the white layer.

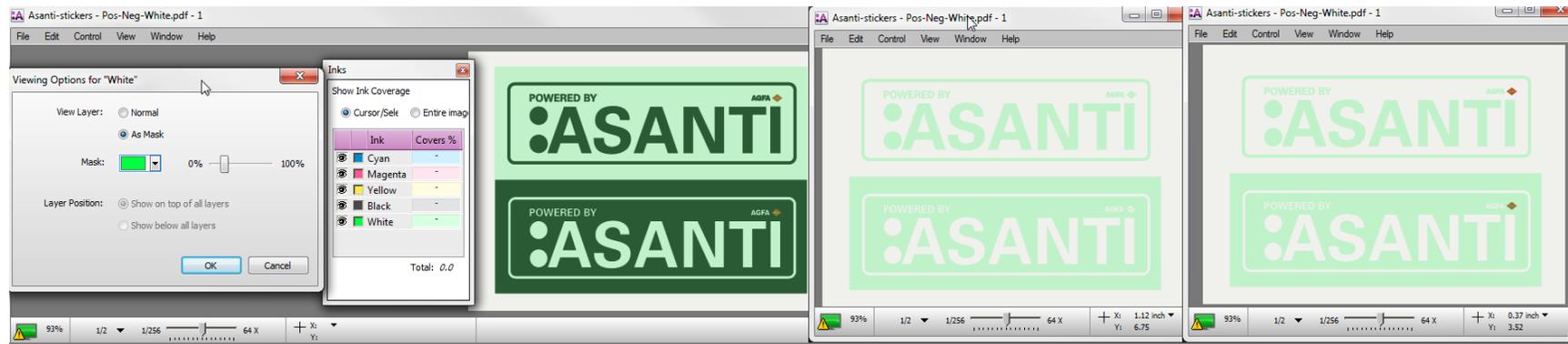
*Asanti initially shows the white layer as the actual printed result, so when viewed from the printed side: Pre-white will show the white below the CMYK colors. Post-white will show the white on top of the CMYK colors. When enabling the masked view, the white layer will always be on top of all colors (even if the application is pre-white).*

13. In the Inks palette, toggle the different separations on and off by clicking the “eye” icon. This allows you to investigate where white ink will be printed. ALT + clicking the “eye” icon for the White channel, will disable all colors except White.



14. In the Preview you can use the arrow buttons in the Tool Palette (or arrow keys on your keyboard), to verify the different image/page Previews of the job.

- The first page contains a single white rectangular box underneath all the text.
- The second page contains all the text only in white ink. (No CMYK colors printed on top).
- The third page contains all the text only in white ink except the Agfa logo which is printed in CMYK on top of the white.

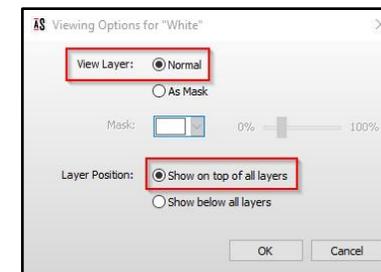


15. Go to page 1 and enable the “Normal” view for the white channel.

16. Select the option “Show on top of all layers”.

- You can now see the effect of the white ink, being printed on top of the CMYK Colors.
- This simulates how the job would be printed in “Post-white” mode.

17. Close the Preview window.



18. Select all images (CTRL+A) in the image panel.

19. Select Sheet > Auto-Layout Images (CTRL+N).

20. Click the “Auto Layout 3 Image(s)” button.

21. Submit the job and select Print files: “Make and send to printer”, click “Submit”.



## 2. Printing post white to fill entire image

In this exercise you will learn how to print post white with files that don't have objects for white in the input file. Asanti will create a white layer for the entire image:

1. File > New Layout Job (CTRL+ALT+N).
2. Job Set-Up inspector: select Application-**White**, "**Fill Entire Image**", "**Post-White**", "**Spread (15px)**" option and leave the white opacity to "**100%**".
- Asanti will now generate a white layer which is spread 15 pixels over the entire image.

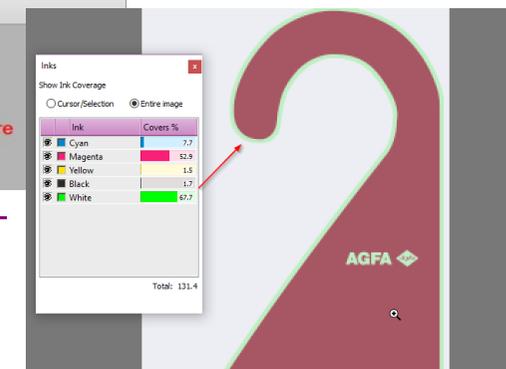
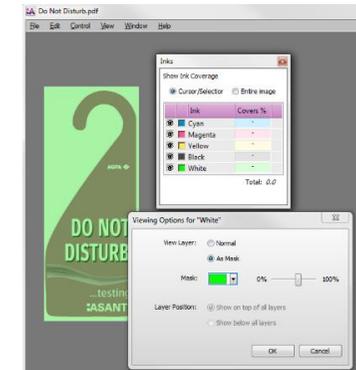
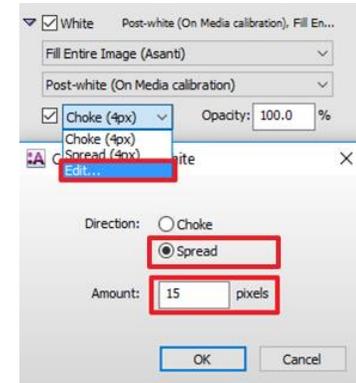
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*Spreading will enlarge the white layer, choking will reduce the white. The result of Choking/Spreading is not visible in the Preview however it can be seen in the final render result.*

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3. Make sure to select a CPM which provides support for White as mentioned in the previous exercise.
4. In the Image panel click "+" and browse for "Do Not Disturb.pdf", click open.
5. Context-click the image and select "**Edit With Preview**".
6. Double click the white ink channel and enable the "**As Mask**" view. Notice that the complete image is covered with 100% white ink. Clicking ALT + "eye" icon of the white ink, will disable all other colors.
7. Close the preview window.

8. Drag the "Do Not Disturb.pdf" on the Sheet.
9. Submit the job and select "**Make and Hold**".
10. Double click the label "Layout 1 Front ...." underneath the render result.
- The white layer is spread over the image as you can see in the rendered result.




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*Note that not the complete image box is covered with white but only the doorhanger shape. This is caused by the finishing operation: "Through Cut" spotcolor. This spot color path is used as contour for the image. If there is no cut contour spot color in the file then "Fill entire image" will create white underneath the complete image box.*

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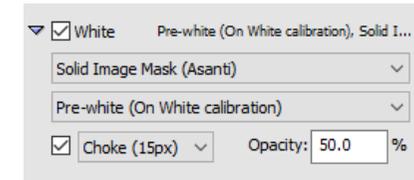
### 3. Printing white to fill solid image mask.

In this exercise you will learn how to print white with files that don't have objects for white in the input file, and for which Asanti needs to create white image data underneath every pixel that is not empty and not surrounded by a solid pixel.

1. File > New Layout Job (CTRL+ALT+N).
  2. Job Set-Up inspector: select Application-**White** “**Solid Image Mask**”, “**Pre-White**”, “**Choke**” option to **15 pixels** and change the white opacity to “**50%**”.
- Asanti will now generate a white layer underneath every object that contains data.
3. Make sure to select a White compatible CPM.
  4. In the Image panel click “+” and browse for “Miller Lite Logo.jpg”, click open.
  5. Context-click the image and select “**Edit With Preview**”.
- Notice that the white layer has an ink-coverage of 50%, and all pixels which are surrounded by image content, have white applied underneath.

*Solid Image masks creates also white underneath zero (white) image pixels only if they are surrounded by a non-zero image pixel. In case you don't want to get white underneath such zero pixels, use the “Solid pixel mask” mode to create white (see next exercise).*

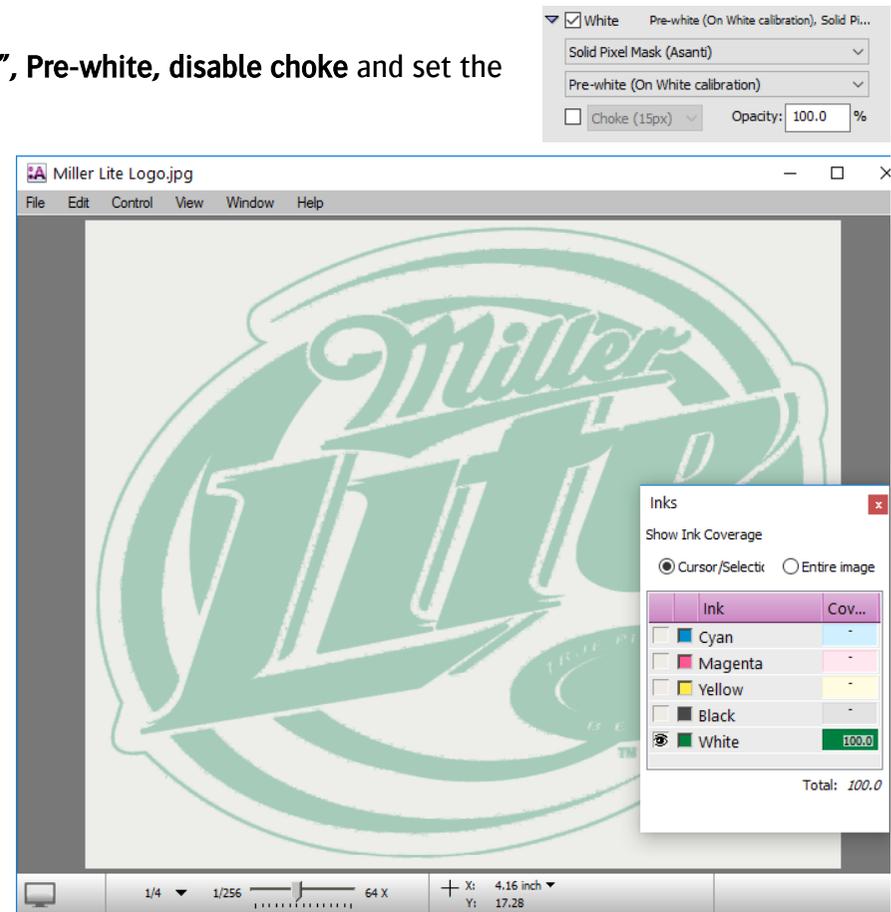
6. Close the preview window.
7. Drag the “Miller Lite Logo.jpg” on the Sheet.
8. Submit the job and select “**Make and hold**”.



#### 4. Printing white to underneath non-zero pixels.

In this exercise you will learn how to print white with files that don't have objects for white in the input file, and for which Asanti needs to create white image data underneath every pixel that is not empty (non-zero), empty pixels even surrounded with a solid pixel will not get white underneath.

1. Duplicate Exercise-3.
2. Job Set-Up inspector: select Application-**White**, "**Solid pixel Mask**", **Pre-white**, **disable choke** and set the opacity **to 100%**.
3. Click "**Apply changes**" to update the Preview.
4. Context-click the image and select "**Edit With Preview**".
5. Double click the white ink channel and enable the "**As Mask**" view.
  - Notice that only image parts which have a colored pixel underneath are covered with 100% white ink (disable the view for all colors except white).
6. Close the preview window.
7. Click the "**Submit Job**" button, and select "**Make and hold**".



## Part II: Printing with Varnish inks

This part of the tutorial demonstrates how to print jobs with varnish ink.

### 5. Printing varnish from image

In this exercise you will learn how to print varnish from objects present in the input file.

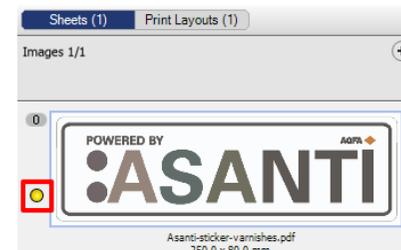
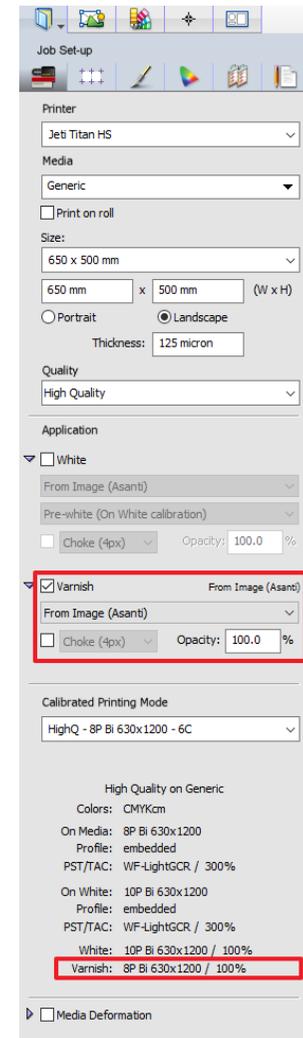
1. File > New Layout Job (CTRL+ALT+N).
2. Job set-up > Media inspector > Generic media, set the Media Size to at least to 650x500 mm (other media sizes can be used if they fit on the printer).
3. Select **"High Quality"** or any other quality for which a suitable CPM is present.
4. Select and expand the Varnish option and make sure that **"From Image"** is selected.
  - In case there is only 1 CPM, the layout editor will automatically pick the correct CPM.
  - Notice the Varnish printing mode and ink density percentage.

The default sets of CPM's are not made with varnish during creation. CPM's with Varnish support can be made with the Media Hub and can be recognized by the suffix "V" in the CPM name. The Suffix V means that both the "On Media" and "On White" calibration sets (incl. Profile) have been made with varnish on top.

For jobs where you want to print without varnish (or apply varnish as a spot varnish - to emphasize a certain area), CPM's without the "V" suffix are the most appropriate.

For jobs where the varnish will cover the complete job and where colors need to be corrected for the varnish effect, a CPM's with the "V" suffix are the most appropriate.

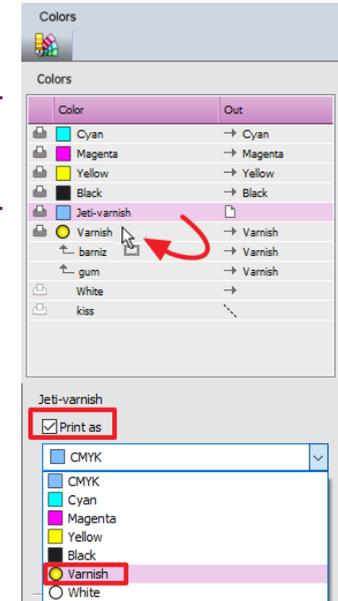
5. In the Image panel click "+" and browse for "Asanti-sticker-varnishes.pdf".
6. Notice the yellow circle next to the image which indicates that a varnish color is present in the file.



7. Select the Colors Inspector and notice that the spot colors “barniz” and “gum” are automatically mapped to the “Varnish” color.

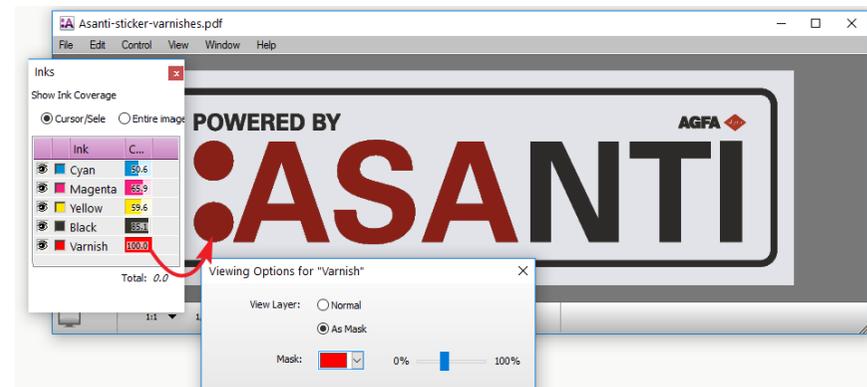
*Various spot colors are recognized as Varnish colors and therefore automatically mapped. This will be shown later in this Tutorial.*

8. To map the spot color “Jeti-varnish” to the color “Varnish” (which is the real varnish color from the InkSet), click on the “Jeti-varnish” spot color and change the “Print as” option from “CMYK” to “Varnish” an alternative option is to drag the “Jeti-varnish” on the “Varnish” color.
9. Click on the “Apply Changes” button.

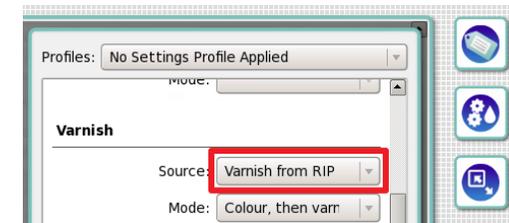


10. Context-click on the image and select “Edit With Preview”.
11. Make sure that the Inks palette is shown (CTRL+ALT+I).
  - Asanti initially shows the varnish layer as an invisible white layer on top of the normal colors.
12. Double click on the varnish ink channel and enable the “As masking” view, to view the varnish layer with a customizable color (e.g. Red).
13. Toggle the different separations by clicking the “eye” icons in the Inks palette, to investigate where varnish ink will be printed.

*CAUTION: although the varnish may be covered with a solid (100%) value, in the printfile this value will be scaled to the ink density value as defined in the CPM!*



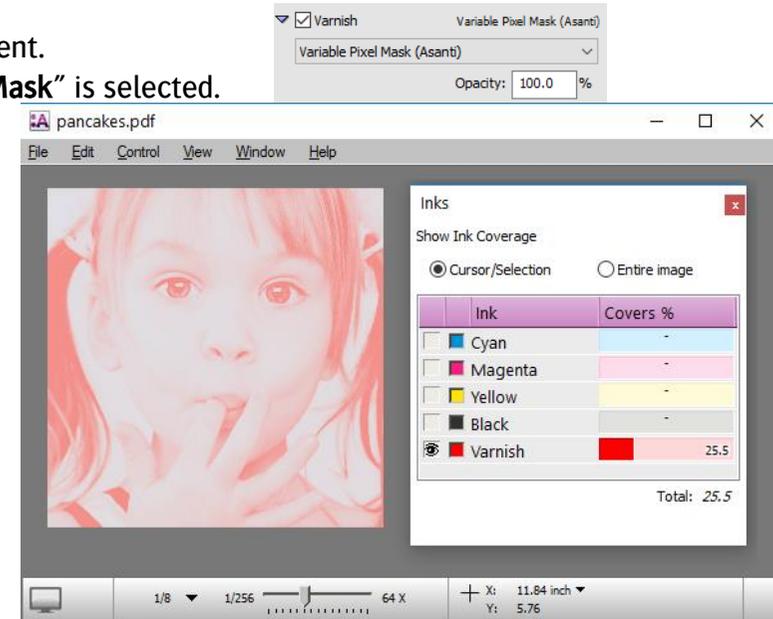
14. Close the preview.
15. Drag the “Asanti-sticker-varnishes.pdf” to the sheet and submit the job.
16. Select “Make and send to printer”.
  - On the digital press front end, you can manage the varnish settings. Source should be “Varnish from RIP”. Mode can be either “Colour, then Varnish” or “Varnish Only”.



## 6. Adding a variable pixel mask varnish layer to an Asanti job

Similar as for white Asanti can fill an entire image with varnish with a certain percentage eventually with choke and spread settings, as well as *Solid Image masks* or *solid pixel masks*. In this exercise you will learn how to generate a more creative varnish layer using the variable image Mask option.

1. File > New Layout Job (CTRL+ALT+N).
2. Job set-up > Media inspector > Generic media, set the Media Size to at least to 750x750 mm (other media sizes can be used if they fit on the printer).
3. Select “**High Quality**” or any other quality for which a suitable CPM is present.
4. Select and expand the **Varnish** option and make sure that “**Variable Pixel Mask**” is selected.
5. In the Image panel click “+” and browse for “pancakes.pdf”.
6. Context-click the image and select “**Edit With Preview**”.
7. Open the Inks palette (CTRL+ALT+I).
  - Asanti initially shows the varnish layer as an invisible white layer on top of the normal colors.
8. Double click on the varnish ink channel and enable the “**As masking**” view, to view the varnish layer with a customizable color (e.g. Red).
9. Toggle the different separations by clicking the “eye” icons in the Inks palette, to investigate where varnish ink will be printed.
  - Notice that the varnish layer is now a grayscale image, so it emphasises the darker tints of the image and leaves the highlights almost uncovered with varnish.
10. Close the preview window.
11. Drag the image on the sheet, submit the job and select “**Make and hold**” to finish the exercise.

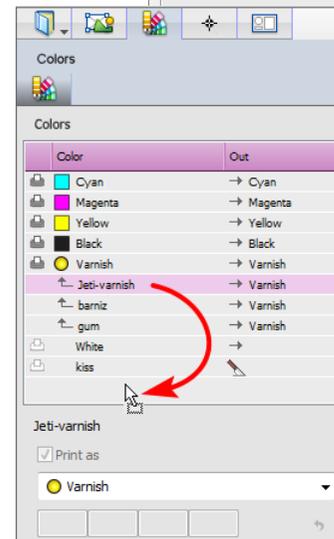
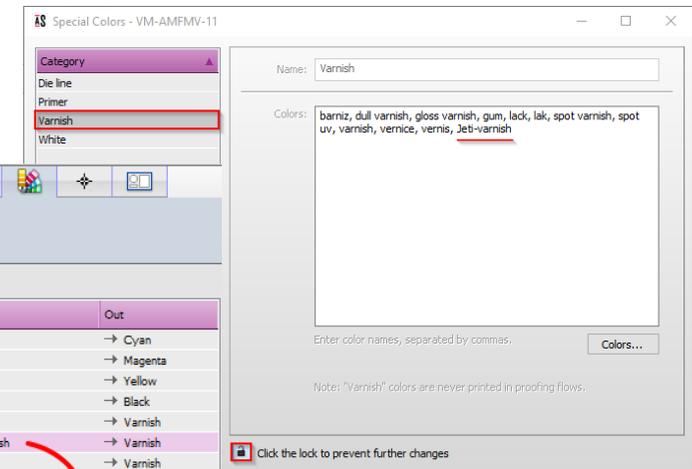
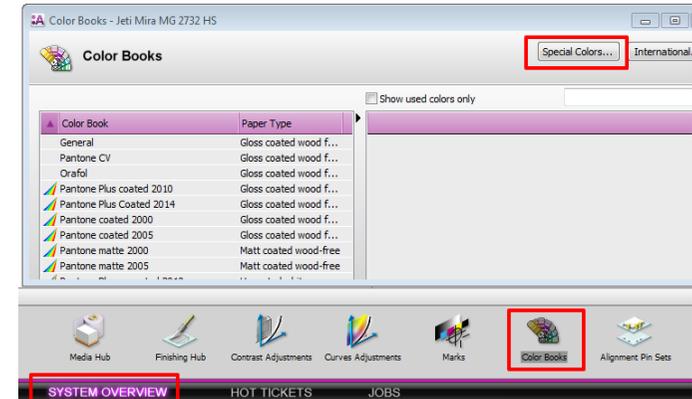


## 7. Adding custom spot color names to the varnish special category

In this exercise you will learn how to add spot color names to the “Varnish” special color category. This will enable automatic mapping of these spot colors to the varnish ink.

1. Open the System Overview (CTRL+1).
2. Select your printer and double-click on the “Color Books” resource. You could also open this resource from within the layout editor by selecting Window > Resources > Color Books (CTRL+ALT+6).
3. Click on the “Special Colors ...” button.
4. Select the “Varnish” category and click on the padlock icon to unlock the settings and add “Jeti-varnish” to the list.
5. Save the changes by clicking on the padlock again.

- Now that “Jeti-Varnish” is part of the varnish category, you can redo exercise 5. You should notice that the “Jeti-Varnish” spot color is now automatically mapped to the Varnish color similar like “barniz” and “gum”.
- To un-map an automatically mapped color, simply drag the spot color to an empty area of the colors list.

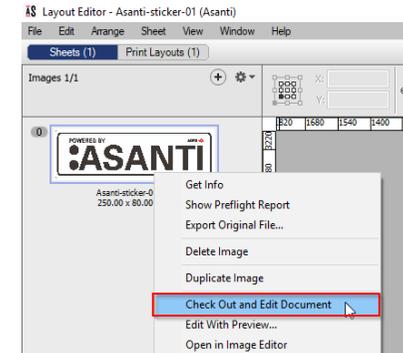


## 8. Generating varnish with the Apogee SpotCreator plugin of Acrobat.

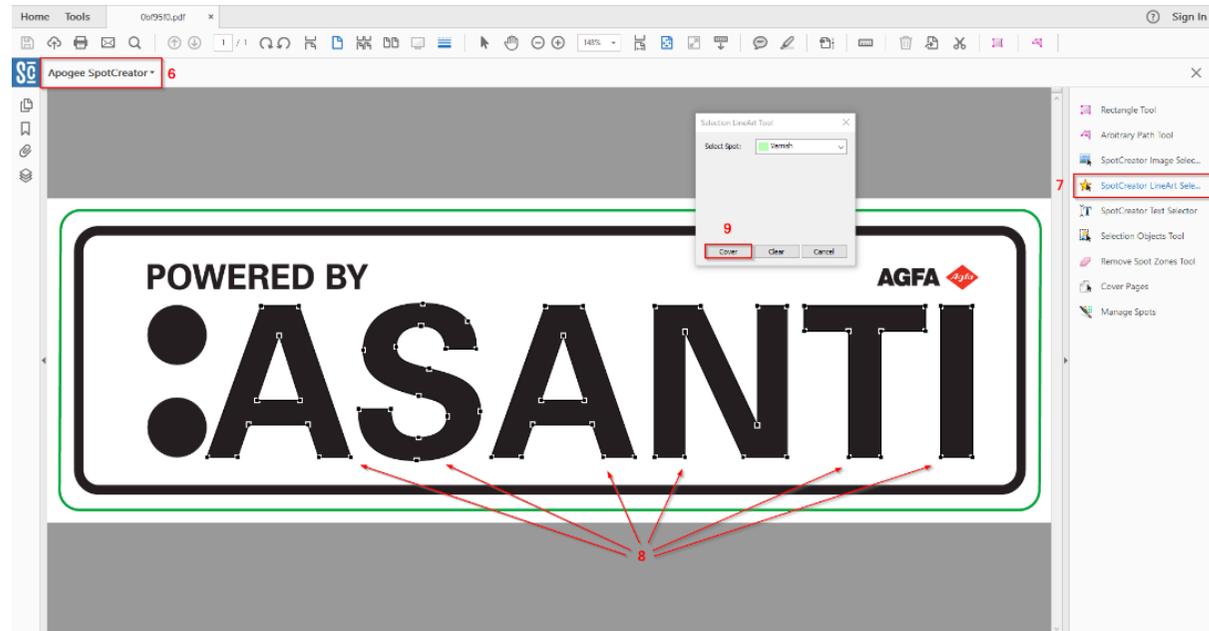
In this exercise you will learn how to generate varnish content for images or PDF's that don't contain a varnish spotcolor.

Make sure to have Acrobat Pro 10 (or later) with the Apogee plug-ins installed. The Acrobat plug-ins are installed together with the Asanti Client installation.

1. File > New Layout Job (CTRL+ALT+N).
2. Enable **Varnish, From image**, no choke or spread with **100% opacity**.
3. In the Image panel click “+” and browse for “Asanti-sticker- 01.pdf”, click open.
  - Notice that there is no yellow circle next to the image, so the image contains no varnish.
4. Check the colors inspector and verify that “Varnish” is part of the colors list (because we enabled the Varnish application).
5. Context click the PDF and select “**Check Out and Edit Document**”.
  - This will open the PDF in Acrobat.



6. Select the **Apogee SpotCreator** tool to cover objects (line art, text or images) or custom created areas with a spot color.
7. Click the **LineArt Selector** tool ✨.
  - Notice that the selected tool name will become blue.
8. Select the letters “ASANTI” (CTRL+click to select multiple objects).
9. Click the **Cover** button to apply the Varnish Spot color on top of the letters “ASANTI”.



10. After you covered the objects with varnish, **close Acrobat** and **save the changes**.

- In the Asanti Layout editor a revision number is added after the image name and notice also that now a yellow circle icon is present to indicate that at least one Varnish color object is found in the image.



11. Context-click on the image and select **“Edit with Preview...”** button.

12. Open the inks pallet (CTRL+ALT+I) and inspect the varnish ink.

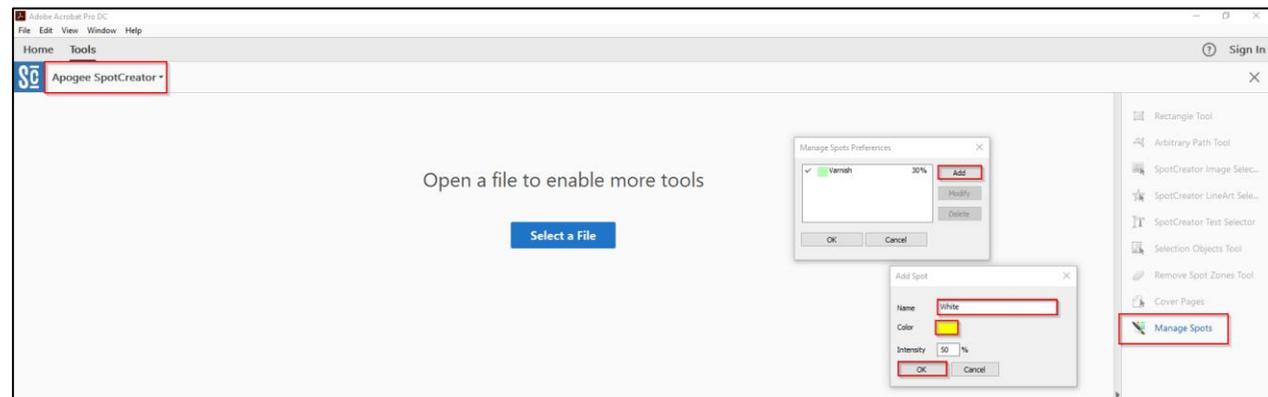
13. Close the Preview.

14. Drag the **“Asanti-sticker-01.pdf”** on the sheet, submit the job and select **“Make and Hold”**.



The SpotCreator plugin allows you to add objects (text, lineart, images) drawn in any color (white, primer, ...) to your PDF files. Notice that by default only Varnish is available in the colors list.

1. Open Acrobat Pro (without opening a PDF document).
2. Open the **SpotCreator** plug-in.
3. Click the **Manage Spots** tool.
4. Click the **Add** button to create additional colors.



If you would like more information on the interactive PDF editing we refer to the [“Input PDF editing”](#) Tutorial on Asanti Network.

## 9. Creating Varnish on printers:

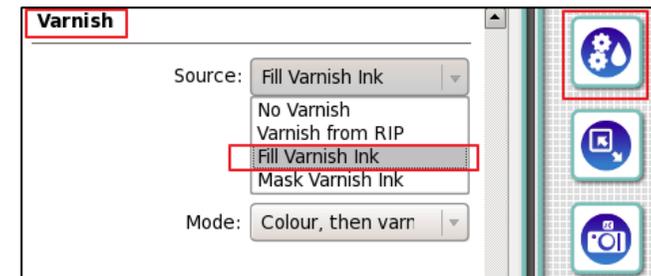
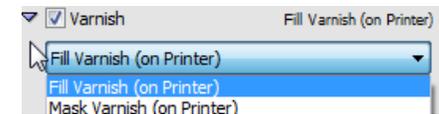
In this exercise you will learn how Asanti can be used to trigger varnish creation on the printer itself.

1. File > New Layout Job (CTRL+ALT+N).
2. Job set-up > Media inspector > Generic media, set the Media Size to at least to 750x750 mm (other media sizes can be used if they fit on the printer).
3. Select **“High Quality”** or any other quality for which a suitable CPM is present.
4. Select and expand the Varnish option and make sure **“Fill Varnish (on Printer)”** is selected.
5. In the Image panel click **“+”** and browse for **“Asanti Box.pdf”**, click open.
6. Place the image on the sheet and Submit the job, select **“Make and send to printer”**.
7. On the digital press front end, you need to manage the varnish settings.

Source should be **“Fill Varnish Ink”**

Mode can be either **“Colour, then Varnish”** or **“Varnish Only”**.

Currently Asanti does not trigger these settings automatically on the Jeti front end.



Alternatively, Jeti engines are also capable of creating a masked varnish layer (Mask varnish ink option in front end of Jeti), which will jet a varnish ink on top of every pixel that has a CMYK different from 0 0 0 0.

To setup this alternative workflow in Asanti you need to select the Varnish option **“Mask Varnish (on Printer)”** in the layout Editor.

## Part III printing with primer

Primer can be part of the InkSet for certain printers.

The procedures and results are identical like creating layers for white or Varnish inks.

The capabilities of the printer define the available Primer options in the Asanti layout Editor.

