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This manual describes the usage of special colors **White** and **Metallic Silver** when printing a motif with silver effects on paper or silver substrate. This document includes descriptions for the example printers **Epson SureColor SC-80600**, **Roland VS-420** and **Ricoh Pro L4100** (only white). These descriptions can also be used for other printers which support **White** and/or **Metallic Silver** in a similar way.

1. Epson SureColor SC-80600 series

The Epson SureColor SC-80600 printer series supports printing with white or metallic ink for various applications.

The software settings of print mode will be explained below, including some special color samples. -> **Sample applications: see page 5**

Sample A explains how to print a motif including metallic effect and gradients, on white paper. The special ink metallic is required for that.

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

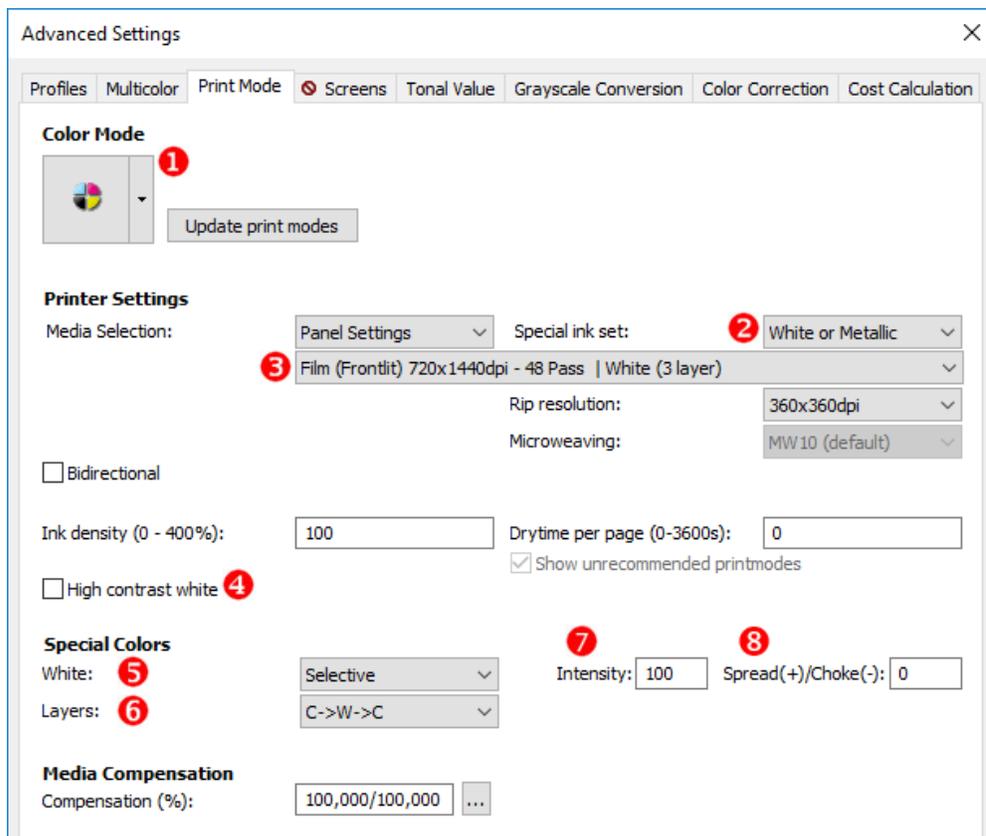
This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

How to set up in the software:

Prerequisite: The job to be used (print file) is in the printer queue.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

- Go via the **Settings...** button to the advanced job settings.
- Select the **Print Mode** tab there. The **Screens** tab cannot be operated as the screening will be controlled by the Epson HTM Module. This is also in charge of light and spot colors (e.g. orange) realization.
Via the Epson Control Dashboard media profiles can be loaded. **Update print modes** will synchronize the modes display.



Note: The following settings may have an affect on the output profile and therefore change the color output. If required, generate a suitable output profile by using the Profiler Module (PFM).
-> **Profiler Module (PFM) and Multi-Color Profiler Module (MCPFM)**

- Set a suitable **Color Mode** **1**.
- Set the **Special ink set** **2** to **White or Metallic**.
- In **3** select the required media profile that matches the one used in your printer. Here a media profile is available either for white or metallic silver printing which depends on

the medium (resolution and passes). Update print modes will synchronize the modes display with the Epson Control Dashboard.

6. Optionally, enable the High contrast white **4** check box to use larger dots for white which should increase the density of the printed white.
7. Specify the print behavior under White **5** or Metallic Silver (according to the selection in **3**):
 - Pixel: For transparent and colored backgrounds. Prints special color (e.g. white) in areas that contain pixels, but only using the highest used pixel color value in %. It generates a special color layer based upon the underlying density of the image.
 - Pixel invert: Almost the same as Pixel with the difference, that not the highest pixel color value is used, but its difference to 100%. E.g.: 100% - 30% (Pixel value) = 70% (White)
 - Selective: For transparent and colored backgrounds. Prints special color (e.g. white) in areas that contain pixels, always using 100% of white.
 - Filling: For any background. Prints special color in 100% on areas that do not contain any pixel (e.g. white).
 - Flood: For any background. Special color (e.g. white) will be printed completely for the entire job size.
 - Spot: Prints any spot color in the job as white or special color in the according intensity in %
8. Specify the order and number of layers under Layers **6**, for which the special print depends on the settings above. At least a media profile must be selected that has e.g. Metallic-Silver (2 layer). Some examples (for White -> Pixel -> 3 Layer):
 - C->W->C: color print, then white and color on top
 - C->W->W: color print, then white print twice
 - W->W->C: white print twice and color print on top
9. Optionally specify the special color Intensity **7** :
 - Intensity:

Additionally for some of the white print options the Intensity determines the ink laydown up to a value of 100 % (full ink laydown, standard setting). According to a value less than 100 will apply less pixel of ink. The white or metallic ink laydown will be rasterized.

This function extends the gradation function (advanced job settings tab Color Correction) that uses a curve for a non-linear setting as well.

Intensity makes sense if you see that the ink amount is too high and you quickly want to adjust it, e.g. setting an underprint white with 30%.
10. Optionally, for Selective, for Filling and for Spot, a function Spread/Choke **8** will be available:
 - Spread(+)/Choke(-):

Here you can apply a kind of padding or tolerance zone to the border of the defined white ink or special color area. This area could be larger (**Spread**) or smaller than before (**Choke**), which may differ from the output resolution of the printer

Values are specified in pixels of rip resolution (which may differ from the output resolution of the printer). Values with decimal places are possible as well. The range is -50 to +50.

Let's assume you want to print stickers with a certain shape and print white in exactly the same shape behind the color of the stickers. Depending on the accuracy of the machine, it is likely that the white is not printed exactly behind the color - this mostly happens if you are using printers with layering function. In this case you can easily shrink the white layer by adding a small negative value to this field.

- Enter a positive value here to determine a spread (extended) white ink area.
 - Enter a negative value (-) here to determine a choked (shrunken) white ink area.
11. Close any open dialogs with **OK**. The preview for the job will be recalculated.
 12. Click on  in the main program preview toolbar to highlight white printed areas with a red hatch. A gray hatch indicates a silver print. Special colors marked as **Spot** with an active spot color replacement will always be visible in the preview.

Sample applications Epson SureColor SC-80600 series:

You will find the settings in the advanced settings **Print Mode** tab (double click on Job > **Color** tab > click on **Settings...**).

A. Printing on paper, colored motif with metallic effect (Epson SureColor SC-80600 series):

Sample A explains how to print a motif including metallic effect and gradients, on white paper. The special ink metallic is required for that.

Material: Paper (white)

File + Print: shows colored motif including silver effects



Design contains Image-FX™, Gradation-FX™ & Dimension-FX™ techniques

The following image shows the separation of metallic silver from the motif:



A.1 Setting in print mode:

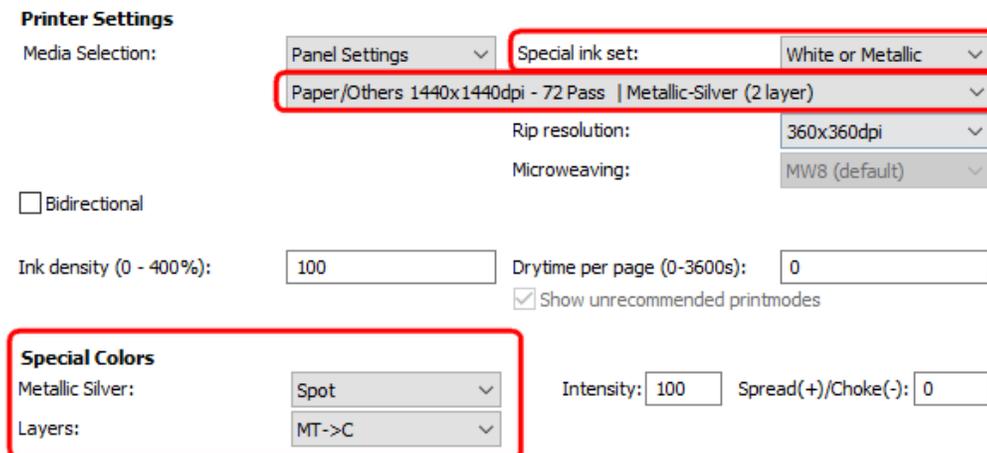
Here you will specify the **special color layer metallic silver** and the order of all inks to be applied.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Go via the **Settings...** button to the advanced job settings.
2. Select the **Print Mode** tab there.

Note: The following settings may have an affect on the output profile and therefore change the color output. If required, generate a suitable output profile by using the Profiler Module (PFM). -> [Profiler Module \(PFM\)](#) and [Multi-Color Profiler Module \(MCPFM\)](#)

3. Make settings as visualized in red in the following screenshot for the special color printing.



Printer Settings

Media Selection: Panel Settings | Special ink set: White or Metallic | Paper/Others 1440x1440dpi - 72 Pass | Metallic-Silver (2 layer) | Rip resolution: 360x360dpi | Microweaving: MW8 (default)

Bidirectional

Ink density (0 - 400%): 100 | Drytime per page (0-3600s): 0 | Show unrecommended printmodes

Special Colors

Metallic Silver: Spot | Intensity: 100 | Spread(+)/Choke(-): 0

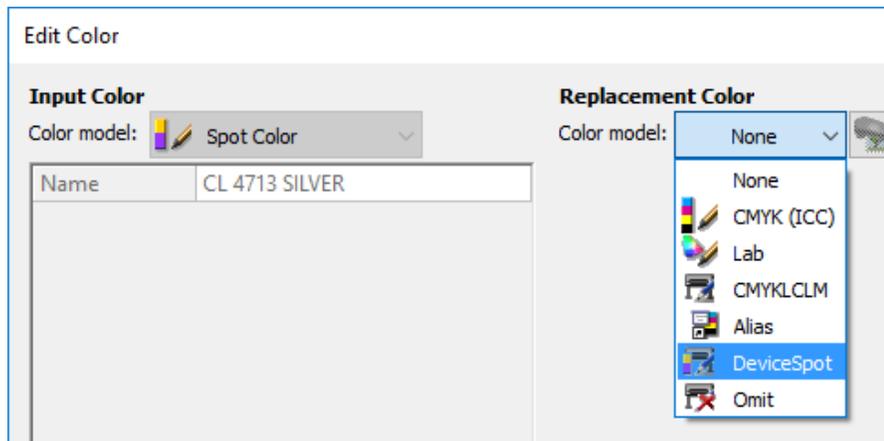
Layers: MT->C

4. Make the correct layer settings: **MT->C**
5. Confirm the **Print Mode** dialog with **OK**.

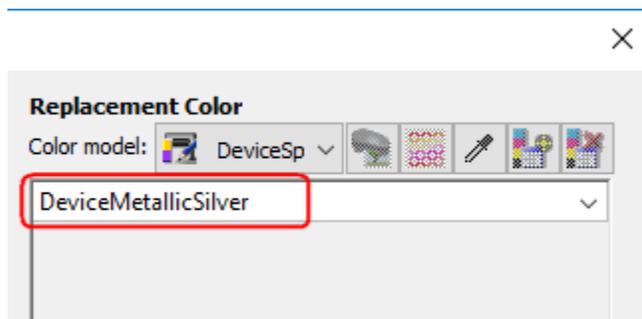
A.2 Setting in the color replacement:

Here you will map the spot color in the job (here CL 4713 SILVER) to the **special color layer metallic silver**. All color information of the included spot color in the motif will be printed with metallic silver ink.

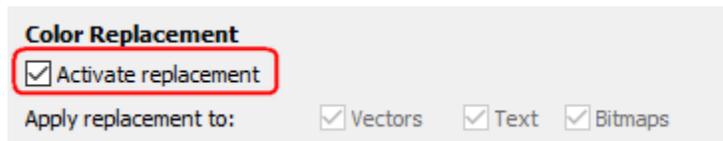
1. In the **Color** tab of the job settings click the **Color Table...** button to open the spot color replacement.
2. Double click the spot color entry to open the **Edit Color** dialog.
3. Select **DeviceSpot** below **Color model**.



4. Make sure that the correct special color is selected e.g. **DeviceMetallicSilver**.



5. Activate the color replacement with a check mark and confirm the dialog with **OK**.



A.3 Linearization and Output Profile:

- If required, generate a suitable output profile for a correct color output by using the Profiler Assistant (-> **Profiler Module (PFM)** and **Multi-Color Profiler Module (MCPFM)**)
- You will achieve a linear output of the special color by using the Linearization Assistant (-> **Linearization Assistant for special colors**) and can enable it in the **Profiles** tab of the advanced color settings.
- Optionally you can save all made settings in the applied MIM (**Color** tab) to be able to use it with any available job.

A.4 Preview in the program:

1. Confirm all open dialogs with **OK**.
By default the preview shows a gray hatch in areas to be printed with metallic silver.



Design contains Image-FX™, Gradient-FX™ & Directional-FX™ techniques

The motif including metallic silver gradients will be printed with metallic ink and color on white paper.

B. Printing on silver substrate, colored motif with metallic effect (Epson SureColor SC-80600 series):

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

Material: metallic silver substrate

File + Print: shows colored motif including silver effects



Design contains Image-FX™, Gradation-FX™ & Dimensional-FX™ techniques

The following image shows the separation of metallic silver from the motif:



B.1 Setting in print mode:

Here you will specify the **special color layer white** and the order of all inks to be applied.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Go via the **Settings...** button to the advanced job settings.
2. Select the **Print Mode** tab there.

Note: The following settings may have an affect on the output profile and therefore change the color output. If required, generate a suitable output profile by using the Profiler Module (PFM).
-> **Profiler Module (PFM)** and **Multi-Color Profiler Module (MCPFM)**

3. Make settings as visualized in red in the following screenshot for the special color printing.

Printer Settings

Media Selection: Panel Settings Special ink set: White or Metallic
Paper/Others 720x1440dpi - 32 Pass | White (2 layer)
 Rip resolution: 360x360dpi
 Microweaving: MW9 (default)

Bidirectional

Ink density (0 - 400%): Drytime per page (0-3600s):
 Show unrecommended printmodes

High contrast white

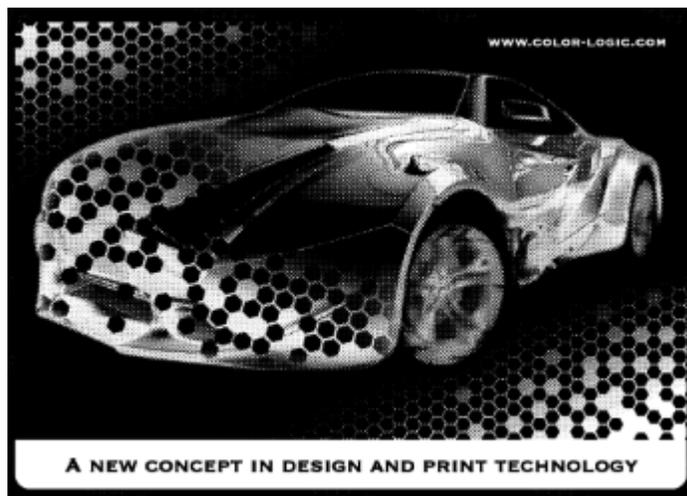
Special Colors

White: Spot Intensity: Spread(+)/Choke(-):
 Layers: W->C

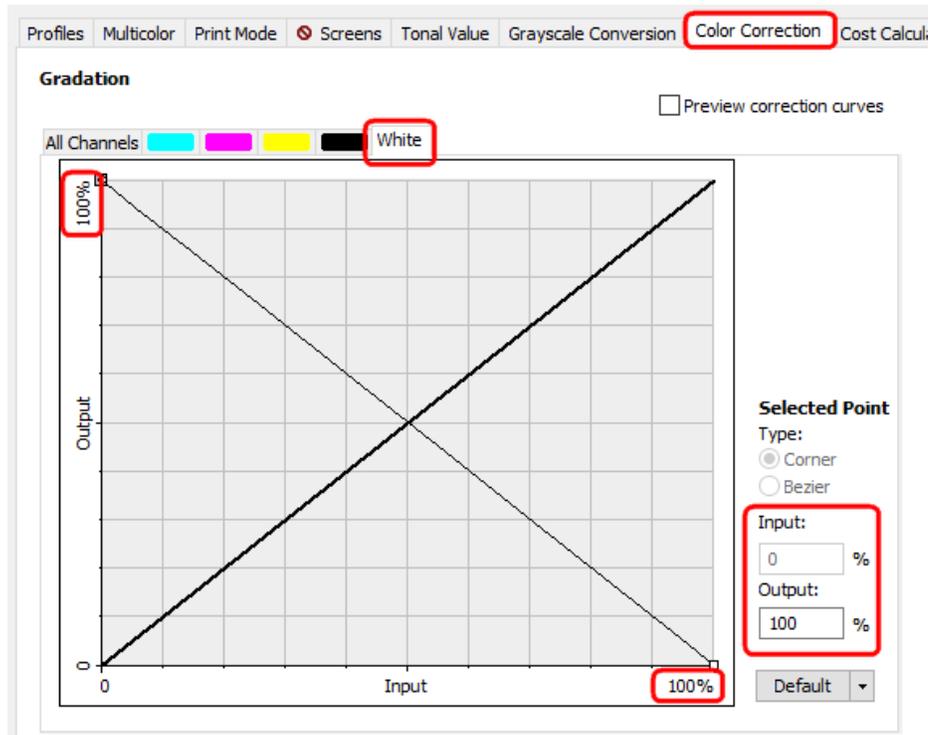
4. Make the correct layer settings: W->C

B.2 Setting in the color correction:

Here you will change the color values (invert) for the special color layer white. Using this, the metallic silver areas for the motif are taken from the silver substrate. However, no silver metallic areas will be covered by white and then printed with color. The following image shows the result of the metallic silver separation:



1. Switch from the Print Mode tab to the Color Correction tab.
2. Select White above the graphic.
3. Invert the color values manually (for Input 0% to Output 100% and for Input 100% to Output 0%).

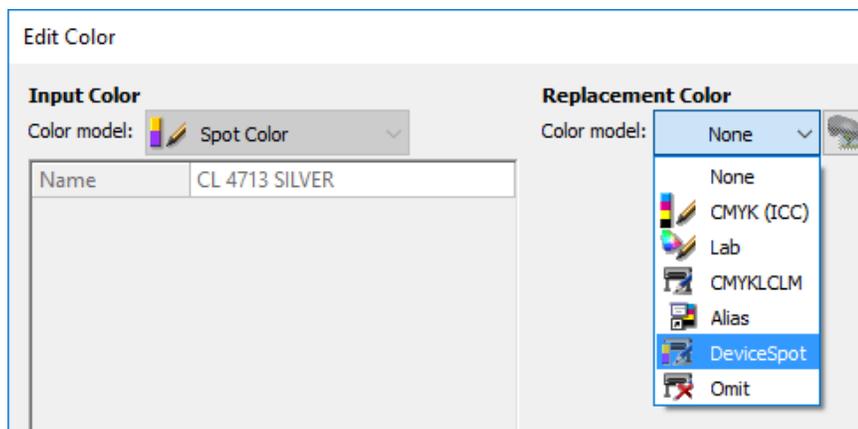


4. Confirm the **Color Correction** dialog with **OK**.

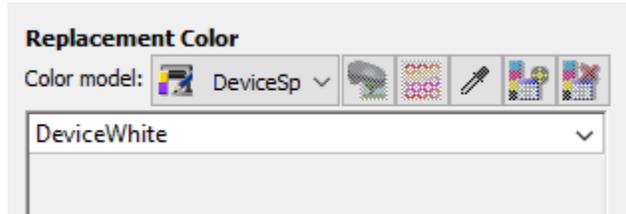
B.3 Setting in the color replacement:

Here you will map the spot color in the job (here CL 4713 SILVER) to the **special color layer white**. All color information of the included spot color in the motif will be printed with (inverted) white.

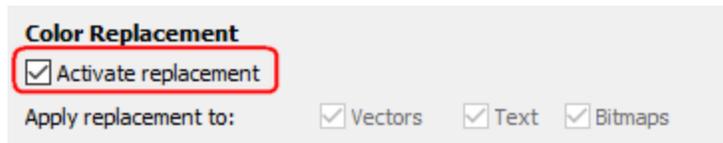
1. In the **Color** tab of the job settings click the **Color Table...** button to open the spot color replacement.
2. Double click the spot color entry to open the **Edit Color** dialog.
3. Select **DeviceSpot** below **Color model**.



4. Make sure that the correct special color is selected e.g. **DeviceWhite**.



5. Activate the color replacement with a check mark and confirm the dialog with **OK**.



B.4 Linearization and Output Profile:

- If required, generate a suitable output profile for a correct color output by using the Profiler Assistant (-> **Profiler Module (PFM)** and **Multi-Color Profiler Module (MCPFM)**)
- You will achieve a linear output of the special color by using the Linearization Assistant (-> **Linearization Assistant for special colors**) and can enable it in the **Profiles** tab of the advanced color settings.
- Optionally you can save all made settings in the applied MIM (**Color** tab) to be able to use it with any available job.

B.5 Preview in the program:

1. Confirm all open dialogs with **OK**.
By default the preview shows a red hatch in areas to be printed with white.



The motif including metallic silver gradients will be printed with white ink and color on silver substrate.

2. Ricoh Pro L4100 series

The printers of Ricoh Pro L4100 series support printing with white ink for various applications.

The software settings of print mode will be explained below, including some special color samples. -> **Sample applications: see page [17](#)**

Sample A describes printing a motif on glass, which is only visible for display from behind e.g. with lighting (backlit).

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

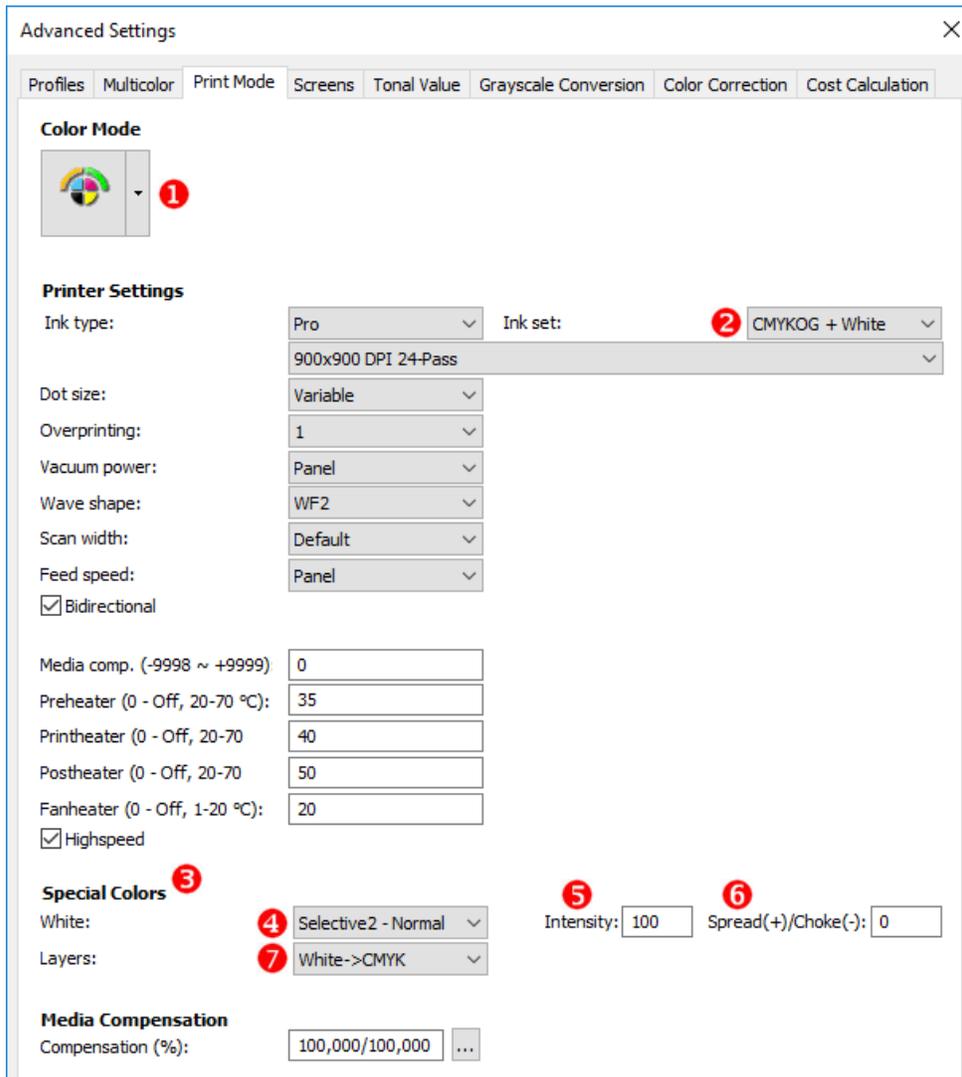
This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

How to set up in the software:

Prerequisite: The job to be used (print file) is in the printer queue.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Select a MIM that matches your printer set up and the requirements (e.g. print resolution). -> **MIM administration**
2. Go via the **Settings...** button to the advanced job settings.
3. Select the **Print Mode** tab there.



Note: The following settings may have an affect on the output profile and therefore change the color output. If required, generate a suitable output profile by using the Profiler Module (PFM). -> **Profiler Module (PFM) and Multi-Color Profiler Module (MCPFM)**

4. Set a suitable **Color Mode** **1**, if not applied by the MIM already.
5. Select an **Ink set** **2** with the addition of **+ White**, to allow the usage of special color white, if not applied by the MIM already.
Below **Special Colors** **3** all available special color options will be visible.
6. Specify the **white print characteristic** under **White** **4**:

In general the entries **Selective**, **Pixel/Pixel inv.**, **Flood** and **Spot** are available as three variations, that have an impact on the print quality and the print process duration -> Fast, Normal, Fine.

 - **Pixel**: For transparent and colored backgrounds. Prints special color (e.g. white) **in areas that contain pixels**, but only using the highest used pixel color value in %. It generates a special color layer based upon the underlying density of the image.
 - **Pixel invert**: Almost the same as **Pixel** with the difference, that not the highest pixel color value is used, but its difference to 100%. E.g.: 100% - 30% (Pixel value) = 70% (White)
 - **Selective**: For transparent and colored backgrounds. Prints special color (e.g. white) **in areas that contain pixels**, always using 100% of white.
 - **Filling**: For any background. Prints special color in 100% **on areas that do not contain any pixel** (e.g. white).
 - **Flood**: For any background. Special color (e.g. white) will be printed completely for the entire job size.
 - **Spot**: Prints any spot color in the job as white or special color in the according intensity in %
7. Optionally specify the special color **Intensity** **5**:
 - **Intensity**:

Additionally for some of the white print options the **Intensity** determines the ink laydown up to a value of 100 % (full ink laydown, standard setting). According to a value less than 100 will apply less pixel of ink. The white or metallic ink laydown will be rasterized.

This function extends the gradation function (advanced job settings tab **Color Correction**) that uses a curve for a non-linear setting as well.

Intensity makes sense if you see that the ink amount is too high and you quickly want to adjust it, e.g. setting an underprint white with 30%.
8. Optionally, for **Selective**, for **Filling** and for **Spot**, a function **Spread/Choke** **6** will be available:
 - **Spread(+)/Choke(-)**:

Here you can apply a kind of padding or tolerance zone to the border of the defined white ink or special color area. This area could be larger (**Spread**) or smaller than before (**Choke**). which may differ from the output resolution of the printer

Values are specified in pixels of rip resolution (which may differ from the output resolution of the printer). Values with decimal places are possible as well. The range is -50 to +50.

Let's assume you want to print stickers with a certain shape and print white in exactly the same shape behind the color of the stickers. Depending on the accuracy of the machine, it is likely that the white is not printed exactly behind the color - this mostly happens if you are using printers with layering function. In this case you can easily shrink the white layer by adding a small negative value to this field.

- Enter a positive value here to determine a spread (extended) white ink area.
- Enter a negative value (-) here to determine a choked (shrunken) white ink area.

9. Specify the order and number of layers under **Layers** . **Some examples here:**
 - **White->CMYK:** First white print and color on top. Sample: Colored substrates will have a white basis for an optimal print image that is printed on top.
 - **CMYK->White:** First color and white on top. Sample: Transparent media can be viewed from behind to see the motif.
 - **White:** Only white will be printed, color ignored. Sample: On an existing printed motif a white text should be printed later on.
 - **CMYK->White->CMYK:** A motif will be printed in color, after that white, then the same motif in color on it. Sample: A motif on a transparent media can be seen both from front and behind.
10. Close any open dialogs with **OK**. The preview for the job will be recalculated.
11. Click on  in the main program preview toolbar to highlight white printed areas with a red hatch. Special colors marked as **Spot** with an active spot color replacement will always be visible in the preview.

Sample applications Ricoh Pro L4100 series:

You will find the settings in the advanced settings **Print Mode** tab (double click on Job > **Color** tab > click on **Settings...**).

A. Printing on foil, colored motif, visible from behind through the foil (Ricoh Pro L4100 series):

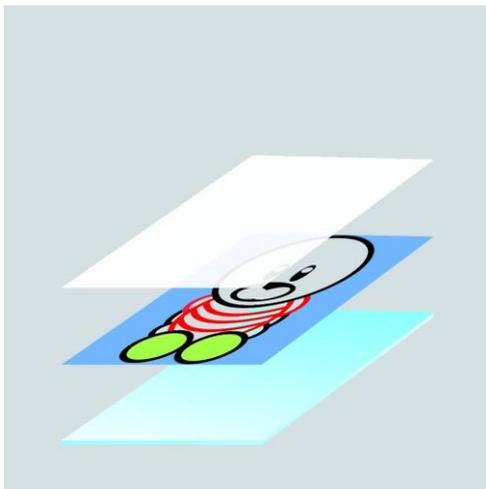
Sample A describes printing a motif on foil, which is only visible for display from behind e.g. with lighting (backlit).

Material: transparent foil

File: shows colored motif, covering the media

Print result: shows white layer over the colored layer (must be printed mirrored)

Order of layers: 1. mirrored colored motif, 2. white filling completely on top of media



A.1 Settings in print mode:

White: Flood2 - Normal / Selective2 - Normal

Layer: CMYK-> White

A.2 Settings in job settings to mirror the print-out:

1. Confirm the **Print Mode** tab and go to the **job** in the job settings.
2. Enable the mirror function via click on .

A.3 Preview in the program:

1. Confirm all open dialogs with **OK**.

2. Click on  in the main program preview toolbar.
By default the preview shows a red hatch in areas to be printed with white.

The motif will be printed with white ink and color on foil, visible from behind.

B. Printing on silver substrate, colored motif with metallic effect (Ricoh Pro L4100 series):

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

Material: metallic silver substrate

File + Print: shows colored motif including silver effects



The following image shows the separation of metallic silver from the motif:



B.1 Setting in print mode:

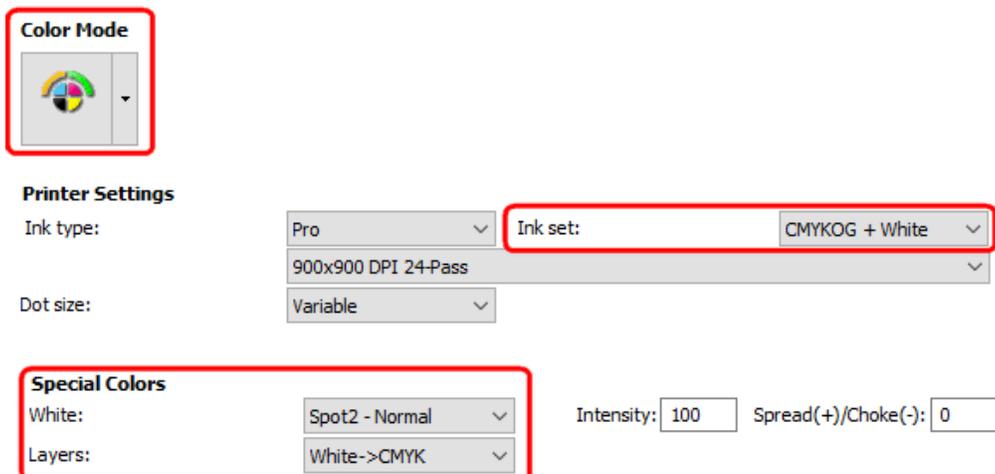
Here you will specify the **special color layer white** and the order of all inks to be applied.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Go via the **Settings...** button to the advanced job settings.
2. Select the **Print Mode** tab there.

Note: The following settings may have an affect on the output profile and therefore change the color output. If required, generate a suitable output profile by using the Profiler Module (PFM).
 -> [Profiler Module \(PFM\)](#) and [Multi-Color Profiler Module \(MCPFM\)](#)

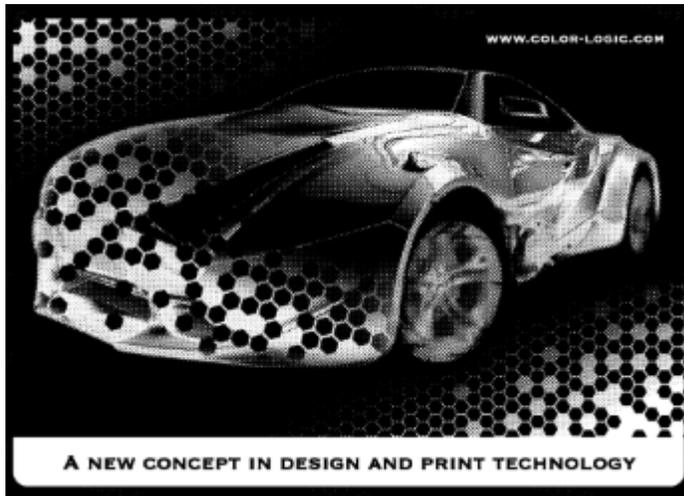
3. Make settings as visualized in red in the following screenshots for the special color printing:



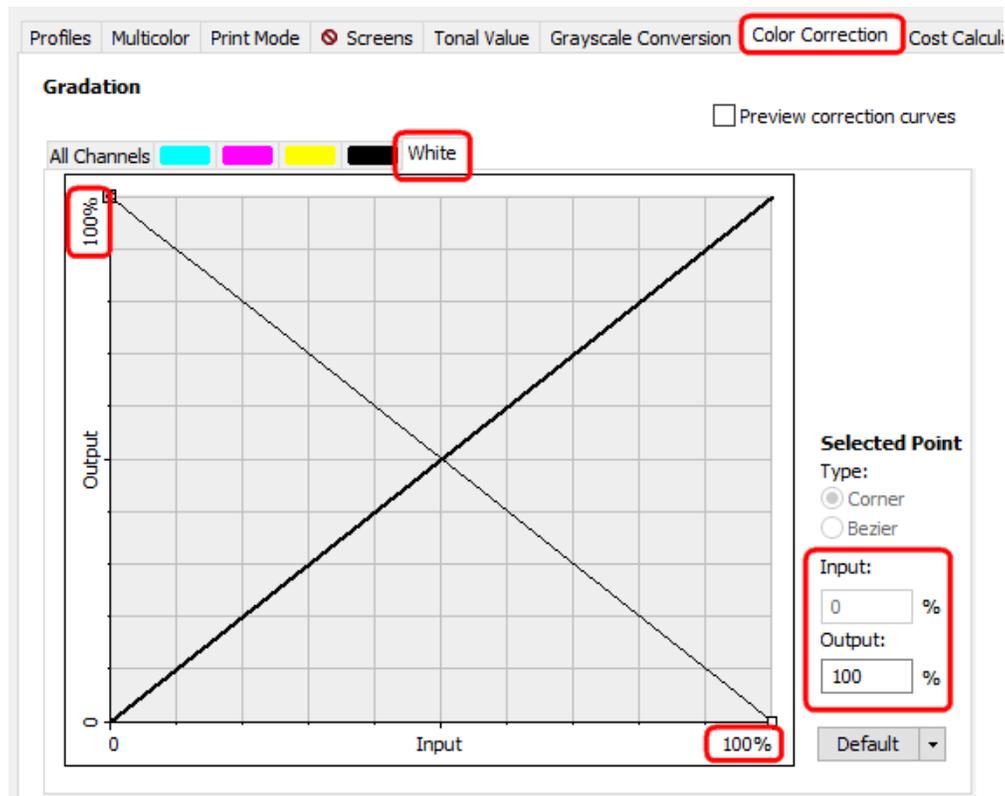
4. Make the correct layer settings: White->CMYK

B.2 Setting in the color correction:

Here you will change the color values (invert) for the **special color layer white**. Using this, the metallic silver areas for the motif are taken from the silver substrate. However, no silver metallic areas will be covered by white and then printed with color. The following image shows the result of the metallic silver separation:



1. Switch from the **Print Mode** tab to the **Color Correction** tab.
2. Select **White** above the graphic.
3. Invert the color values manually (for **Input 0%** to **Output 100%** and for **Input 100%** to **Output 0%**).

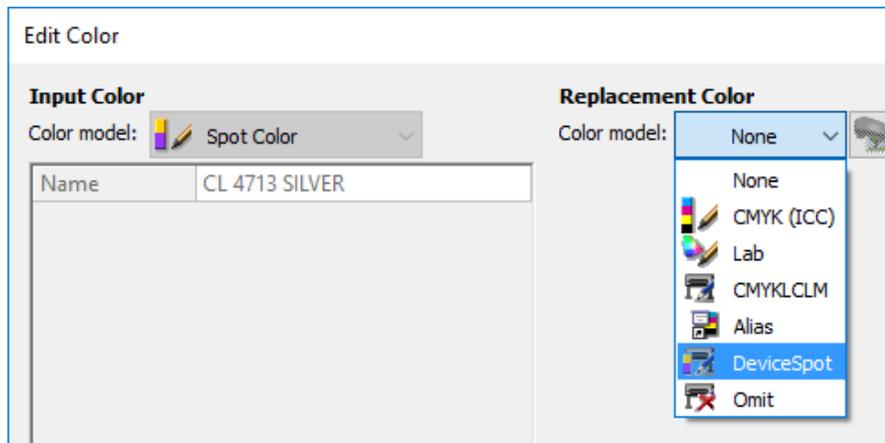


4. Confirm the **Color Correction** dialog with **OK**.

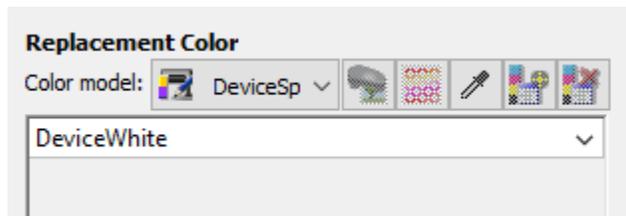
B.3 Setting in the color replacement:

Here you will map the spot color in the job (here CL 4713 SILVER) to the **special color layer white**. All color information of the included spot color in the motif will be printed with (inverted) white.

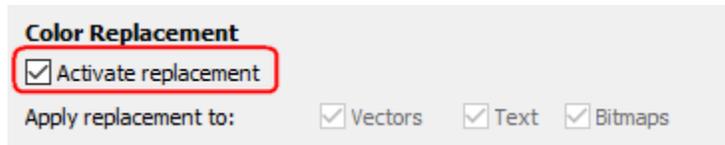
1. In the **Color** tab of the job settings click the **Color Table...** button to open the spot color replacement.
2. Double click the spot color entry to open the **Edit Color** dialog.
3. Select **DeviceSpot** below **Color model**.



4. Make sure that the correct special color is selected e.g. DeviceWhite.



5. Activate the color replacement with a check mark and confirm the dialog with OK.



B.4 Linearization and Output Profile:

- If required, generate a suitable output profile for a correct color output by using the Profiler Assistant (-> Profiler Module (PFM) and Multi-Color Profiler Module (MCPFM))
- You will achieve a linear output of the special color by using the Linearization Assistant (-> Linearization Assistant for special colors) and can enable it in the Profiles tab of the advanced color settings.
- Optionally you can save all made settings in the applied MIM (Color tab) to be able to use it with any available job.

B.5 Preview in the program:

1. Confirm all open dialogs with **OK**.
By default the preview shows a red hatch in areas to be printed with white.



The motif including metallic silver gradients will be printed with white ink and color on silver substrate.

3. Roland VS-420

The Roland VS-420 printer supports printing with white ink and metallic ink for various applications.

The software settings of print mode will be explained below, including some special color samples. -> **Sample applications: see page [28](#)**

Sample A explains how to print a motif including metallic effect and gradients, on white paper. The special ink metallic is required for that.

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

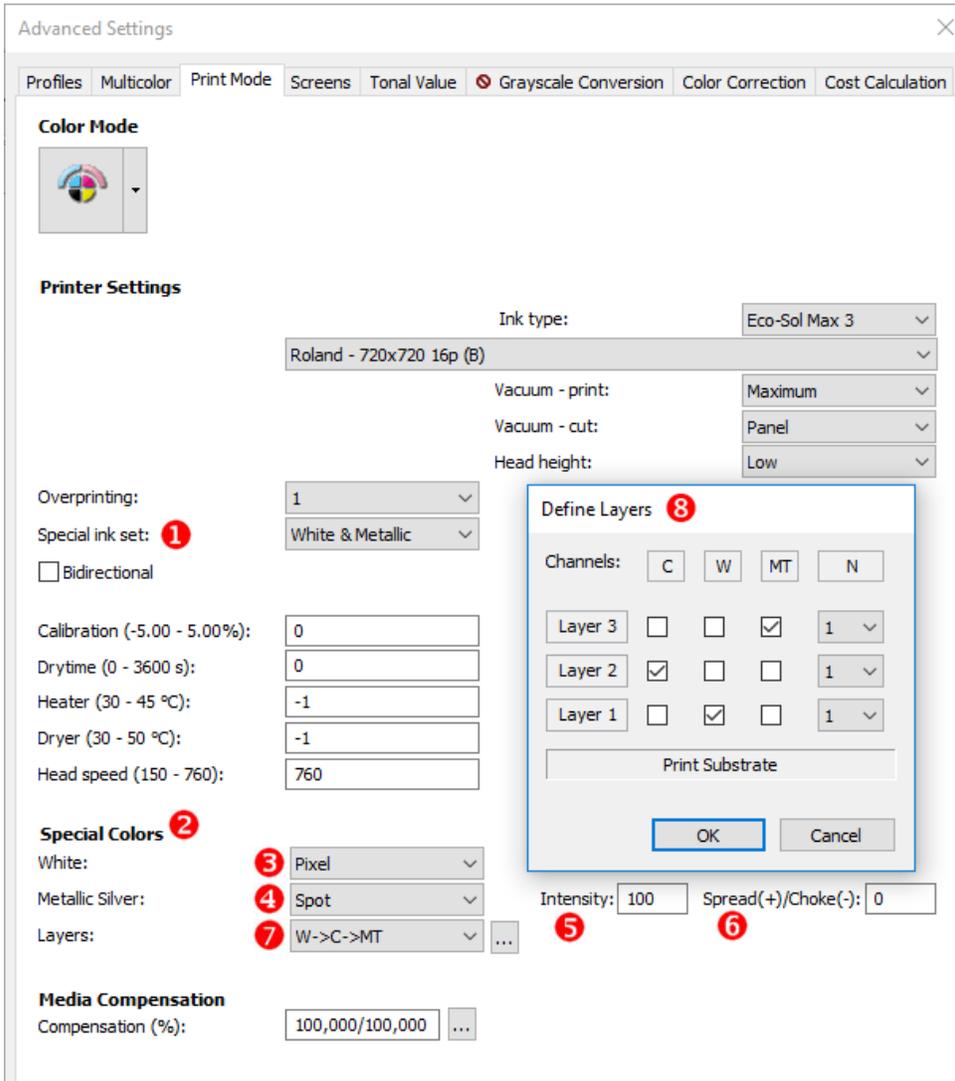
This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

How to set up in the software:

Prerequisite: The job to be used (print file) is in the printer queue.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Select a MIM that matches your printer set up and the requirements (e.g. print resolution). -> **MIM administration**
2. Go via the **Settings...** button to the advanced job settings.
3. Select the **Print Mode** tab there.



4. Set the **Special ink set** **1** to **White and Metallic**. (two layers white and metallic each) or **Double White** (max. two layers white).
Below **Special Colors** **2** all special color printing options will be visible.

5. Specify the **white print characteristic** under **White** **3**:
 - **Off**: This layer is inactive, causing only the metallic layer to be printed.
 - **Pixel**: For transparent and colored backgrounds. Prints special color (e.g. white) **in areas that contain pixels**, but only using the highest used pixel color value in %. It generates a special color layer based upon the underlying density of the image.
 - **Pixel invert**: Almost the same as **Pixel** with the difference, that not the highest pixel color value is used, but its difference to 100%. E.g.: 100% - 30% (Pixel value) = 70% (White)
 - **Selective**: For transparent and colored backgrounds. Prints special color (e.g. white) **in areas that contain pixels**, always using 100% of white.
 - **Filling**: For any background. Prints special color in 100% **on areas that do not contain any pixel** (e.g. white).
 - **Flood**: For any background. Special color (e.g. white) will be printed completely for the entire job size.
 - **Spot**: Prints any spot color in the job as white or special color in the according intensity in %

6. Set the **metallic print characteristic** for the second applied layer under **Metallic Silver** **4**:
 - It has the same selection availability as for the first layer but it is limited to useful combinations.
 - If the selection is **Off**, this second selection will be disabled. So only one white print layer and the colored layer will be processed.

7. Optionally specify the special color **Intensity** **5**:
 - **Intensity**:

Additionally for some of the white print options the **Intensity** determines the ink laydown up to a value of 100 % (full ink laydown, standard setting). According to a value less than 100 will apply less pixel of ink. The white or metallic ink laydown will be rasterized.

This function extends the gradation function (advanced job settings tab **Color Correction**) that uses a curve for a non-linear setting as well.

Intensity makes sense if you see that the ink amount is too high and you quickly want to adjust it, e.g. setting an underprint white with 30%.

8. Optionally, for **Selective**, for **Filling** and for **Spot**, a function **Spread/Choke** **6** will be available:
 - **Spread(+)/Choke(-)**:

Here you can apply a kind of padding or tolerance zone to the border of the defined white ink or special color area. This area could be larger (**Spread**) or smaller than before (**Choke**). which may differ from the output resolution of the printer

Values are specified in pixels of rip resolution (which may differ from the output resolution of the printer). Values with decimal places are possible as well. The range is -50 to +50.

Let's assume you want to print stickers with a certain shape and print white in exactly the same shape behind the color of the stickers. Depending on the accuracy of the machine, it is likely that the white is not printed exactly behind the color - this mostly happens if you are using printers with layering function. In this case you can easily shrink the white layer by adding a small negative value to this field.

- Enter a positive value here to determine a spread (extended) white ink area.
 - Enter a negative value (-) here to determine a choked (shrunken) white ink area.
9. Specify the order and number of layers under **Layers** , for which the white print depends on the settings above. **Some examples here:**
- **W->C:** White is printed first and color on top.
 - **W->C->MT:** White is printed first, as second layer color and as third layer metallic.
 - **W&C:** White print and color will be printed in one layer simultaneously. It depends on the substrate if this is useful, as there is a high ink application in this layer.
 - **W->C&MT:** White is printed first, color and metallic will be printed in a second layer on top simultaneously. It depends on the substrate if this is useful, as there is a high ink application in this layer.
 - **User defined:** Here the settings made or changed under **...** will be taken. They can be adapted based on existing settings.
10. Open a **layer adjustment dialog**  by clicking on **...** to view or adjust existing layer settings (-> [Use the layering dialog for special colors](#)):
- There you can adjust the standard settings or you can enter new combinations. This is then displayed as **User defined** under **Layers**. It depends on the selected **Special ink set**.
 - If the number of layers do not produce enough density, set a check mark under **OP** and increase the number of layers in **N**.
11. Close any open dialogs with **OK**. The preview for the job will be recalculated.
12. Click on  in the main program preview toolbar to highlight white printed areas with a red hatch. A gray hatch indicates a silver print. Special colors marked as **Spot** with an active spot color replacement will always be visible in the preview.

Sample applications Roland VS-420:

You will find the settings in the advanced settings **Print Mode** tab (double click on Job > **Color** tab > click on **Settings...**).

A. Printing on paper, colored motif with metallic effect (Roland VS-420):

Sample A explains how to print a motif including metallic effect and gradients, on white paper. The special ink metallic is required for that.

Material: Paper (white)

File + Print: shows colored motif including silver effects



Design contains Image-FX™, Gradation-FX™ & Dimension-FX™ techniques

The following image shows the separation of metallic silver from the motif:



A.1 Setting in print mode:

Here you will specify the **special color layer metallic silver** and the order of all inks to be applied.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Go via the **Settings...** button to the advanced job settings.
2. Select the **Print Mode** tab there.
3. Make settings as visualized in red in the following screenshot for the special color printing.

Overprinting: 1

Special ink set: White & Metallic

Bidirectional

Calibration (-5.00 - 5.00%): -999

Drytime (0 - 3600 s): 0

Heater (30 - 45 °C): 40

Dryer (30 - 50 °C): 45

Head speed (150 - 790): 790

Special Colors

White: Off

Metallic Silver: Spot

Layers: MT->C

4. Make the correct layer settings:

Define Layers

Channels: C W MT N

Layer 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Layer 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Layer 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

Print Substrate

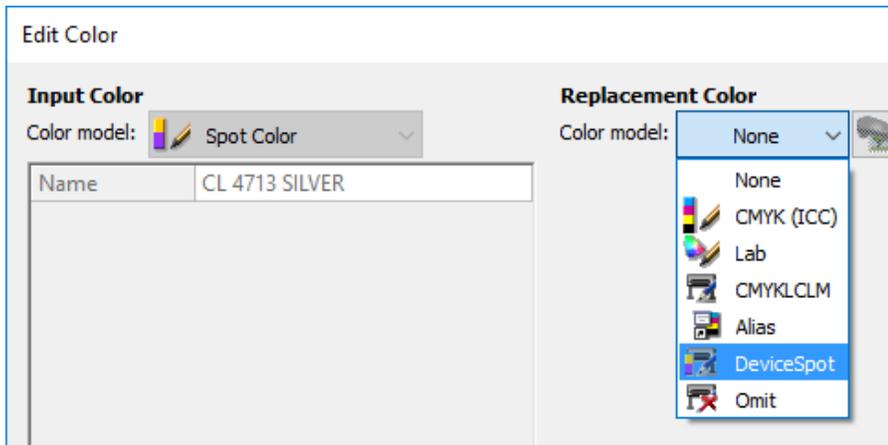
OK Cancel

5. Confirm the **Print Mode** dialog with **OK**.

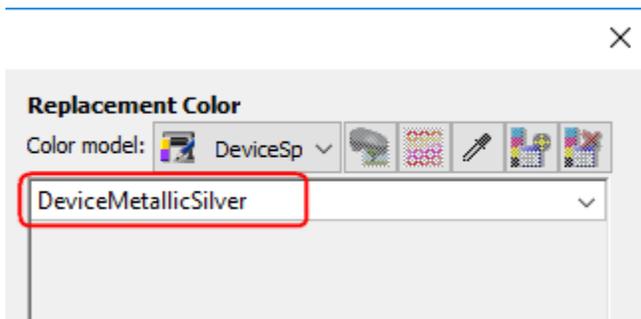
A.2 Setting in the color replacement:

Here you will map the spot color in the job (here CL 4713 SILVER) to the **special color layer metallic silver**. All color information of the included spot color in the motif will be printed with metallic silver ink.

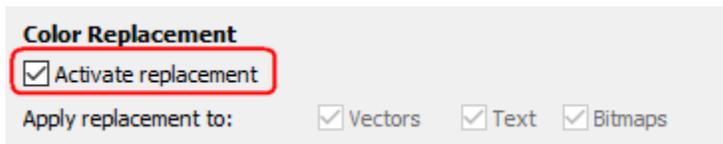
1. In the **Color** tab of the job settings click the **Color Table...** button to open the spot color replacement.
2. Double click the spot color entry to open the **Edit Color** dialog.
3. Select **DeviceSpot** below **Color model**.



4. Make sure that the correct special color is selected e.g. **DeviceMetallicSilver**.



5. Activate the color replacement with a check mark and confirm the dialog with **OK**.



A.3 Linearization and Output Profile:

- If required, generate a suitable output profile for a correct color output by using the Profiler Assistant (-> **Profiler Module (PFM)** and **Multi-Color Profiler Module (MCPFM)**)
- You will achieve a linear output of the special color by using the Linearization Assistant (-> **Linearization Assistant for special colors**) and can enable it in the **Profiles** tab of the advanced color settings.
- Optionally you can save all made settings in the applied MIM (**Color** tab) to be able to use it with any available job.

A.4 Preview in the program:

1. Confirm all open dialogs with **OK**.
By default the preview shows a gray hatch in areas to be printed with metallic silver.



The motif including metallic silver gradients will be printed with metallic ink and color on white paper.

B. Printing on silver substrate, colored motif with metallic effect (Roland VS-420):

Sample B describes how to print a motif including metallic effect and gradients, on metallic silver substrate. The substrate serves here as special color for the motif. The special color white is then used to represent the metallic layer with all its gradients, which is included in the job as spot color.

This is achieved by inverting of white using the color correction feature, either to make the metallic substrate visible or to cover it - depending on the motif area. These motif areas with 100% ink application metallic silver will be printed without white (0%) to make use of substrate color. These motif areas with 0% ink application metallic silver will be printed using 100% white to cover the substrate color and to serve as background for motif color.

Material: metallic silver substrate

File + Print: shows colored motif including silver effects



Design contains Image-FX™, Gradation-FX™ & Dimensional-FX™ techniques

The following image shows the separation of metallic silver from the motif:



B.1 Setting in print mode:

Here you will specify the **special color layer white** and the order of all inks to be applied.

You will find the software settings in the job (when double clicking the job) or hotfolder settings in the **Color** tab.

1. Go via the **Settings...** button to the advanced job settings.
2. Select the **Print Mode** tab there.
3. Make settings as visualized in red in the following screenshot for the special color printing.

Overprinting: 1

Special ink set: Double White

Bidirectional

Calibration (-5.00 - 5.00%): -999

Drytime (0 - 3600 s): 0

Heater (30 - 45 °C): 40

Dryer (30 - 50 °C): 45

Head speed (150 - 790): 790

Special Colors

White: Spot

Layers: W->C

4. Make the correct layer settings:

Define Layers

Channels: C W N

Layer 2 1

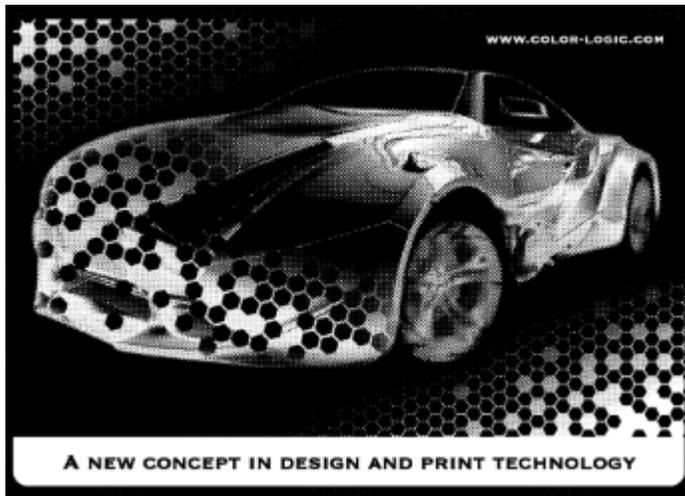
Layer 1 1

Print Substrate

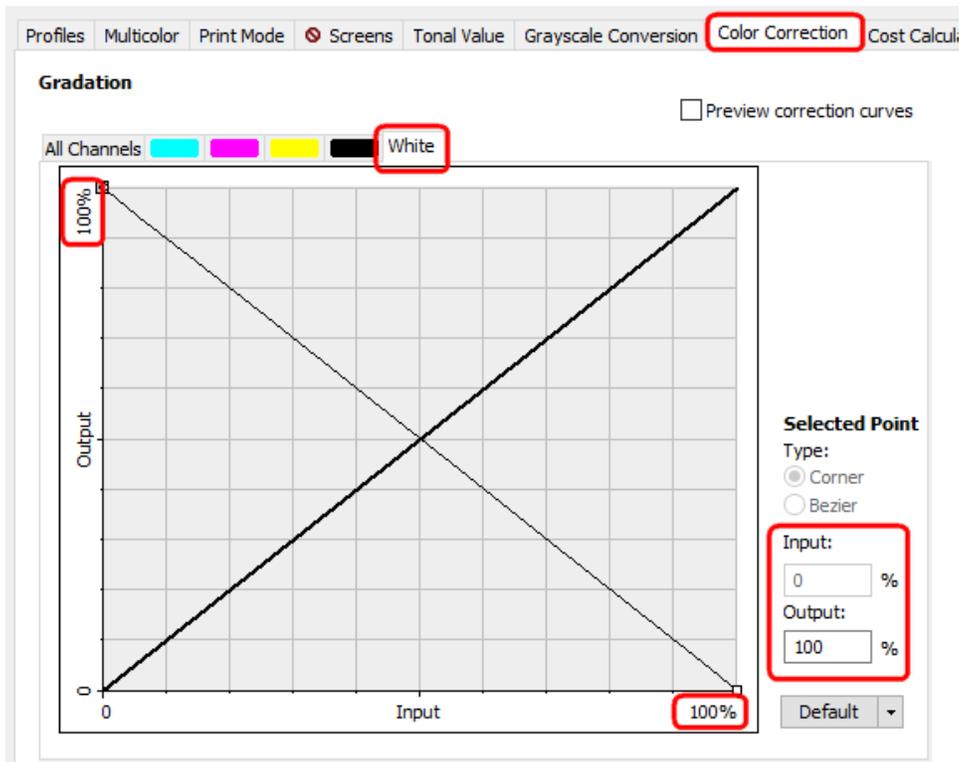
OK Cancel

B.2 Setting in the color correction:

Here you will change the color values (invert) for the **special color layer white**. Using this, the metallic silver areas for the motif are taken from the silver substrate. However, no silver metallic areas will be covered by white and then printed with color. The following image shows the result of the metallic silver separation:



1. Switch from the Print Mode tab to the Color Correction tab.
2. Select White above the graphic.
3. Invert the color values manually (for Input 0% to Output 100% and for Input 100% to Output 0%).

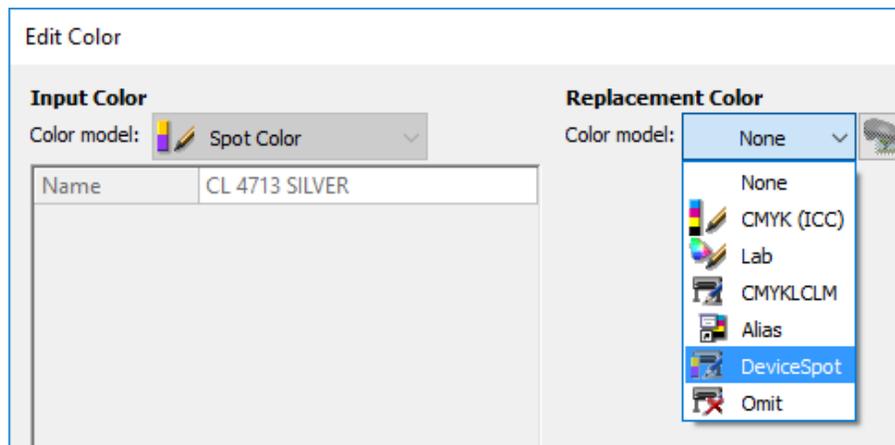


4. Confirm the Color Correction dialog with OK.

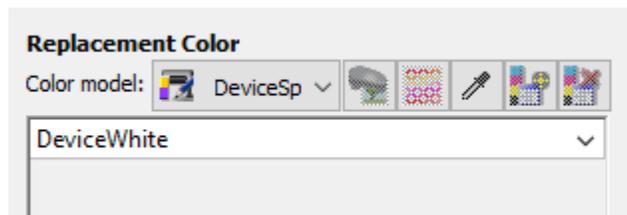
B.3 Setting in the color replacement:

Here you will map the spot color in the job (here CL 4713 SILVER) to the **special color layer white**. All color information of the included spot color in the motif will be printed with (inverted) white.

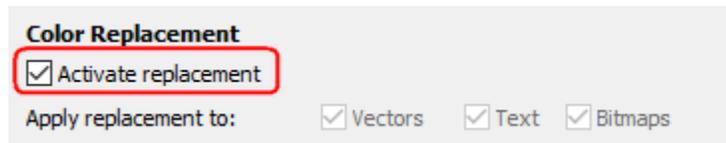
1. In the **Color** tab of the job settings click the **Color Table...** button to open the spot color replacement.
2. Double click the spot color entry to open the **Edit Color** dialog.
3. Select **DeviceSpot** below **Color model**.



4. Make sure that the correct special color is selected e.g. **DeviceWhite**.



5. Activate the color replacement with a check mark and confirm the dialog with **OK**.



B.4 Linearization and Output Profile:

- If required, generate a suitable output profile for a correct color output by using the Profiler Assistant (-> **Profiler Module (PFM)** and **Multi-Color Profiler Module (MCPFM)**)
- You will achieve a linear output of the special color by using the Linearization Assistant (-> **Linearization Assistant for special colors**) and can enable it in the **Profiles** tab of the advanced color settings.

- Optionally you can save all made settings in the applied MIM (Color tab) to be able to use it with any available job.

B.5 Preview in the program:

1. Confirm all open dialogs with OK.
By default the preview shows a red hatch in areas to be printed with white.



The motif including metallic silver gradients will be printed with white ink and color on silver substrate.