

Multilayer Printing on the MG Series Printers with VersaWorks v6.18.0

Supported models: MG-300 / MG-640,

***Supported Firmware version: v1.60 for MG (or newer)**

Supported VersaWorks version: version 6.18.0 (from July 25, 2023 or newer)

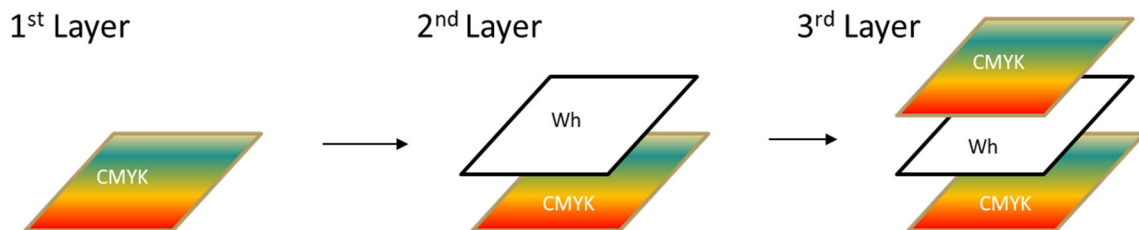
***older Firmware versions will NOT allow the Multilayer Function to be recognized in VersaWorks**

Multilayer Printing Overview

In the new VersaWorks Multilayer printing function, operators can now utilize two-types of “layered job” functions:

1. A traditional, "Pullback printing" or Return to Origin method, in which the media is printed, then pulled back and printed onto for each layer. Users can utilize this method to print various “layers” including Emboss or Gloss atop of a White + CMYK layer producing unique textured prints.
2. The *NEW* "One-Pass Multilayer printing," in which all the layers are printed together in one pass which optimizes output and registration to produce high-fidelity backlit displays or Point-of-Purchase posters.

New "One-Pass Multilayer printing example: CMYK layer-> White layer ->CMYK layer



Available ink-combination modes (depending on ink configuration)*

CMYK-> Wh -> CMYK

Wh -> CMYK -> Gl(Matte Varnish)

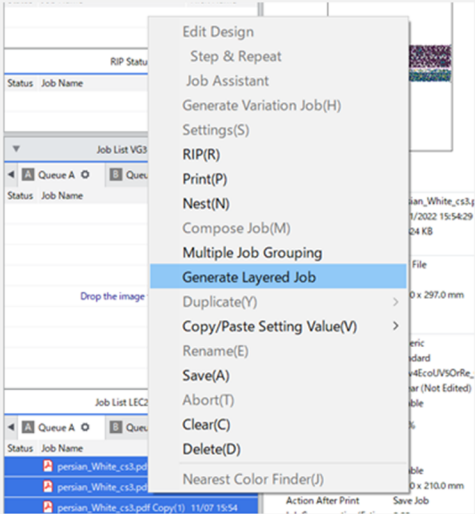
Pr -> Wh -> CMYK

Pr -> CMYK ->Wh


*Note: No Gloss or Emboss printing can be done with the new Multilayer printing feature

Multilayer Printing Overview – cont.


The new Generate Layered Job function in VersaWorks (v.6.18.0) allows printing of 3 layers in one-pass and it can also be used with Return to Origin (pullback method).



3-Layer Printing



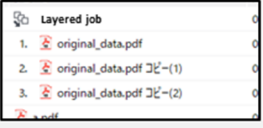
Pull-back method icon



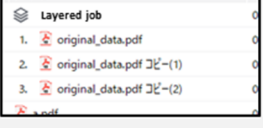
One-pass method icon

Identifiable by icon on the job list

Pull-back



One-pass



Ink configuration	Layer printing
C,M,Y,K,Wh,Gl,Or,Re	Color -> White -> Color
C,M,Y,K, Wh,Wh,GlGl	White -> Color -> Gl (Matte Varnish)
C,M,Y,K,Wh,Wh,Or,Re	Color -> White -> Color
C,M,Y,K,Wh,Pr,Or,Re	Color -> White -> Color Primer -> White -> Color Primer -> Color -> White
C,M,Y,K,Re,Wh,Gl,Pr	Color -> White -> Color
C,M,Y,K,Wh,Wh,Gl,Pr	White -> Color -> Gl (Matt Varnish) Primer -> White -> Color Primer -> Color -> White

In contrast, the traditional Multilayer jobs (*Pullback printing method) are done with “Multiple Job Grouping” function, requiring users to set Return to Origin after print for each layer separately for RIPing and printing as a group.

(2-layer printing remains the same and you can select the mode in the [Quality] tab of the [Job Settings] menu.)

2-Layer Printing

Mode : CMYK (v) 16p

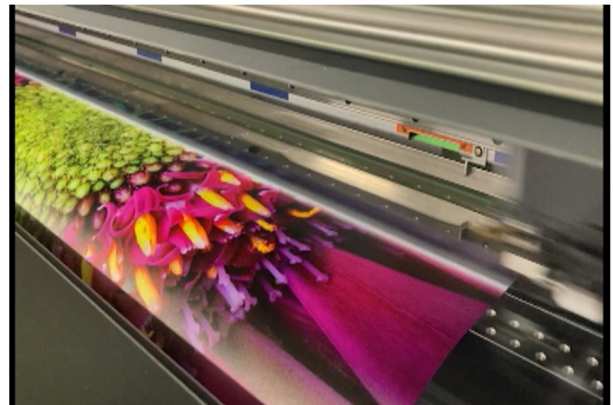
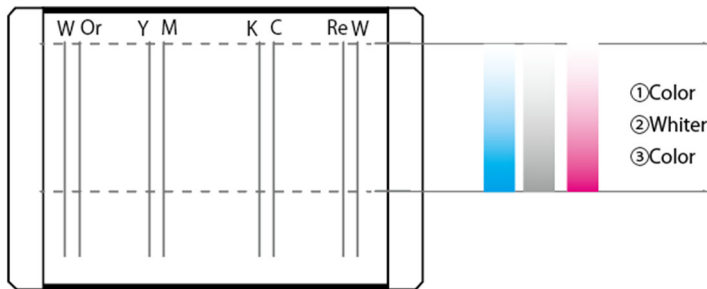
Details: CMYK (v) 16p
CMYK (v) 12p
White HD ->CMYK (v)
CMYK->White HD (v)
White (v)

Interpolation : White HD (v)

Multilayer Printing Overview – Features and Benefits

With the new One-pass Multilayer function, the degree of accuracy for “layered” prints is greater than the Pullback method. Using a fine pull-back motion with relatively large printing swath for each layer, the One-pass Multilayer function allows the IPC (Internal Print Controller) to be more effective, ensuring better image quality and excellent layered registration.

By reducing the print swath, the multilayer feature does not use full width of the print heads to avoid the pinch rollers from running over the printed area when the media is pulled back, ensuring a better print quality and possible ghosting from the pinch roller ink-residue.

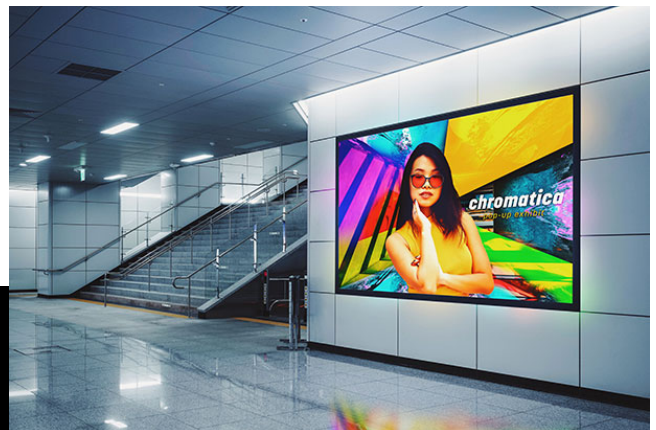


Benefits

1. Up to 3 layers can be printed by sending the data only once.
2. Users can produce accurate printing by preventing media misalignment caused by mechanical errors.
3. Can use Take-up Unit.
4. Can print bigger size designs.

Target applications

- Window displays (CMYK->Wh->CMYK).
- Packaging with special designs (WH->CMYK->Mt).
- Medias that are difficult for the ink to adhere (Pr->Wh->CMYK).



Multilayer Printing Overview - How it Works

Prepare Job in VersaWorks

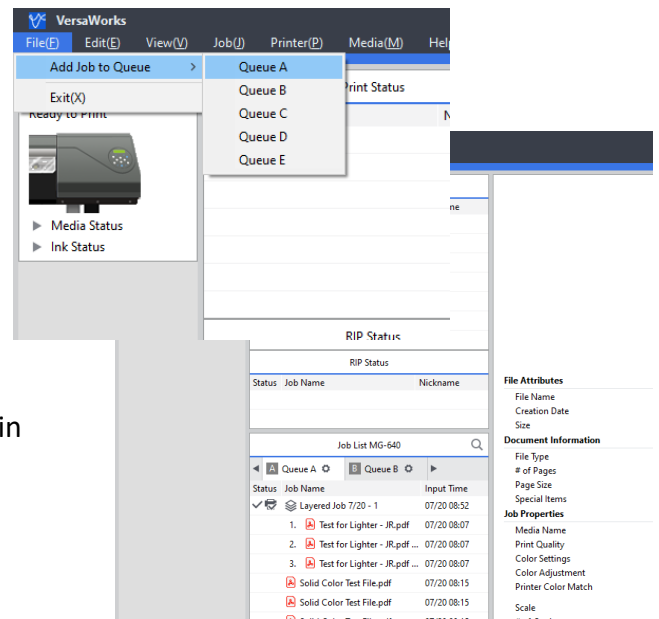
1. Import each layer data on VersaWorks.
(Import up to 3 jobs or duplicate 3 jobs)
2. Generate Layered Job.
3. Select "One-pass Multilayer printing" or "Pullback printing"
from Layer Job Configuration
4. Configure detailed settings such as print mode for each layer and more

NOTE: Prior to any file preparation, Update VersaWorks to the latest version (6.18.0 or newer) and update the MG printer Firmware to v.1.60 (or newer).

The Multilayer Printing Features will NOT be available in older versions.

Import or duplicate each layer data in VersaWorks

1. Launch Roland VersaWorks.
2. Add the print data for each layer into the software. This can be done by clicking on "File" in the top menu, then selecting "Add Job to Queue" and choose a Queue to Add the files for each layer.



Note: Layers must either be added individually or duplicated in VersaWorks.

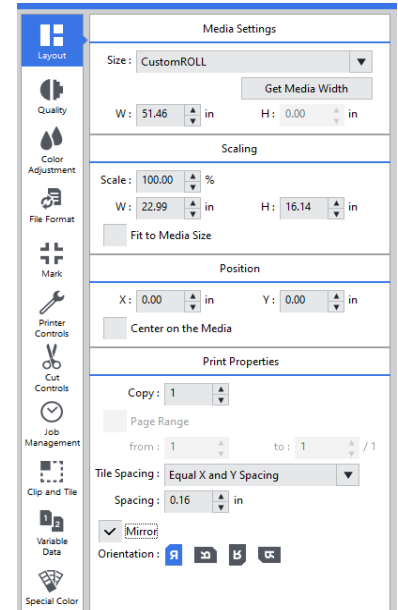
Step 1: Prepare Jobs in VersaWorks

1. Configure Roll Size, Scaling, Offset and Copies etc.:

- a. Select a Job, [Right CLICK] and open Job Properties. Go to the "Layout" TAB in VersaWorks. All Layout Functions MUST be done independently.

[Note: There is no functions for Layout in the Generated Job Properties Tabs.]

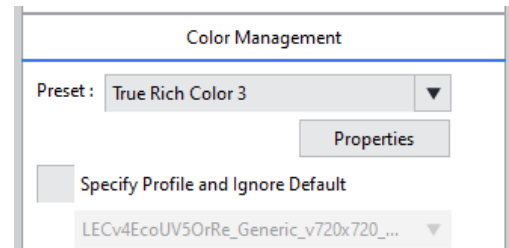
- b. Set the appropriate paper size, scaling, and other layout options for each layer based on your printing requirements.
- c. Mirror the Job as needed, but this MUST be done independently of the other Layers.



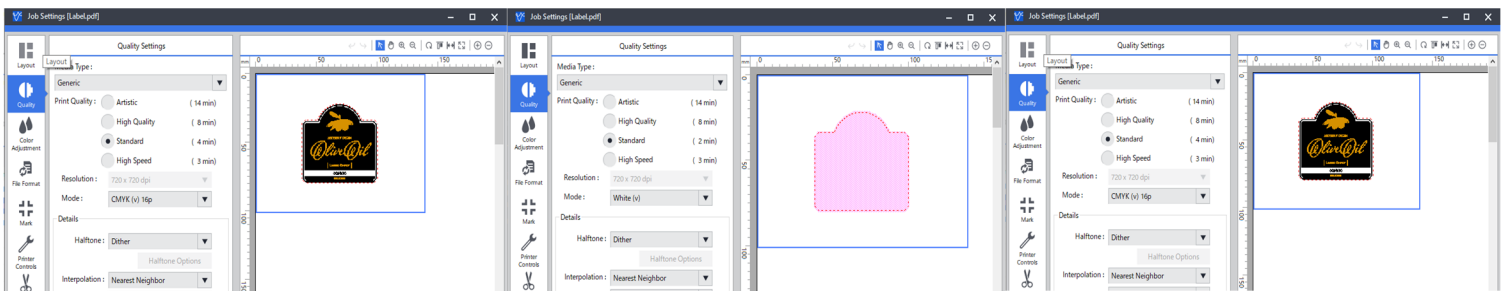
[Note: Scaling and Sizing should be identical. While each Job could be different, it is important to Scale and Size identically for best registration.]

2. Configure the Print Mode in the Quality TAB and configure each print Job's Color Management.

[Note: Color Management can be selected independently of each other and VersaWorks will "honor" the Color Output desired for each Layer Job.]



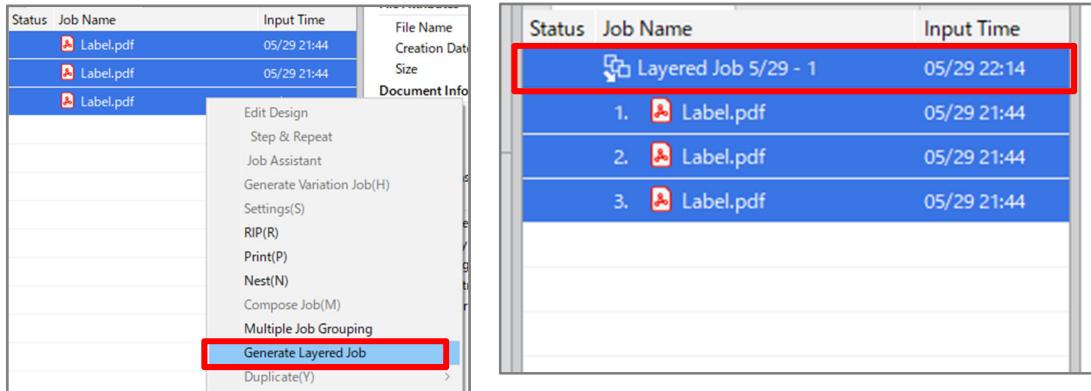
- a. Choose a suitable print mode for each layer. This can be done by going to the "Quality" tab in VersaWorks and selecting the desired print mode from the drop-down menu for each layer.



[Note: Even after the Jobs have been combined in the Generate Layered Jobs function, the jobs can be independently changed by double-clicking on an individual job within the grouping.]

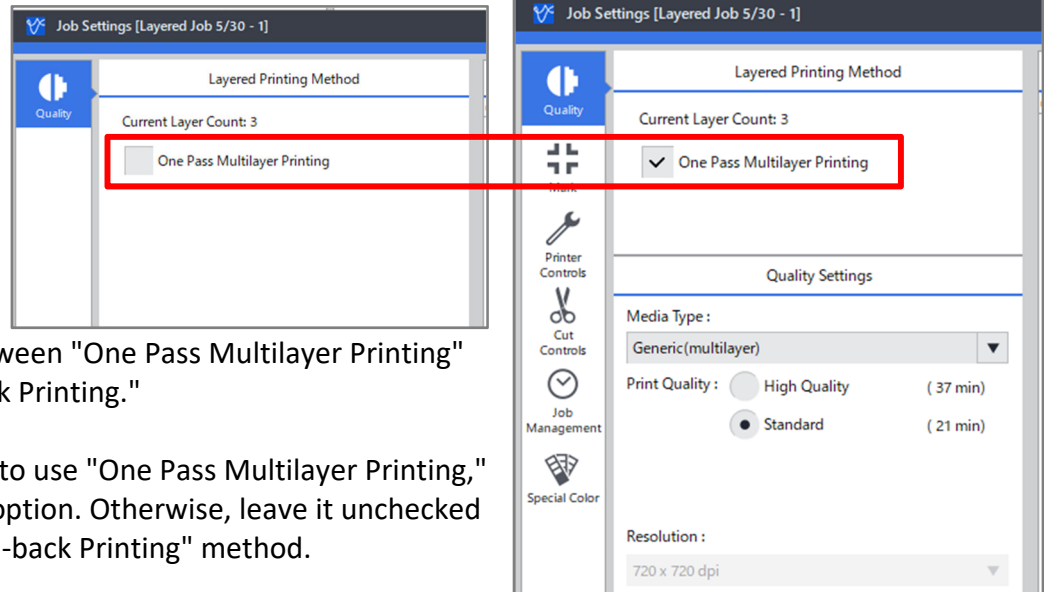
Step 2: Generate Layered Job

1. **Highlight ALL three Jobs, [Right CLICK] and combine Jobs as a Generate Layered Job:**



2. **Configure More Options for the Layered Job:**

- a. [Double-click] on the newly generated Layered Job to open its settings.
- b. In the Layered Job settings, go to the "Layer Printing Method" section.

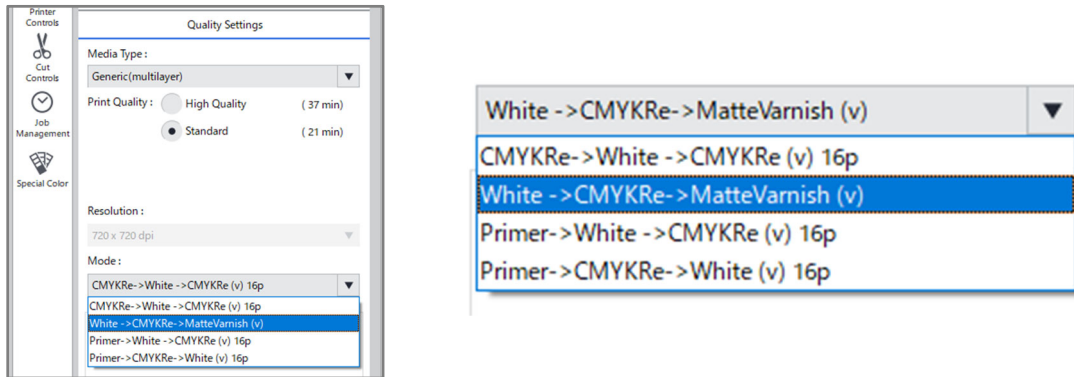


- c. Choose between "One Pass Multilayer Printing" or "Pull-back Printing."
- d. If you want to use "One Pass Multilayer Printing," select that option. Otherwise, leave it unchecked for the "Pull-back Printing" method.

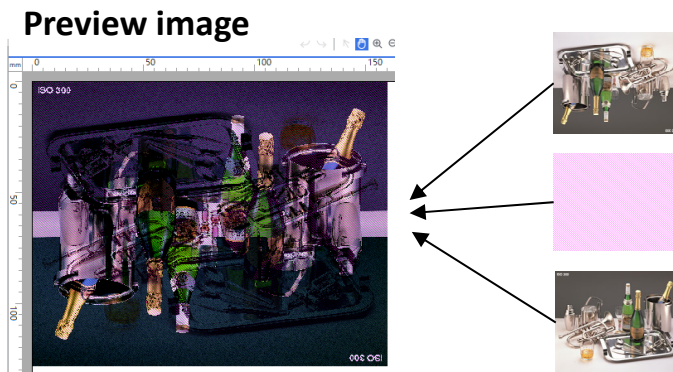
[Note that the "One Pass Multilayer Printing" option may be greyed out if your printer doesn't support this feature or if you have NOT updated the printer's Firmware.]

3. Configure Details for Print Mode and Quality:

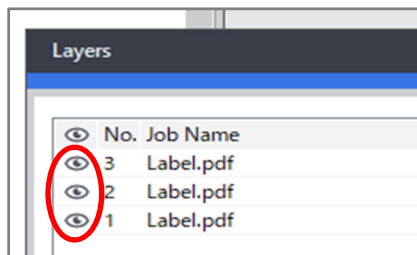
- a. In the layered job settings, go to the "Quality" tab.
- b. Select the appropriate print mode and quality for the multilayer printing process. The available options will depend on the ink combination used for printing.
- c. If your desired ink combination is Wh -> CMYKRe -> MatteVarnish, select this setting.



- d. Check the preview display to ensure that the settings are correct and that the layers are overlapping as intended.

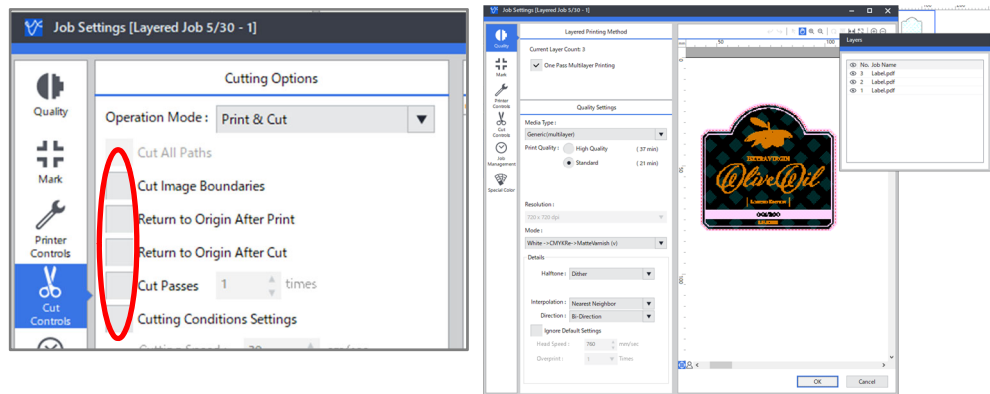


- e. Use the "Eyeball Marks" to check each layer individually and verify that the positions and layout options (mirror, scale, rotation, etc.) are accurate.



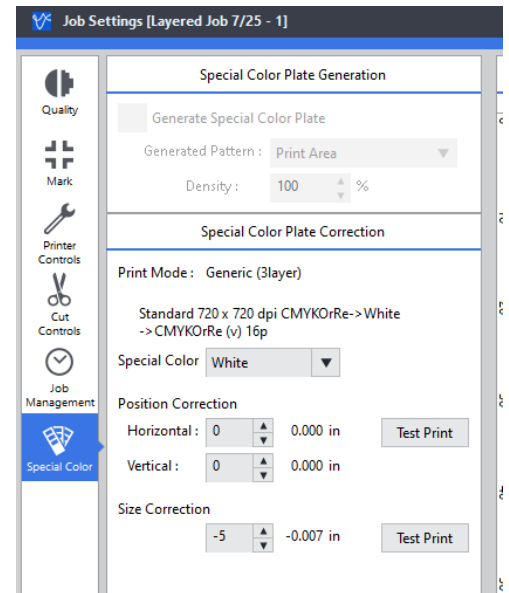
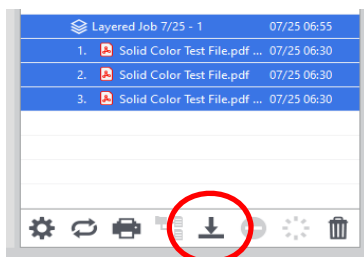
4. Configure Details for Print and Cut (if applicable):

- In the layered job settings, go to the "Cutting" tab.
- Enable cutting lines only on the top layer by ensuring that the cutting lines are added to the top layer job.
- If you want to perform print and cut, make sure to select "Print & Cut" in the cutting settings.
- Keep in mind that some functions may be restricted after creating a layered job and selecting One Pass Multilayer Printing, and they will appear greyed out.



5. Finalize Settings and Print:

- Check Special Color settings for Size Correction, Print Correction or Density.
- Once all the settings are configured, review them to ensure everything is as desired.
- Save the Layered Job settings if needed and Print.



- Send the job to the printer and proceed with the printing process, which will now involve printing multiple layers using the chosen settings.

Frequently Asked Questions (FAQs)

Q. The Overprint Button is active, but the selection is ONLY 1, is this going to be fixed?

A. Yes. We are working on a change in the future to control one or more layers to OVERPRINT independently.

Q. When in Layered Job Properties, there is no selection for Preset on Color Management ... how does select which to use?

A. Color Management is controlled independently. Each or ALL layers can use different Color management without issue.

Q. If all image manipulation (i.e., Mirror, Crop, Rotate) is done prior to Generating for 3-Layer Job? Will this ever change to allow rotation or mirror in the 3-Layer function?

A. No. Cropping, scaling, and rotation are done independently of the Generated 3-layer group. The jobs can have separate sizes and still print. Other functions however, like CROP Marks, will not work unless the size of the jobs is equal.

Q. If I have one job Centered to media and the other 2 using a 1" Offset, what value does it choose?

A. Jobs can be set up differently, and there are no restrictions. But for BEST functionality, the pages should be the same size (and rotation).

Q. In Layout ... What page size or page set up does it use? Do all three have to be the same? Does it use Job 1 as the Default?

A. Size of the page or paper size should be set up equally based on the media size ... Use Get Media Setup Function, then size and space the three jobs equally.

Q. If Marks are on in the Page 1-3, the Marks are not accessible for the 3-Layer Job? Do I have to only use No Marks upon setting up the Job?

A. Total size of the JOB must be equal for Marks to function.

Q. Does changing Lamp Irradiation affects ALL 3 Layers?

A. Yes. Lamp Irradiation affects all layers, it is NOT independent.

Q. If one job has Crop Marks, the 3-Layer Job has NO option to activate Crops, is this intentional?

A. Size of page will not allow this function. Marks should be done in the Layered Job Properties.

Q. Regarding Color Adjustment ... if I have one job with changes, does the 3-Layer Job honor those color adjustments?

A. No. Color is controlled independently. Color adjustments can be done separately without influencing the other jobs (pages).

Q. Does 3-Layer honor SPOT colors? Convert to Spot Colors?

A. Yes. All Spot Colors can be utilized, and Color is controlled independently. Spot Color can be done separately without influencing the other jobs (pages).

TIPS and Resources

1. Job Preparation

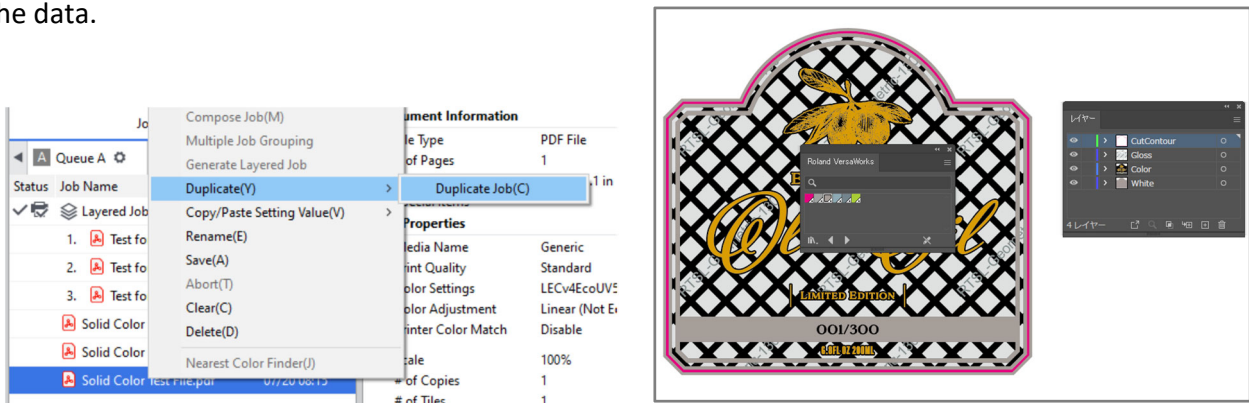
a. Users can make spot color plates with VersaWorks

[Generating Spot Color Plates with VersaWorks](#)
[Generating Spot Color Plates with Job Assistant](#)

2. Job Creation

a. Create the design as a single file which includes all elements including Special Colors and CutContour cutting features by using Illustrator’s layer functions. Save each the file as a PDF with all the components. Remember to name each appropriately with VersaWorks naming conventions. (RDG_xxx)

b. Import the three copies of the same data or use the Duplicate Job function to prepare three copies of the data.



2. Job Layer Properties

- Note that after creating a layered job and selecting One-pass Multilayer printing, some settings for individual jobs are restricted.

(Unavailable functions are greyed out.)

- Data position and color slide bar settings are still available, so set them as needed.

