HP Latex 700 & 800 Printer Series

Date: September 2023   **Impact/Severity**: Medium

Region: WW   **Category/Area**:

Audience: End Customer   **Confidentiality**: Public

Best practices to achieve the intended length in tiling Applications Printing on 3M Traffic Signage

The aim of this newsletter is to provide a complete printing guide to print tiling applications with the optimal length and color using:

- 3M™ Diamond Grade ™ DG Reflective Sheeting Series 4000

- 3M™ High Intensity Prismatic Reflective Sheeting Series 3930

The only supported RIP for this application which is eligible for 3M MCS warranty is:

- SAi Production Manager Authorized 3M Traffic Edition

For more information please access the cookbook How to do traffic signage with HP Latex 700 and HP Latex 800 Printer Series through HP Latex Knowledge Center [website](#).
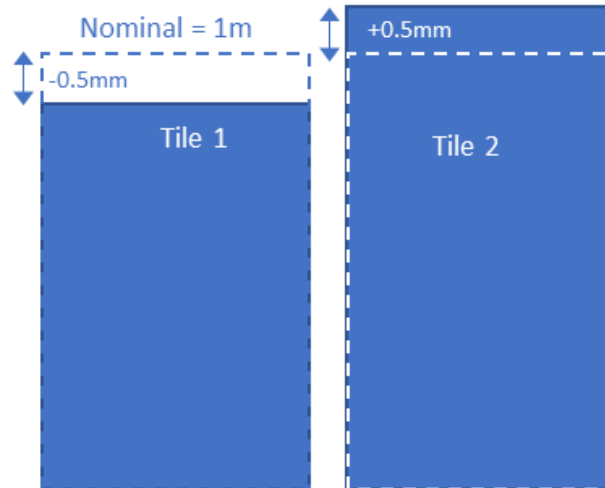
Contents

1. Tilling Specification

a. Total Length repeatability (TLR)

The total length repeatability (TLR) accounts for the difference in length between tiles.

NOTE: A maximum tiling length deviation from tile to tile of +/-0,5mm/m is expected if the recommended workflow is followed.

b. Total Length accuracy (TLA)

This demonstrates the difference between the printed length and the nominal length of the file image (length value on the RIP). In case the TLA is not in spec, it must be corrected by applying an **output size compensation factor** in RIP.

NOTE: The absolute **length accuracy 0,2%** is expected if the recommended workflow is followed.
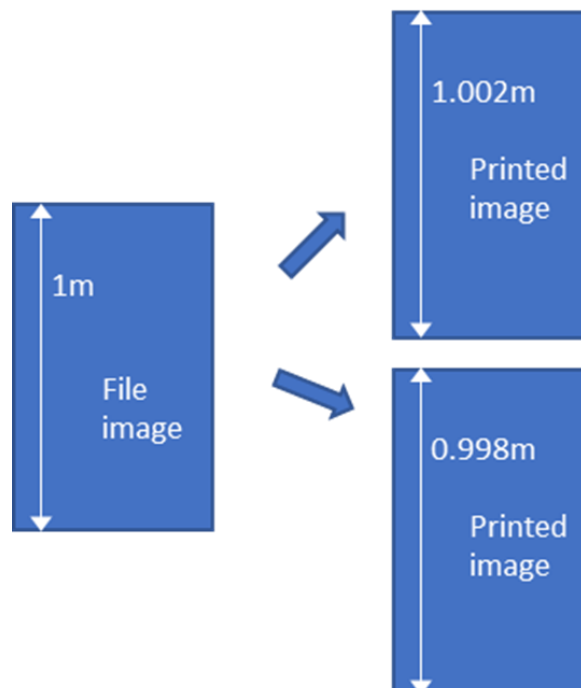
2. Before printing: Preparing the printer

1. Upgrade the printer's firmware

HP strongly recommends installing firmware version from PLS_50_23_39.1 MR5 **(also known as MR5 Media Path) onwards** as it includes significant improvements.
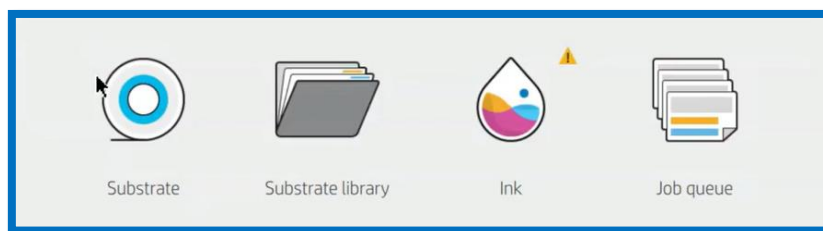
2. How to install the substrate

To obtain the 3M™ MCS™ Warranty for Traffic, it is mandatory to use the approved HP media profiles for **DG4000 and HIP3930**. Find them on:

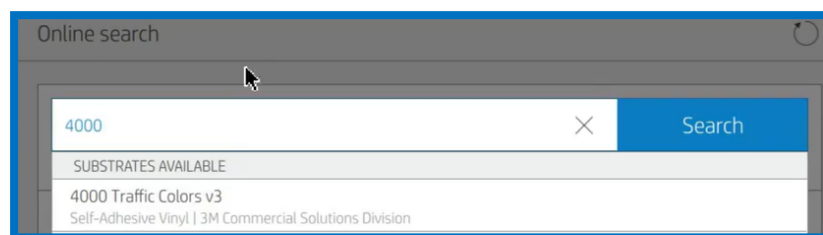Web sites: Hp PrintOS Media Locator: www.printos.com/ml/#/medialocator

On the printer's front panel:

- Go to > Online search > in Substrate Library menu

- Search filtering by > Printer: Latex 700/700W/800/800W or Supplier 3M Commercial Graphic or Application: Reflective signage

- Download and Install

IMPORTANT:

1. Do not change any setting in the OMS

2. Do not apply tension mode. Do not change it.

3. Non navigable media. OMAS must be always OFF.

You can find a video example at the following link FW Release & OMS.

---

3. Loading the Substrate for Color Calibration

1. Substrate Color Calibration

Once the substrate preset is installed, the color calibration must be performed for this media preset.
It cannot be done physically on the reflective sheeting; it needs to be performed on a white self-adhesive vinyl instead. In this case, 3M IJ180mC-10 is the recommended.

1. Load 3MIJ180Mc-10 automatically.

2. IMPORTANT: Select the reflective sheeting you intend to use for your traffic sign Jobs.
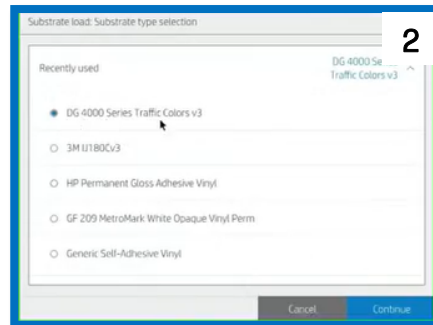
3. For L800 series, consider the following tips on how to set the left hub of the take up reel.
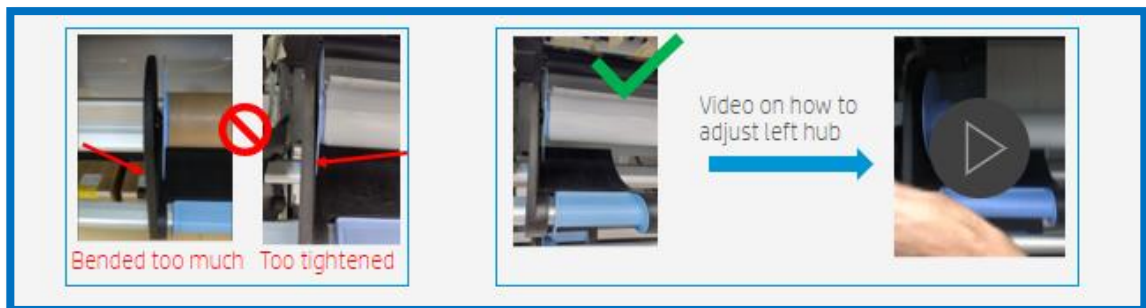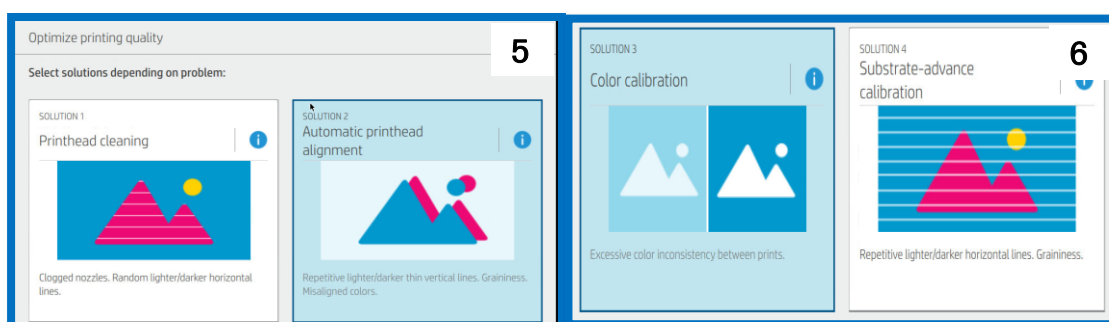

You can find a video example at the following link: [Set Left hub](#).

4. Advance the substrate and attach it to th TUR. Cut it in a "V" shape, as shown in the image below and attach the substrate from the center. Then, activate the TUR by completing a full rotation of it.

5. Check print image-quality status. In the Optimize quality menu, perform the printhead nozzle check and printhead alignment.

6. Launch color calibration. In the Optimize quality menu, press Color calibration and select Start.

7. Color calibration > Calibration target is printed > the patches are automatically measured

You can find a video example at the following link: CLC.

4. How to load the Substrate 3M Traffic Signage DG4000 or HIP3930

It is strongly advised to use a Media output platen protector to prevent any adhesive residues (glue from media backing). This is available in the Textile Kit Accessory 7HR16A or by ordering Y0U21-67222.
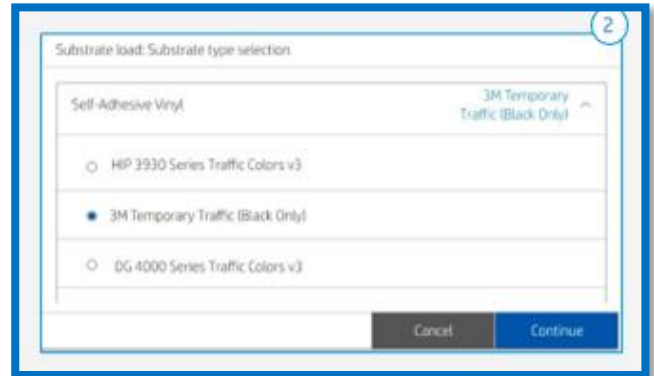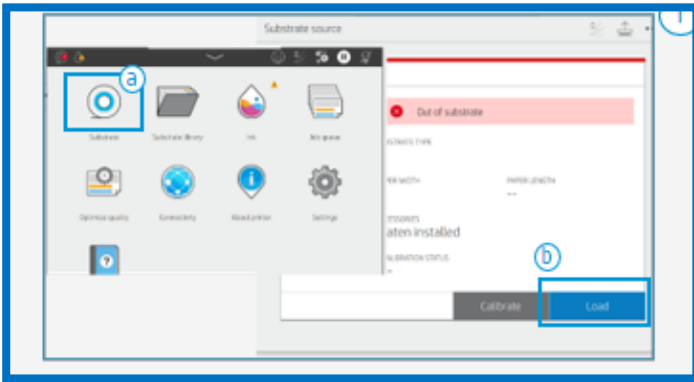
You can find a video example at the following link: OPP.

• Take Up reel (TUR) and edge holders are mandatory when using reflective sheeting.
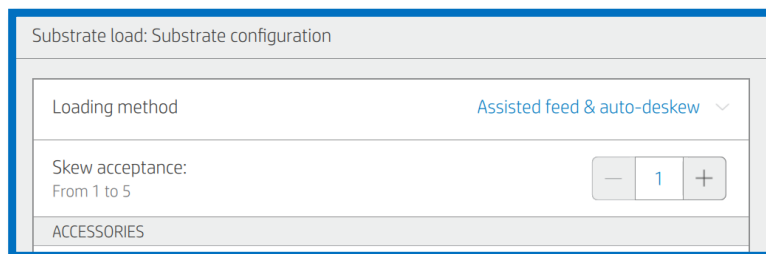
1. **Load substrate** from the Front panel
   o Select the Substrate > Search for your 3M reflective sheeting in the Self- adhesive or Recently used drop down list and press Continue
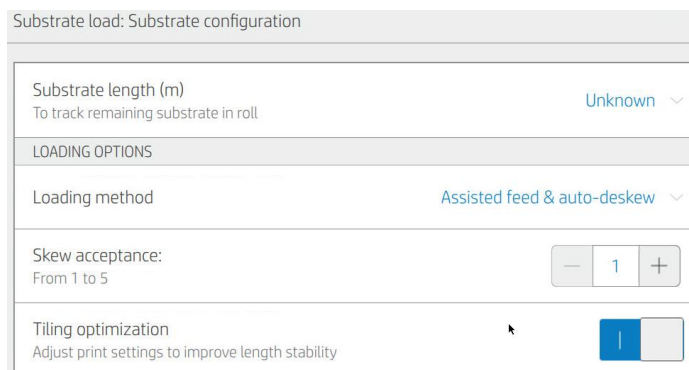

2. Substrate Load configuration

   o Select Assisted feed & auto-skew and ensure Skew is set at 1

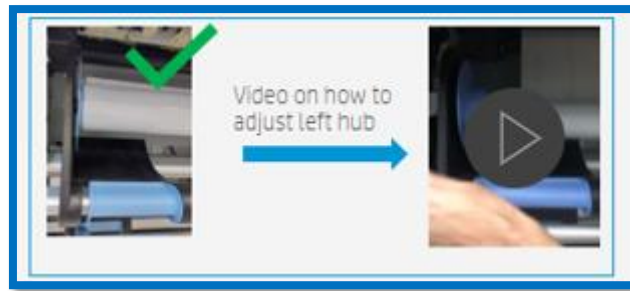3. Load Substrate on the printer

   3.1 In the loading process you should also select the option "Tiling Optimization".
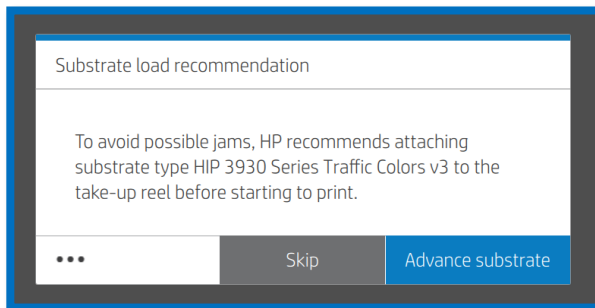

   3.2 Follow Front Panel instructions.

3.3 For L800 series, consider the following tips on how to set the left hub of the take up reel.

3.4 Place the Edge Holders before lowing the curing chamber to finish the loading process

3.5 Attach substrate to take-up reel (TUR)

- A message will pop up on the front panel to strongly recommend advancing substrate and attach it to the TUR. Cut it in a "V" shape as shown in the image below and attach the substrate from the center.

Substrate load recommendation

To avoid possible jams, HP recommends attaching substrate type HIP 3930 Series Traffic Colors v3 to the take-up reel before starting to print.

| ... | Skip | Advance substrate |

- **Activate the TUR** by completing a full rotation of the TUR

4. Calibrate the TUR

IMPORTANT: Always perform this step.

1. Select calibrate on the Front Panel

2. A message of calibration not performed will pop-up on the front panel, but key calculations are done internally. Press OK.

Take-up reel

Substrate attached

Calibrate | Deactivate take-up reel | How to detach
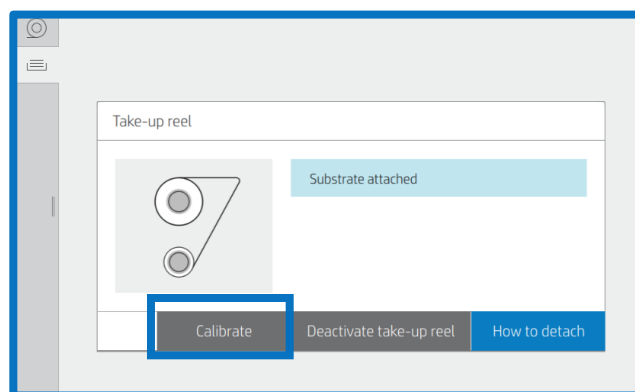
You can find a video example at the following link: Media Loading1.

5. Before Printing: Output Size Compensation process

1. Set up Output size compensation in SAI RIP

   a. To achieve the precise length accuracy, the output size compensation should be done for each substrate and printer on the first time of use.

   b. The process **does not need to be repeated**, unless climatic conditions, printer hardware change or more accurate length is required.

IMPORTANT: The substrate needs to be attached to TUR to print and setup and configure the size compensation factor.
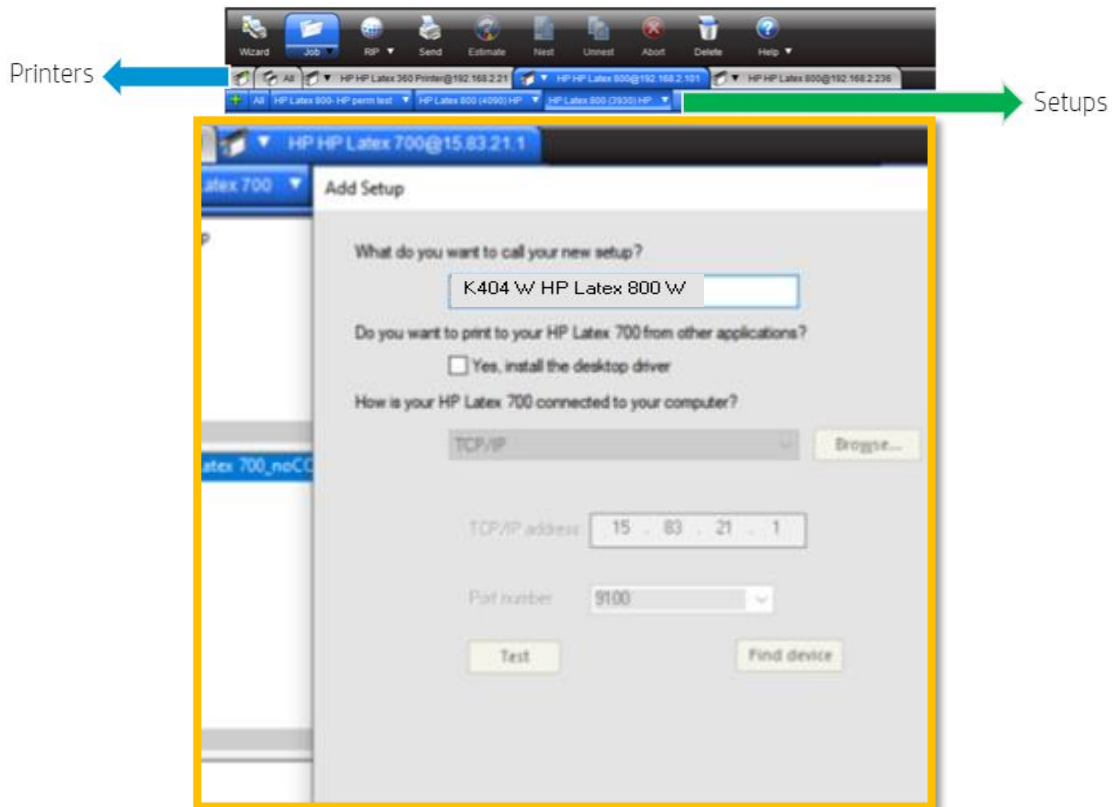
---

2. In SAI Production Manager.

NOTE: Make sure to use the last Sai RIP software build 3727 and sync the substrate library.

You can find a video example at the following link: SAI Check build 3727.

2.1 Create a new printer setup and name it the same as your printer and substrate in use.

2.2 Set up Output size compensation in RIP

2.3 Right on the printer setup and ensure disabling the output size compensation
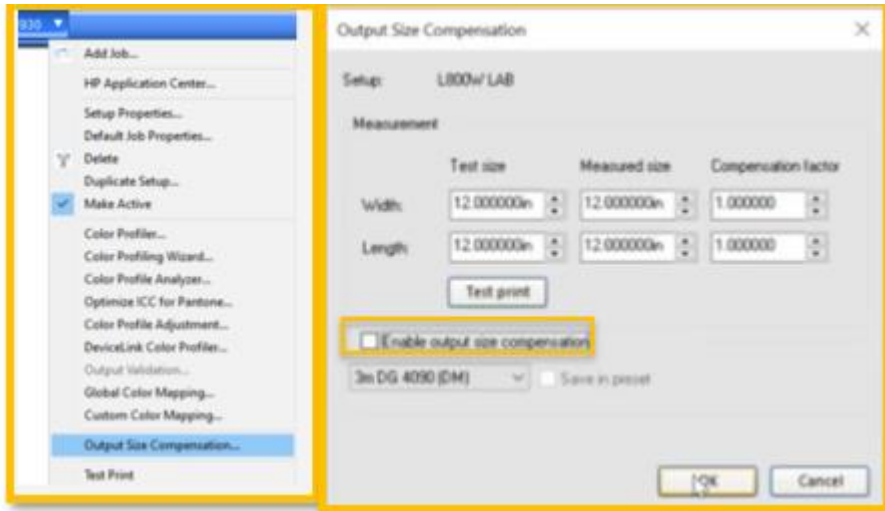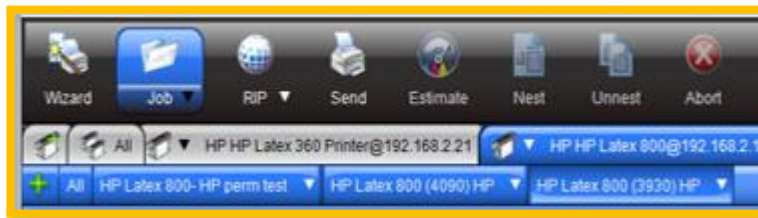

IMPORTANT: Make sure "Save in preset" is always **unticked**.

3. RIP processes Flexi Print and cut 3M Traffic Edition

3.1 Prepare the own compensation Test Plot two options:

A. With the Selected printer setup, and media preset prepare the first plot to create 2 copies of a square image with known dimensions, preferably 1x1,

B. If the customer wants to be more accurate, 2 copies could be prepared of a square image with dimensions of 1m x 2m.
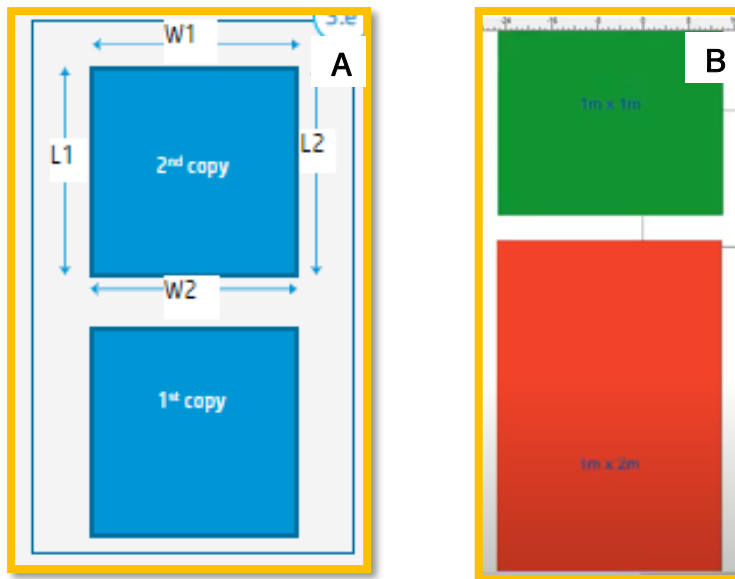
3.2 RIP and Print. Click on RIP and Print to open the menu for printing options.

3.3 Substrate presets, media & Print mode selection

In the Advanced options tab:
1. Select the right preset, matching your substrate selection.
2. Enable "Use Color Correction".
3. Select the output profile and media matching with the 3M reflective sheeting substrate you have loade on the printer.
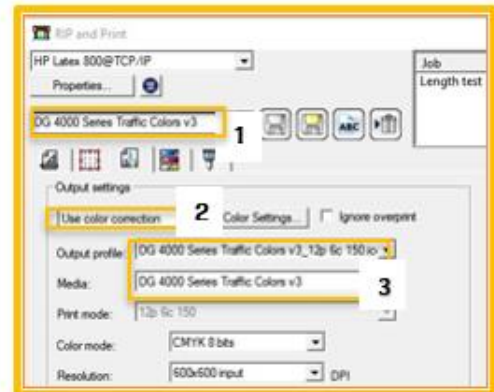
3.4 Finishing: cutting marks & other factors

If your job contains cuttings paths named spot colors, the RIP will detect them:

1. In the cutting menu, select the automatic cutter you will use for cutting jobs.
2. Select the corresponding registration Marks.
3. Configure the cutting settings for each cutting paths.
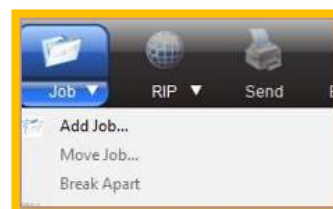4. Click Send.
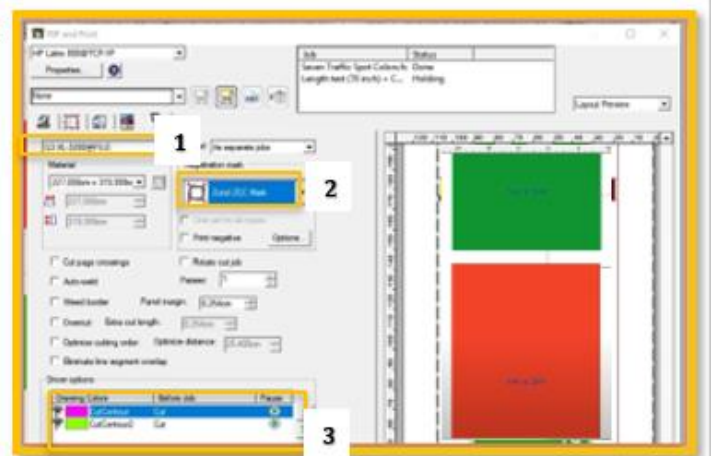
You can find a video example at the following link: Output compensation Plot.
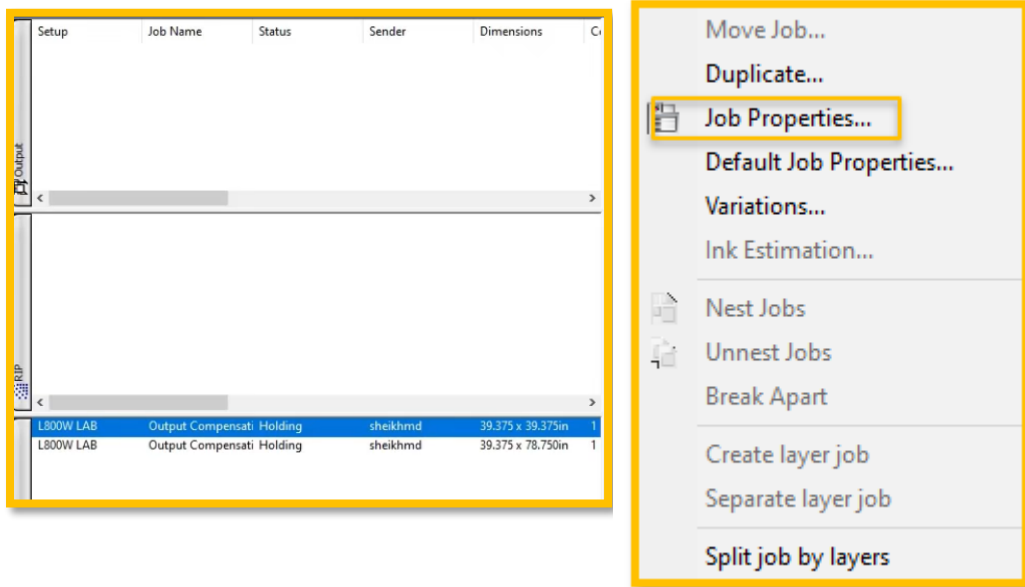
6. Printing: Preparing the Job

Working with jobs created on a different editor SAI Production Manager

6.1 Use SAi Production Manager FlexiPRINT & CUT 3M Authorized Traffic Edition
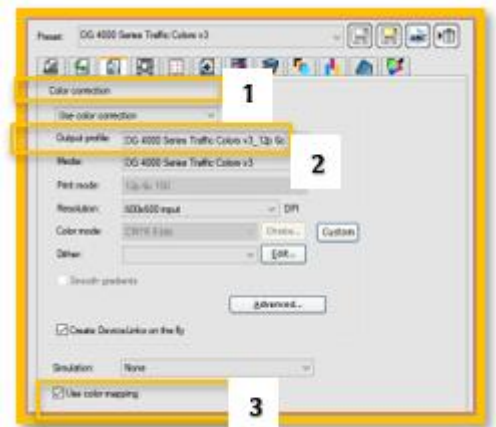
- Add your file to the job queue.

- Alternatively, you can go to the queue at the Output. Right click on the file Job Properties.

6.2 Color management, Substrate presets & Print mode selection

1. Enable Use Color Correction.
2. Select your substrate output profile and the media.
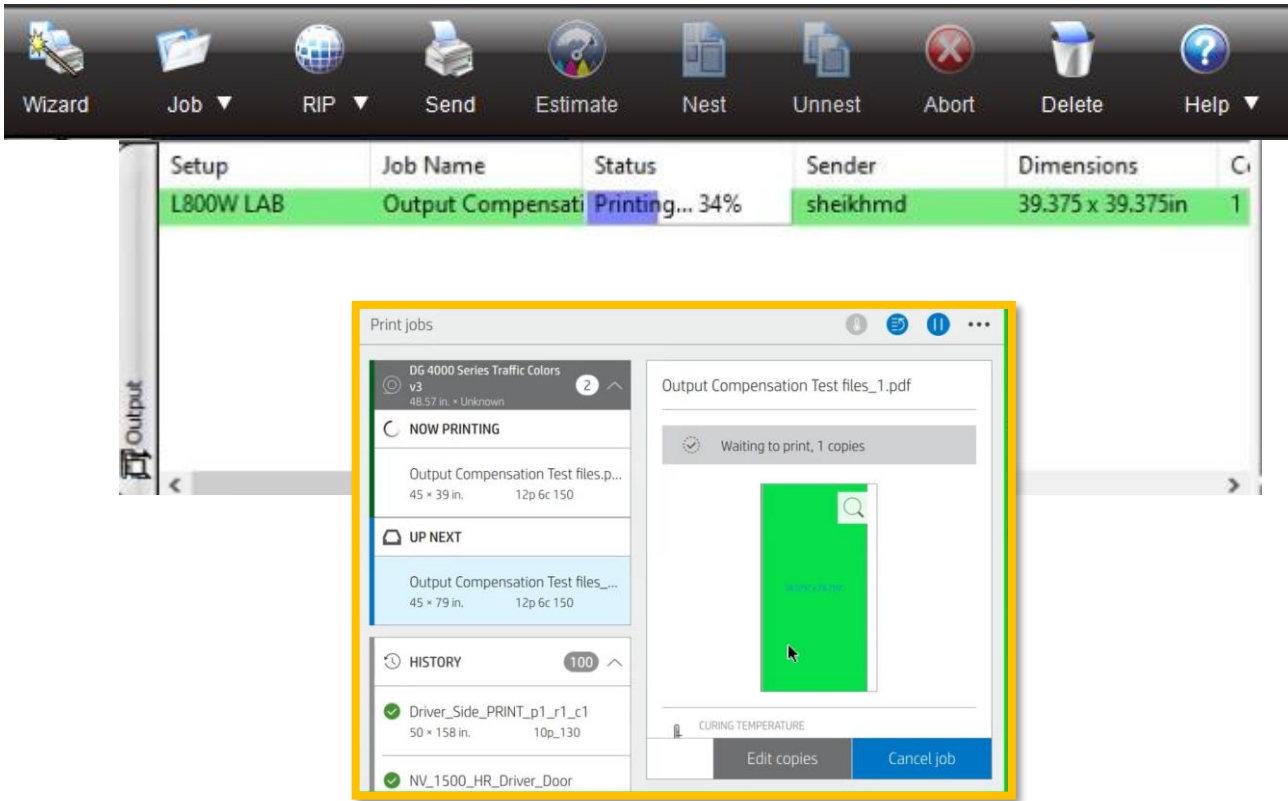3. Enable "Use color mapping.

6.3 Color Mapping

1. Enable the spot color for each Traffic COLOR.

2. Click Send.

Alternatively, you can send from the main menu.

- Once dried measure each side of the second copy: calculate the average for the width (W) and length (L) dimensions.

 You can find a video example at the following link: Add Output size compensation.

NOTE: Make Sure to Lay the printer test plots on a flat surface, and smooth out any wrinkles before measuring.

- In the RIP, click on the printer setup, select Output size compensation, and input the values for the Test size and measured size (averages) > Tick the box "Enable output size compensation> click OK.
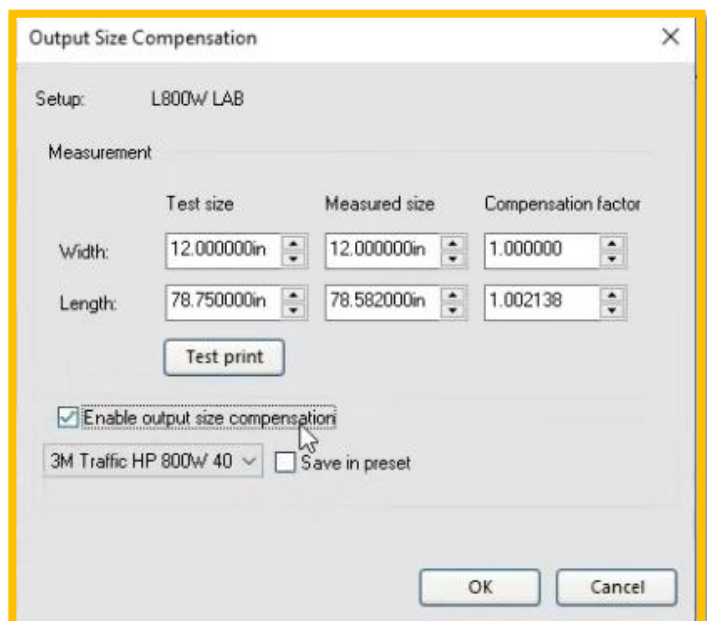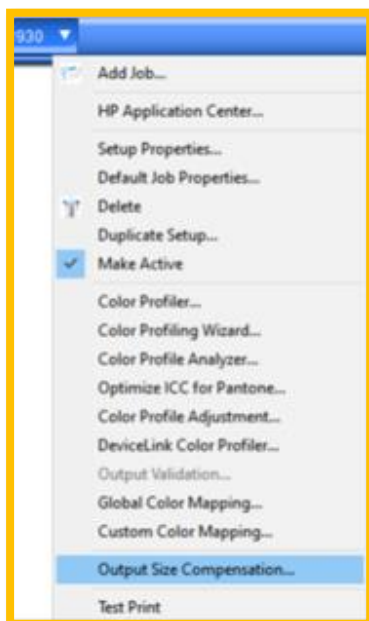
- Make sure "Save in preset" is always **unticked**.

Use the new printer setup created in the step above to load and send 2 new copies of the same 1m file and checks the measurements are correct.

IMPORTANT: The output size compensation will not be applied to those jobs already in the RIP job queue. The file needs to be loaded again.

If it is correct, send the long run from the RIP to the printer.

NOTES

- The printer will advance the media **18.7 cm** before start printing the first job of the queue to avoid ink smears.

- The not apply tension mode will result in a bag or substrate appearing loose. This mode is necessary for good tiling performance.
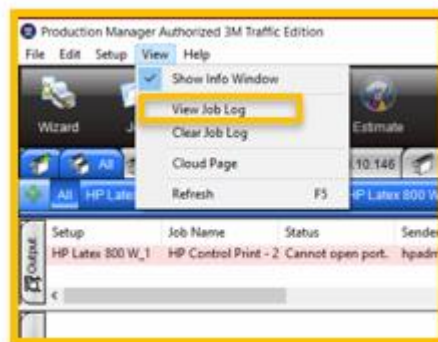

- **The cutter is disabled** for this type of substrate

2. Printing: How to check the output compensation value applied on the file correctly

After applying the value compensation, the following steps should be followed:
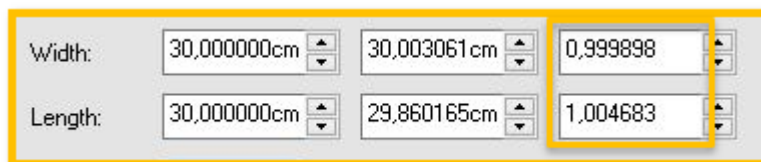
- Go to SAI Production Manager > View > View Job Long

- This option will open a log file, you must scroll down and select the Start Rip Option Job.

🎥 You can find a video example at the following link: <u>Output compensation validation Test</u>.

3. Bonus: Videos Index

Video	Step-by-step description
1 <u>Fw & Oms Download</u>	How to check the Fw version and install the New OMS
2 <u>CLC</u>	How to perform the Color Calibration using 3MIJ180
3 <u>SAI Check build 3727</u>	How to install the Output plater Protector
4 <u>SAI Check build 3727</u>	How to check the SAI RIP Version
5 <u>Media Loading 1</u>	First Time Loading Traffic Signage substrate and TUR calibration
6 <u>Output compensation Plot</u>	How to create the compensation Plot
7 <u>Media loading 2</u>	Loading Traffic Signage media after compensation
8 <u>Output compensation validation Test</u>	How to apply the compensation factor/How to check the compensation value applied
9 <u>Set the left hub of the take up reel</u>	Set the left hub of the take up reel