Avery Dennison® Technical Bulletin 4.02

Optimisation for Laminate (DOL) Adhesion to HP Latex Inks

Revision 1

Introduction

This bulletin provides recommendations for printer profile settings when Digital Overlaminate (DOL) adhesion issues occur with HP Latex Gen 3 and Gen 4 inks.

A component of the Gen 3 ink and Gen 4 overcoat has been known to cause laminate adhesion issues, this Instructional Bulletin will cover ways to lower ink levels, improve ink drying and curing, thus providing improved laminate adhesion.

3rd Generation Ink ICC Profile Overview

When printing with HP Latex 100, 300 or 500 series printers with HP Latex 3rd generation Inks there are two ink configuration options when setting up your profile. Our recommendation is to create both options, then use the profile that gives the best result for the particular job you are printing. Sometimes a wider gamut with slightly smoother gradients is preferred, other times nice vibrant colours will deliver the best final result.

Option 1 - Overall lower ink levels

Lowering the ink levels to 90% significantly improves adhesion ensuring an adequate bond is achieved. When the ICC is re-linearised to these ink levels, your colours shouldn't be impacted, however some sacrifices may be evident in density and vibrancy.

Option 2 - Higher ink levels with reduced gamut.

Usually HP Latex printers are configured to run a 6 colour ink set CMYKLcLm (Cyan, Magenta, Yellow, Black, Light Cyan and Light Magenta). By running your printer with a 4 colour ink set CMYK (Cyan, Magenta, Yellow and Black) there will be less ink used overall thus improving drying, curing and DOL adhesion. The only caveat to this is some colours may appear slightly "Grainy" in gradients with removal of the light cyan and light magenta inks.

4th Generation Printers

With Generation 4 HP Latex Ink, HP has removed the anti-scratch agent from the pigmented inks, and replaced it with a new component called 'Overcoat'. In order for qualified HP Latex printers and Inks to be covered by the listed warranties, where overlaminate protection is needed, all prints must be done without the use of 'overcoat'. To ensure 'overcoat' is not used, two options are available to proceed:

    a) Check the option "Optimize for lamination" in the RIP's printer settings, or
    b) Modify the overcoat setting at 0dpp from the substrate media presets.
Failure to do so will void any warranties stated within this document.
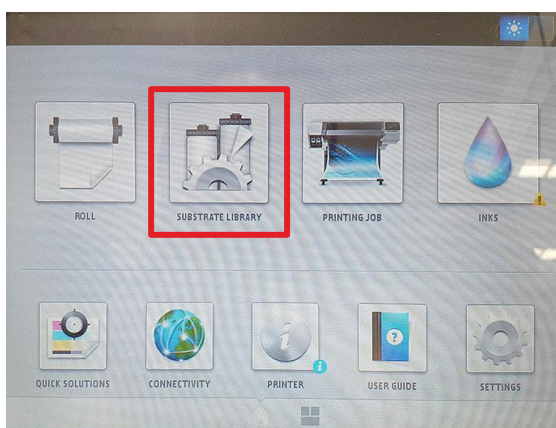
DOL Adhesion Important Note

After applying any overlaminates, allow the graphics to sit for at least 24 hours before use in ambient conditions (22℃ / 50% RH). This allows the overlaminate's adhesive to reach a functional bond with the film it is applied to, critical to ensure proper adhesion between the two films.
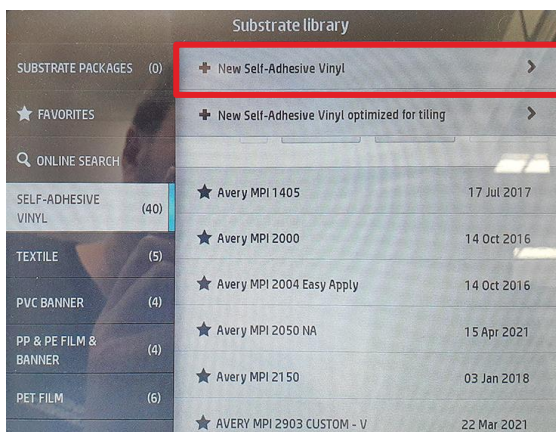
HP Latex 3rd Generation Ink

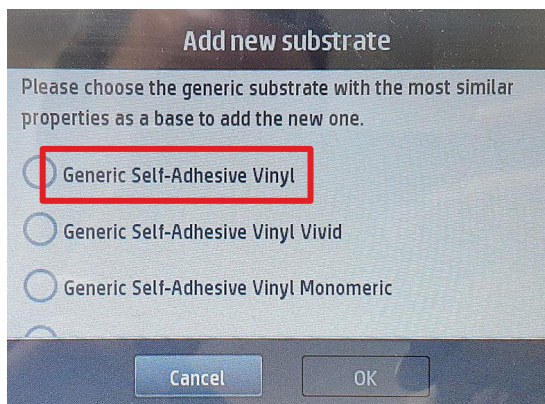## - Lower Ink Level

Step by step

1. Load the MPI 1105 Easy Apply RS™ into the printer under your current profile settings.
2. In the main menu select Substrate Library.

3. Under Self-Adhesive Vinyl select the top option called New Self Adhesive Vinyl.
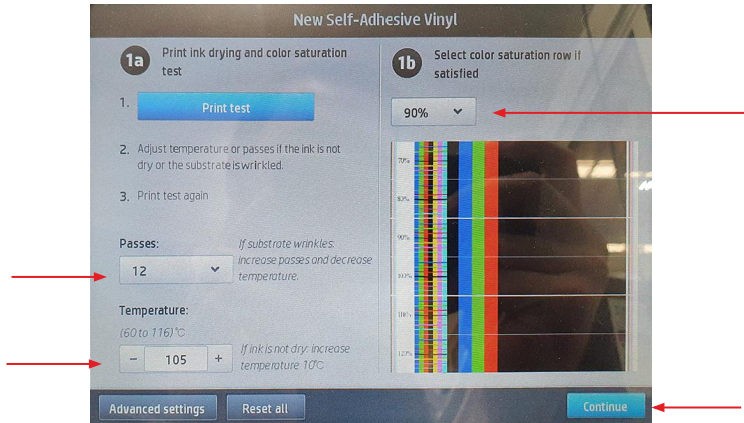

4. A window will pop up asking for Generic Vinyl properties, select the top standard one. .
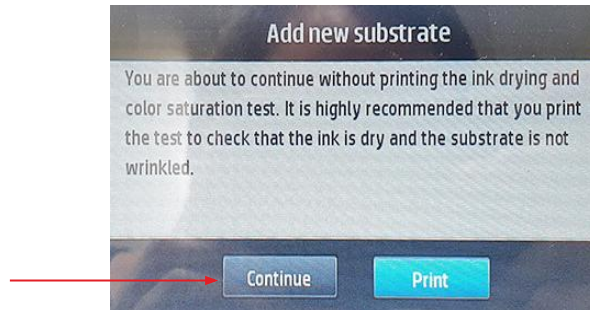
HP Latex 3rd Generation Ink
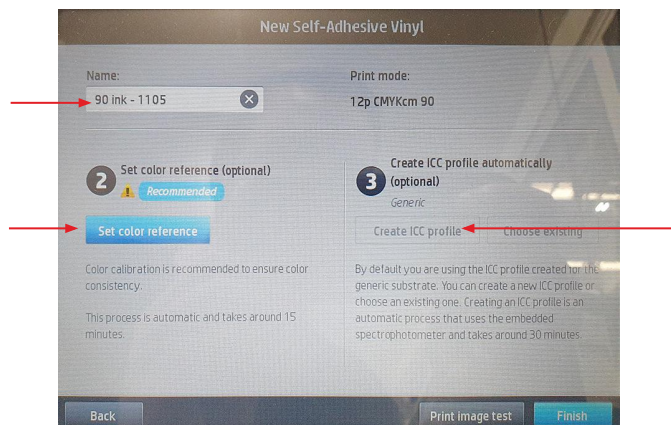
- Lower Ink Level

5. On this page select 12 Passes, 105 °C and 90% Ink Level.
6. The press the Continue button.

7. A window will pop up, press Continue without printing the test page.

8. In this final window you can name the profile to help find it on the list, we have called it **90 ink - 1105** but often printers will call it **1105 Wrap Profile 90**. You must click **Set Color Reference (2)** and once this test chart is finished you will be able to click **Create ICC Profile (3)**. You must do both of these to bring your colours back into alignment after removing ink density. This will use around 1m of material for both test images combined.
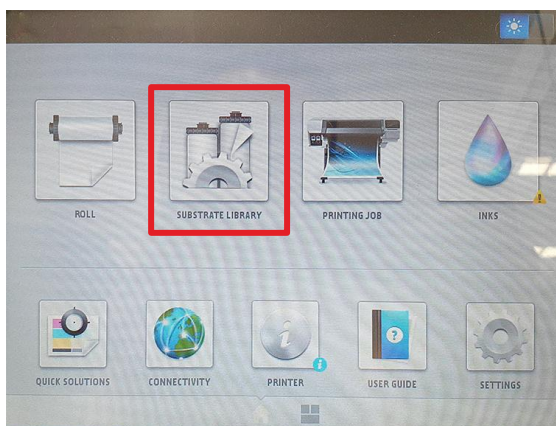

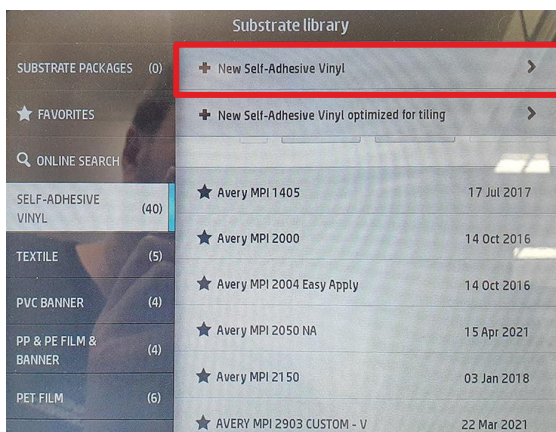9. After both charts are printed you can press the Finish button.

![Avery Dennison logo]
AVERY DENNISON

HP Latex 3rd Generation Ink

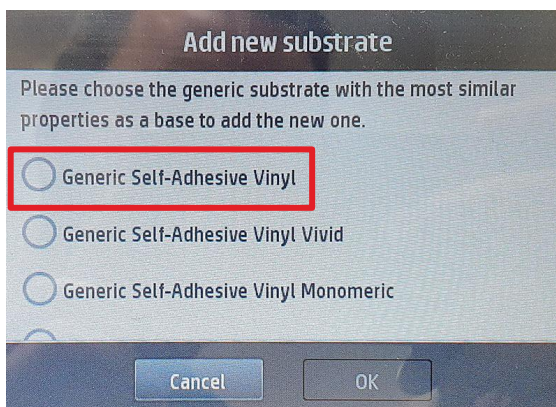- ## Brighter Colour with reduced gamut

Step by step

1. Load your roll of MPI 1105 EZ RS™ into the printer under your current profile settings.
2. In the main menu select Substrate Library.

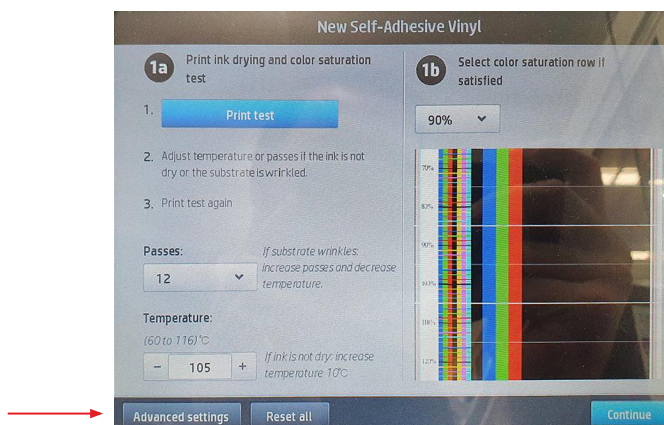3. Under Self-Adhesive Vinyl select the top option called New Self Adhesive Vinyl.

4. A window will pop up asking for Generic Vinyl properties, select the top standard one. .
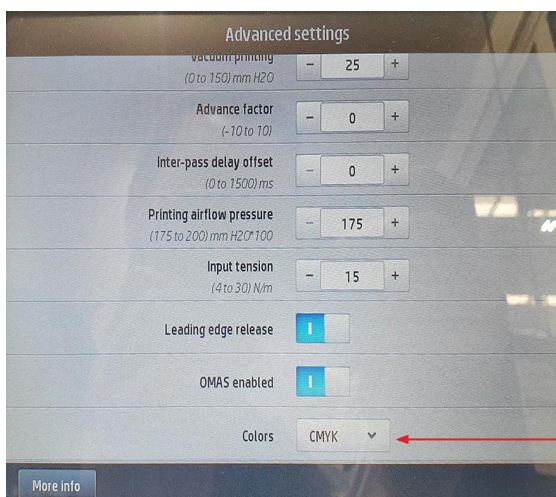
HP Latex 3rd Gen Ink
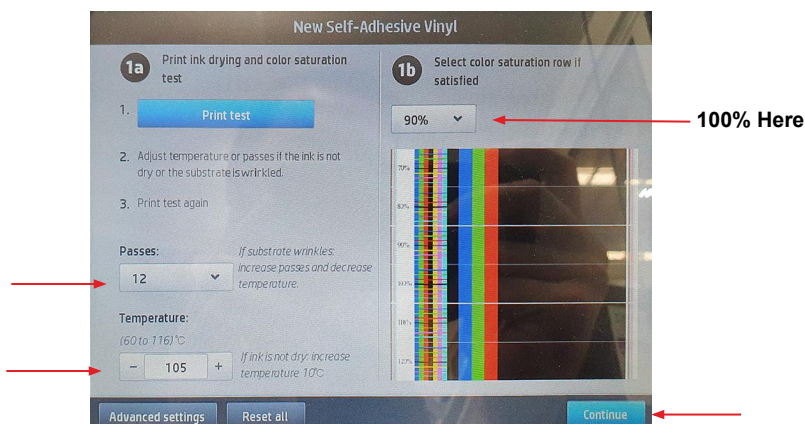
- ## Brighter Colour with reduced gamut

5. Press the Advanced Settings button at the bottom of the window.

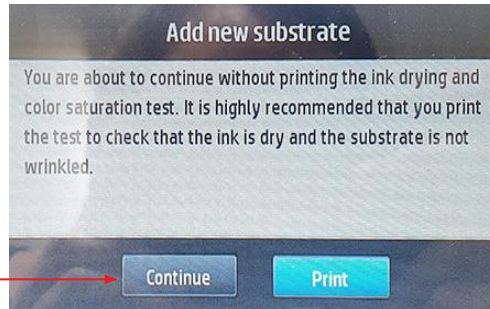6. Scroll to the very bottom option and change from CMYKcm colors to CMYK and press Save

7. On this page select 12 Passes, 105 °C and 100% Ink Level. (If needed 110% is fine)
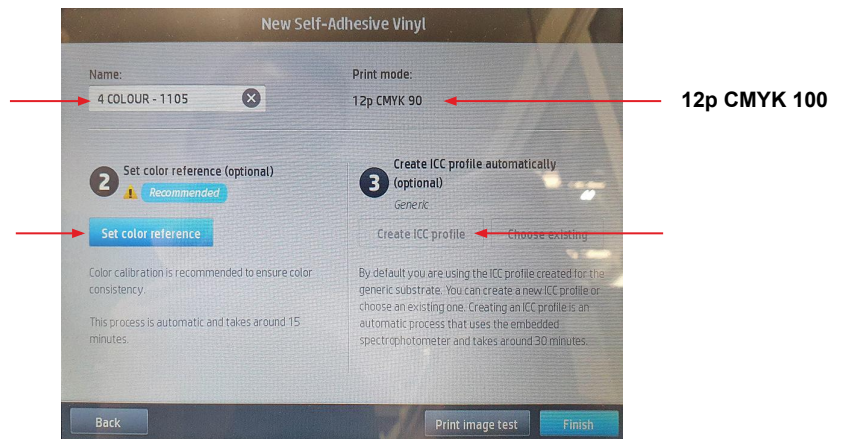8. The press the Continue button.

100% Here

HP Latex 3rd Generation Ink

- Brighter Colour with reduced gamut

9. A window will pop up, press Continue without printing the test page.
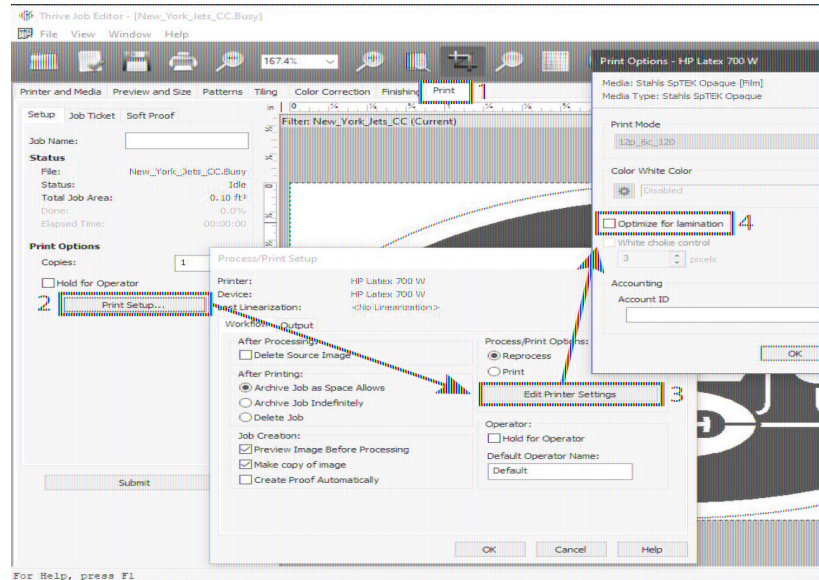

10. In this final window you can name the profile to help find it on the list, we have called it **4 COLOUR - 1105** but often printers will call it **1105 Wrap Profile 4C**.
11. Double check that the Print Mode reads **12p CMYK 100.**
12. You must click **Set Color Reference (2)** and once this test chart is finished you will be able to click **Create ICC Profile (3)**. You must do both of these to bring your colours back into alignment after removing the Light Colours. This will use around 1m of material for both test images combined.
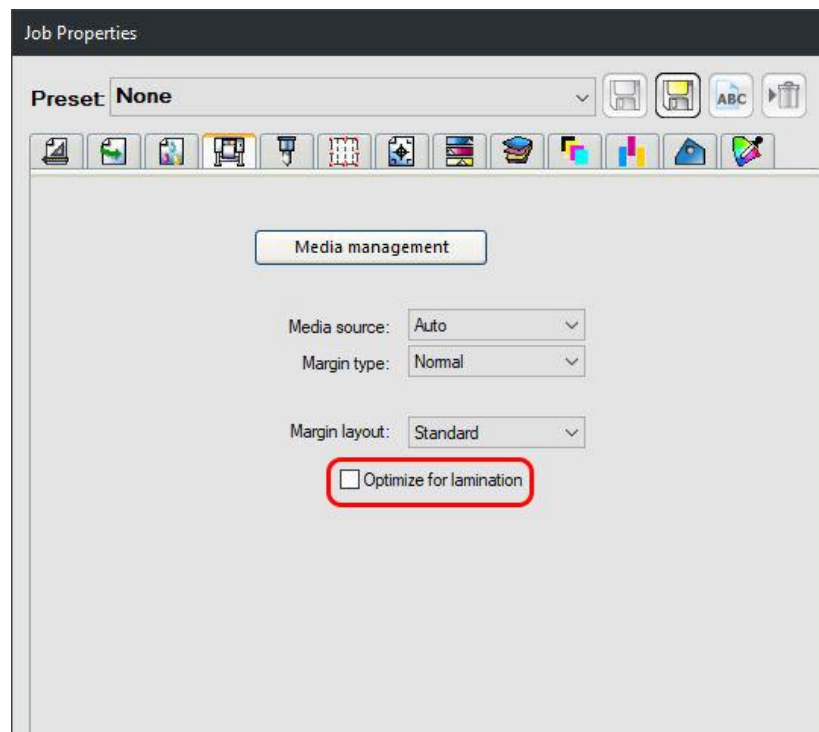

12p CMYK 100

13. After both charts are printed you can press the Finish button.

4th Generation Ink Profile
- RIP Setting

Onyx RIP



SAi FlexiPRINT HP Basic Edition

🗑

4th Generation Ink Profile
- Profile Setting

If your Printer RIP does not have the "Optimize for Lamination" option then a manual profile will need to be made following the below steps.

Take your current MPI 1105 Easy Apply RS™ and clone it.

1. At the front panel, tap 📁 , then Self Adhesive Vinyl category, then tap on your current 1105 Profile.
2. Tap ••• at the top right corner.
3. Tap **Clone** to clone the preset, and enter a name for the new preset. **1105 Wrap** or any name that is suitable for you.
4. Your new preset will appear at the end of the generic preset list.

Now let's modify the substrate preset.

1. Select your new 1105 Wrap profile, delete all print modes except one.
2. Press the ✏ button to change the print mode settings.
3. Use the below print settings...
    ○ Passes - 14 Passes
    ○ Curing Temp - 90°C
4. In **Advanced Settings** change these two options
    ○ Optimizer Level - 18%
    ○ **Overcoat Level - 0 (This is the critical setting)**
5. Save your profile.

It is recommended to do a full colour calibration and ICC Colour Calibration after changing these settings.

If needed below is the full profile settings for MPI 1105 EZ RS™

Printer settings	
P Advance factor	0
P Color Mode	CMYKLITES
P Curing Temperature	90
P Ink Density	120%
P Input Tension	6
P Inter-pass delay offset (ms)	0ms
P Latex Optimizer Level (%)	18%
P Number of passes	14 passes
P Output Tension	8
P Overcoat level	0.5
P Printzone Temperature	40
P Vacuum	20

Warranty and Limited Remedy

This instructional bulletin describes a technique. The information contained herein is believed to be reliable, but Avery Dennison makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. To the extent allowed by law, Avery Dennison shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the technique of making a graphic regardless of the legal theory asserted.

The above information provides basic information on how to apply pressure-sensitive graphics. The instructions are designed to help ensure success across a broad range of applications. Depending on the size and complexity of applications, a certain amount of expertise is needed.

Professional applicators can be hired to ensure proper application of finished graphics. When mounting graphics in remote geographic areas, professional applicators can offer the added benefit of local service.

Avery Dennison has a vast network of Certified Installers who have been specially trained and certified in accordance with our recommended techniques.

You can review the Certified Installer list here: Find a Graphics Installer

Consider hiring a professional whenever the application requires:
- Multiple panels to be registered
- Complex surfaces, such as rivet and corrugated trucks
- Harsh environmental conditions (i.e. outdoor applications in high heat climates)
- Remote geographic locations

For further information, contact your local Avery Dennison representative.