

Printing on Reflective Materials

With UV-Curable Inkjet Printers



Document Overview

Mirrors, polished metals, and other similar highly reflective surfaces provide intriguing possibilities to some users of Hewlett-Packard UV-curable inkjet printers (DisplayMaker UVR-UVX, HP Scitex FB910 (CS9840uv), HP Designjet H35000/H45000 Printer series (CS5400uv)). Printing on these substrates is possible, but certain precautions should be taken to ensure that the printer is protected from the potentially detrimental effects of UV light reflecting from the media back onto the printheads. Other physical properties of the media itself (weight, for example) may also require special procedures. This document describes the potential pitfalls of printing on reflective substrates and provides suggestions for obtaining best results.

Hewlett-Packard in no way endorses these applications and provides no warranty, express or implied, on the fitness of the product for any such application, nor accepts any liability for damages incurred by printing on these materials.

Necessary precautions pertaining to the printheads

The printheads are very susceptible to unwanted curing of the ink in the orifices. The smaller the quantity of ink, the more easily the catalytic curing process can begin with minimal exposure to UV light and/or ordinary thermal heat. In order to prevent any more UV exposure than is absolutely necessary, follow these procedures:

1. Use as low a carriage height as possible. This will better control the UV waves bouncing back from the media onto the carriage.
2. Cover any areas of the substrate that will not be imaged with ink with an opaque mask. This reduces the overall available area of reflective material.
3. Increase the frequency of cleaning the printheads.

a. Purge and dab the printheads clean as often as after every print.

b. Use the Performance Purge option found in the "Maintenance -> Perform an Air Purge" menu option. This will force a greater volume of ink through the orifices, to better displace any partially cured ink.

Other precautions

Media Feed

On the grit roll/pinch roll media feed systems (all models except HP Scitex FB910 (CS9840)), heavy materials pose the greatest challenges. Add the smoothness factor of mirrored glass and the difficulty for the printer to move these materials consistently increases. It may take several attempts before finding the optimal printer settings for these materials. HP does suggest at least the following:

1. Use High Quality print mode. The small media advances of this mode are least likely to slip when moving a heavy media.
2. Turn platen vacuum fans to the lowest setting necessary to hold the media flat. For very rigid materials such as mirrored glass, the fans can easily be set to Minimum or even turned Off completely.
3. The application of a mask to the back side of the media may be necessary to provide a surface with better traction for the grit rollers.

Durability

Glass has very low adhesion (the quantifiable measurement of how well cured ink can hold to the surface). Most applications that print on glass or other clear media are reverse printed so that the ink is protected by the substrate itself. On mirror this is obviously not possible. Transport, handling, and display may subject the finished piece to scratching or other abrasive damage to the cured ink. At minimum, allow a full 48 hours of post-print curing to occur before handling the printed output.

© Copyright 2008 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

TN2755B

