



MULTI-PLASTICS®, INC.

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CONVENTIONAL OFFSET SYNTHETIC PRINTING TIPS



The **Substrate** should be fully tested and sent to your ink manufacturer for their recommendations. Plastic is a non-absorbent substrate.

Typically, you should use a 100% high solid, low solvent, hard drying, oxidizing type ink. Use **Inks** that are specially formulated to dry completely by oxidation, and that contain adhesion promoters that will bind the ink to a non-porous stock. Warm red, reflex blue, purple, violet and rhodamine pigments should be avoided. Fluorescent colors tend to degrade, and metallics are extremely difficult to print. If using an aqueous **Coating** or varnish, make sure to match it with the inks being used. If possible, use an ink and coating manufactured by the same company.

In the **Pressroom**, the substrate should be allowed to acclimate to the conditions for a minimum of 48 hours. Open all skids of material and remove the packaging material to allow air to circulate. The ideal temperature in the pressroom should be approximately 70°F. Cold stocks can develop static causing feeding problems and retard drying. A relative humidity of 45 - 50% is ideal. Very low humidity causes static problems and very high humidity causes ink emulsification and slow drying problems.

Plastic is a non-conductor of electricity; therefore it tends to hold **Static** buildup. To reduce static, make sure the press is properly grounded. The use of static eliminating equipment (including static bars, static string, tinsel) is in place at the delivery station is highly recommended. The use of ionized air blown into the stack can also help reduce static and feeding problems. Try to minimize handling that can cause static build-up.

Keep **Fountain Solutions** pH levels between 3.7 – 4.2. Conductivity should read at manufacturer's recommendations for the amount of product used. The temperature of the fountain solution should average 55°F. Excessive acidity can cause severely slow or even stop drying because the water is not absorbed by the stock, but rather stays with the ink and actually becomes more concentrated in acid as it slowly evaporates. Use an alcohol based or alcohol substituted fountain solution. Do NOT use electrostatic fountain solutions or those that contain high percentages of glycerin or glycols. These are non-evaporating wetting agents, which will slow down drying. The use of dryer additives will assist in drying (cobalt or manganese).

On the **Press**, use minimum distilled **water**. The ink/water balance is more critical when printing non-porous stocks than when printing regular paper. Non-porous stocks do not absorb water, therefore very little is needed. Use only enough to keep the surface of the plate wet. Water settings are critical, as emulsified ink will also increase drying time.

Use minimum **ink**. Use the thinnest possible ink film thickness to achieve desired color.

Press speeds may need to be reduced by 10%. Reduce vacuum at the feed area and at the suction cups to avoid streaks or marks. If possible, move brushes and wheels to outside the print area. Take out small lifts (about 1 to 4 inches max). Excessive pressure where you grip the stock can cause set off.

Air and dry heat aid in faster drying. Increase temperatures to 120 – 150 degrees F. Maximize the airflow of the dryer.

The use of spray powder will help keep the sheets separated and allows air to penetrate the pile of stock. Excessive powder combined with static can cause ink pull.

Be patient. Drying time can be 4 to 6 hours for 1-color, 5 to 8 hours for 2-colors, and up to 6 to 10+ hours for 4-color jobs.

Contact your ink/coating manufacturer for specifications. The information above, is to the best of our knowledge true and accurate. All recommendations and suggestions are presented without guarantee or responsibility of Multi-Plastics, Inc.

Print Evaluation Form

Material Supplier: _____

Material: _____

Skid Tag Number (s): _____

Ink Supplier: _____

Lot Number: _____

Coating Supplier: _____

Lot Number: _____

Fountain Solution Supplier: _____

What is the pH reading: _____

What is the conductivity reading: _____

Alcohol added? _____

Temperature: _____

Press Manufacturer: _____

Press Speed: _____

Static Equipment: _____

Spray Powder (Particle Size): _____

Plant Temperature: _____

Plant Humidity: _____

Printer (Name & Location): _____

Pressman: _____

Supervisor: _____

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