



First in UV Ink Technology

Liquid Steel UV9C2261

Ultraviolet Curable Ink

Product Application Guide

UV9C2261 Liquid Steel

Product Features

- For use on 10 point (pound) paper and card stocks.
- Requires only a single pass.
- Compatible with Nor-Cote UV9 Series inks (as used on paper substrates).
- Excellent cure and adhesion properties.

Description of Application

Magnetic signage display systems typically feature a wall-mounted magnetized surface to which graphic paper signs can be mounted without the use of adhesives. These display systems allow the end-user to change graphic displays effortlessly. Simply remove the previous sign and replace with a new graphic.

The Liquid Steel allows printers to manufacture display graphics for Magnetic Display Systems without using costly Magnetic material.

To prepare the paper sign, simply print the graphics on the first surface. The Liquid Steel is then printed on the reverse side. Upon delivery to the end-user, the graphic is simply mounted to the Magnetic Display System.

Liquid Steel can be applied as a 100% Coverage Flood or a 100% Border with 20% Interior print. See Recommendations for printing for more information.

Product Description

UV9C2261 Liquid Steel is a screen-printable ink system designed for use with Magnetic Display Systems. When printed on the back of paper substrates, Liquid Steel will hold the paper graphic to the mounted magnetic display. No adhesive is required to mount the sign to the magnetic display. **The UV9C2261 Liquid Steel does not contain N-Vinyl-2-Pyrrolidone (common name NVP)**

Application

Ink Preparation and Mixing:

The UV9C2261 Liquid Steel is supplied at print-ready viscosity, but should be thoroughly mixed prior to each use.

Mesh:

A 125 threads per inch Polyester mesh count is recommended. Mesh Tension should be at least 16 Newtons/cm² on rigid frames.

Stencil:

Use of UV compatible direct and thick capillary films (40-90µm) is recommended.

Squeegee:

A Sharp 60 durometer polyurethane squeegee is recommended.

Coverage:

800 to 1,000 Square feet per gallon based on an ink film deposit of 16 to 20 mils (0.016 – 0.018 inches).

Thinner:

The use of Thinner is not recommended as it inhibits cure and adhesion of the Liquid Steel.

Clean Up:

Use NSW-824 Screen Wash, or other UV compatible screen washes.

Packaging:

Available in one (1) gallon containers. Smaller containers are available upon request. Larger containers are not advised as the ink is likely to encounter stability issues.

Storage / Shelf Life:

Store all inks in a tightly-closed, black polyethylene container at temperatures under 90° F (32.2° C). Avoid direct sunlight and indirect white light. Excess ink from print runs should be stored in separate containers to avoid contamination. When stored under these conditions, the UV9C2261 will have a shelf life of six (6) months from the date of manufacture.

Ink Handling:

Gloves and/or barrier cream is recommended when handling UV inks. Safety glasses are suggested, particularly for areas where ink may be splashed. If skin contact occurs, wash affected area with soap and water (do not use solvent or thinners). Refer to the UV9C2261 MSDS.

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Cure & Adhesion

A minimum of 250 mJ/cm² and .400 watts per inch is required for complete cure. We recommend cure settings of one lamp at 200 watts per inch setting with a belt speed between 30 and 60 feet per minute. Adhesion should be, at a minimum, 95% complete upon exit of the curing unit, with full adhesion within four (4) hours of initial cure. If a loss of adhesion occurs, an increased lamp setting or slower belt speed may correct cure and adhesion.

Outdoor Use:

The Liquid Steel is not intended for use in exterior end-use applications. As most Magnetic Display Systems are indoor applications, this should not be of concern.

Recommended Substrates:

We recommend a ten (10) point / pound paper and cardstock for use with the Liquid Steel. Graphics on the first surface should be printed as recommended in the Nor-Cote® UV9 Series Technical Sheet.

Testing is highly recommended before actual production runs for heavier weight paper substrates.

Additives:

No additives are required for the UV9C2261 Liquid Steel. Additives will adversely affect the performance of the Liquid Steel. The use of powders, metallic pastes, fluorescent pastes, thinners and other liquid additives is not recommended.

Trimming / Die-Cutting:

Liquid Steel is a similar chemistry to the UV9 Series, and as such, has comparable flexibility. The Liquid Steel can be trimmed or die-cut easily.

Recommendations for Printing:

Liquid Steel works by having a thick deposit of ink on the reverse of a graphic printed on paper. The thicker the ink film, the better holding power the sign will have. For economical reasons, there are two ways that the Liquid Steel can be printed:

100% Coverage:

The Liquid Steel can be printed across the entire reverse of the graphic. This offers maximum holding power and may be the best option for heavier paper stocks.

100% Coverage Border / 20% Coverage Interior:

This option allows you to print less Liquid Steel and still have holding power to keep the graphic in place on the Magnetic Display System. The idea is that you print a flood border around the outside perimeter of the sheet, and print a 20 to 50% pattern in the interior section of the sheet. This saves the amount of ink consumed per part.

The size of the 100% Border will depend on the size of the sheet. The larger the sheet, the larger the border proportionately. A four (4) inch border should work for most applications under 3 feet in width. For larger formats, testing is recommended to determine the ideal border dimensions.