

Gloss UV Ink for Rigid Stock Applications

Features

- User Friendly/Press Ready
- Wide Adhesion Range
- Fast Cure Speeds
- High Gloss
- Excellent Abrasion and Water Resistance

Substrate Application

Media Type
Polystyrene
Rigid Vinyl
ABS
Some Top-Coated Polyesters
Tedlar®
Coated Metals

Thinning

Stir well before every use. The viscosity of UVRP inks is supplied in a press ready condition for most printing applications. It may be necessary to thin slightly (3% - 5% with K89141 Viscosity Reducer) for cylinder press users or special applications.

Mesh

UVRP prints and cures well through screen meshes between 305 to 420 (140 to 165/cm) monofilament polyester.

Stencils

Stencil materials must be solvent resistant and produce a thin film stencil. Dirasol 914, Dirasol 911 dual cure photopolymer, Dirasol 132 pure photopolymer direct emulsions or a thin capillary film are recommended to minimize deposit variables and improve economy.

Curing

Ultraviolet cure (UV) inks are dependent on a high dosage of ultraviolet light to initiate cure, the process that converts the ink from a wet to a dry film. The light must, in effect, see through or penetrate the layer of ink to achieve proper cure.

Light energy level requirements vary from ink to ink and are dependent on a number of factors:

1. Ink chemistry
2. Color
3. Ink deposit (film weight)
4. Substrate being printed
5. Halftone or line color

For UVRP the following guidelines are recommended:

Halftone Inks – 380.34PW Mesh

Minimum millijoules–130 mJ/cm²–measured at the UVA component

Minimum milliwatts–600 mW/cm²–measured at the UVA component

Line Colors–355.34PW Mesh

Minimum millijoules–175 mJ/cm²–measured at the UVA component

Minimum milliwatts–600 mW/cm²–measured at the UVA component

If under-cure is experienced with any product, demonstrated through a wet film or loss of gloss, it is usually due to excessive ink deposit. To correct this, the mechanics, such as mesh, squeegee, machine speed, or the amount of UV energy should be changed.

Reduction of color density is easily achieved by letting the color down with K93196 Mixing Vehicle until proper cure is obtained.

Adhesion should be at least 80% immediately out of the reactor with final adhesion developing in one-half hour to four hours. If total cure on a given substrate with a specific color needs to be established, the piece should be passed through the reactor one or two more times. This will usually simulate final adhesion.

UVRP

Coverage

Standard line colors should yield a coverage of 3000-3800 square feet/gallon (74 to 93 m²/liter) provided the ink deposit is between .50 and .70 mil. thick (12 and 18 microns).

Wash Up

Wash up on press with Xtend™ press washes and after the production run with Xtend™ ink degradents.

Pre-Production Tests

It is strongly recommended that all substrates be tested before use as supposedly similar substrates can vary between manufacturers and even between different batches from the same manufacturer. Certain plastics may be impregnated with lubricants that, like plasticizer migration, may impair adhesion and block resistance, even a considerable period after printing. Other plastics can become brittle or caused to curl after printing.

END-USER MUST DETERMINE SUITABILITY OF THIS PRODUCT FOR THE INTENDED USE PRIOR TO PRODUCTION.

Color Availability

The UVRP color range includes standard colors, matching system colors and halftone colors.

Standard Colors

UVRP-150	Primrose Yellow	K93539
UVRP-152	Medium Yellow	K93540
UVRP-251	Brilliant Orange	K93542
UVRP-350	Fire Red	K93543
UVRP-351	Bright Red	K93544
UVRP-450	Emerald Green	K93548
UVRP-501	Light Blue	K93552
UVRP-504	Ultra Blue	K93555
UVRP-700	Black	K93177
UVRP-800	White	K93195
UVRP-901	Mixing Vehicle	K93196
UVRP-1000	OP Clear	K93670

Halftone Colors

UVRP-110	Halftone Yellow	K93781
UVRP-310	Halftone Magenta	K93783
UVRP-510	Halftone Cyan	K93782
UVRP-710	Halftone Black	K93784
UVRP-910	Halftone Base	K93780

Matching System Colors

UVRP-010	GSYellow	K93181
UVRP-014	RS Yellow	K93182
UVRP-020	Orange	K93183
UVRP-030	YS Red	K93184
UVRP-031	BS Red	K93185
UVRP-033	QYS Red	K93186
UVRP-034	QBS Red	K93187
UVRP-035	Magenta	K93188
UVRP-039	Violet	K93189
UVRP-040	BS Green	K93190
UVRP-041	YS Green	K93191
UVRP-050	GS Blue	K93192
UVRP-052	RS Blue	K93193
UVRP-070	Tinting Black	K93194

Reducers/Modifiers

Viscosity Reducer	K89141
Flexibilizer	K90375
Flow Control	K89010
Adhesion Promoter	K87885

K89141 Viscosity Reducer may be used to reduce viscosity. Do not exceed 10% Viscosity Reducer by weight. Up to 15% K90375 Flexibilizer can be added to improve flexibility. K89010 Flow Control May be added up to 0.5% to improve flow. Use K87885 Adhesion Promoter 5-8% by weight to improve adhesion to non-polyolefin substrates.

Storage

Containers should be tightly closed immediately after use. At the end of long printing runs, surplus ink from the screen should be disposed of. Refer to Material Safety Data Sheet (MSDS) for materials and conditions to be avoided. In the interest of maximum shelf life, storage temperatures should be between 50°F (10°C) and 77°F (25°C). When stored under these conditions the maximum shelf life is shown by the use by dates, which are clearly marked on all ink containers.

Safety and Handling

Refer to MSDS for safety, handling, waste disposal and regulatory information. All colors have been formulated to contain no pigments which contain lead or other heavy metals. These products are formulated to meet CONEG Packing Legislation and ROHS Electrical and Electronic Equipment Directive. If necessary, certification of lead and heavy metals content can be obtained from an independent laboratory.

The information and recommendations contained in this Technical Data Sheet, as well as technical advice otherwise given by representatives of our Company, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Technical Data Sheet out of date and users are requested to ensure that they follow current recommendations.

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