

UviSPEED FLEX



High Speed/High Gloss UV Halftone Ink for Flexible Vinyls

Features

- Formulated to Produce Outstanding Print Quality at High Press Speed (up to 500 impressions per hour)
- Low Dot Profile
- Highly Flexible Formulation
- Full Cure with Low UV Energy
- Non-Blocking Formulation
- Extremely High Gloss Halftones
- Excellent Die Cutting

Substrate Application

Media Type
Most Pressure Sensitive Vinyls
Static Cling Vinyls
Most Rigid Plastics
Most Common Vinyl Banner Materials
Many Top-Coated Polyesters

Thinning

Stir well before every use. The viscosity of **UviSPEED FLEX** inks are supplied in a press ready condition and are formulated to provide optimal cure and dot gain. Thinning is not required or recommended.

Mesh and Squeegee

UviSPEED FLEX is recommended to be used with 355 to 420 count mesh made with low elongation monofilament polyester (140 to 165/cm). The ideal squeegee durometers are from 70 to 85 and resistant to UV inks.

Stencils

Stencil materials must be solvent resistant and produce a thin film stencil (3-6 microns over mesh). Dirasol 911, 914, SuperCoat 915, 916, 917, AST 210 and 220 dual cure, Dirasol Zenith Triple Cure or Dirasol 132 one pot direct emulsions are recommended to give the highest print quality and stencil durability.

Cure Parameters

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.

Cure speeds are dependent on:

1. Ink chemistry
2. Color
3. Ink deposit (film weight)
4. Substrate being printed
5. Opacity
6. Condition of the curing unit

It is recommended that the energy output of the cure units be measured using a radiometer or similar equipment.

For **UviSPEED FLEX** the following guidelines are recommended:

Minimum millijoules-80 -100 mJ/cm²-
measured at the UVA component

Minimum milliwatts- 500 mW/cm²-
measured at the UVA component

If under-cure is experienced with any color, 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, color density, belt speed, or the amount of UV energy, must be changed.

Reduction of color density is easily achieved by letting the color down with Halftone Extender Base (FLE-HTX) until proper cure is obtained.

Cross hatch tape adhesion should be at least 85% immediately out of the reactor/cure unit with final adhesion developing in one to four hours.

Coverage

Standard halftone colors should yield coverage of 2,800 to 3,500 square feet/gallon (69 to 86m²/liter) depending on film thickness.

Wash Up

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

Product Information

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.

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

Outdoor Use

Accelerated weathering tests indicate that **UviSPEED FLEX** exhibits an exterior life of up to six months in a temperate climate. **If you wish to extend the outdoor life to twelve months, you must use the Premium Magenta (FLE-PHTM or FLE-PIHM).**

Please note that accelerated machine weathering tests cannot be precisely related to actual outdoor performance but it is considered that 500 hours of exposure approximately equates to up to one year outdoor exposure in temperate climates.

Color Availability

The **UviSPEED FLEX** range is limited to standard and intense halftone printing inks.

Standard Halftone Colors

UviSPEED FLEX standard halftone colors comply with the ISO 2846 color standard. ISO 2846 establishes specifications for color and transparency of four color process ink for four-color printing. UviSPEED FLEX halftone inks are ISO 2846 compliant as recommended when using the G7 color process control method. The densities are slightly higher than SWOP (Specification Web Offset Publication) under most conditions and, therefore, offer scope for adjustment with the addition of halftone extender base.

UviSPEED FLEX halftone inks are developed to meet high speed print conditions. They incorporate the EzFlow rheology that provides improved ink flow out on the screen and achieves excellent release from the screen at extremely high print speeds while using minimal UV energy for curing. UviSPEED FLEX halftone inks print with a superior low dot profile and hold the dot structure over long press runs.

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.

Intense Halftone Colors

UviSPEED FLEX Intense Halftone colors are considerably higher in density than SWOP standards. Reduction of color density is easily achieved by letting down the color with FLE-HTX (Halftone Base) until proper density is obtained.

Halftone Colors

FLE-HTY	Halftone Yellow
FLE-HTM	Halftone Magenta
FLE-HTC	Halftone Cyan
FLE-HTK	Halftone Black
FLE-PHTM	Premium HT Magenta*

FLE-IHY	Intense Halftone Yellow
FLE-IHM	Intense Halftone Magenta
FLE-IHC	Intense Halftone Cyan
FLE-IHK	Intense Halftone Black
FLE-PIHM	Premium Intense HT Magenta*

FLE-HTX	Halftone Extender Base
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*** - this color must be used for any outdoor applications exceeding six months.**

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.

UviSPEED FLEX inks and reducers should not be stored in direct sunlight or extreme temperatures. 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.