

UVIPAK UCD

UV Ink for Multiple Substrate Container Decorating

Features

- ▶ Superior Multiple Substrate Adhesion Properties
- ▶ Gel-Structured Ink Body to Eliminate Ink Drip Through
- ▶ Excellent Opacity over White, Natural and Colored Containers
- ▶ Monopigmented Seritone Matching System for Bright, Clean Colors
- ▶ Outstanding Rub, Water and Product Resistance
- ▶ Photoinitiator Package Designed for Optimal Cure
- ▶ High Gloss Finish

Substrate Application

Treated
Polyethylene
Containers

Treated
Polypropylene
Containers

PET
Containers

Polycarbonate
Containers

SERICOL
More than ink...Solutions.™

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Thinning

It is essential to **thoroughly stir the ink** before use. Properly stirring the ink for three to five minutes using a high-speed agitation device is recommended. UviPak UCD is designed to be press ready. If thinning is required, for static elimination, the ink should be thinned 5% to 10% by weight using UviPak UCD thinner. It is recommended that thinner be added in 1% increments until desired viscosity is achieved.

Mesh and Squeegee

UviPak UCD is recommended to be used with 355 – 420 count mesh made with low elongation monofilament polyester (140 to 165/cm²). 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, 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.

The UviPak UCD series inks are designed to cure at line speeds up to 90 bottles per minute depending on the type of curing unit in use and bottle size.

Cure speeds are dependent on colors, film thickness, opacity and condition of the curing unit. It is recommended that the energy output of the

cure units be measured using a radiometer or similar equipment.

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, machine speed, or the amount of UV energy should be changed.

Reduction of color density is easily achieved by letting the color down with UCD-MX (Mixing Clear) until proper cure is obtained.

Cross hatch tape adhesion should be at least 90% immediately out of the reactor/cure unit with final adhesion developing in one 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 times. This usually will promote final adhesion.

Full water and/or product resistance is achieved within 24-hours of complete cure.

Special Modifications

For extreme water resistance, the UCD-WRA water resist additive can be added at 3% to 5% by weight. A 24-hour post cure is required when using the UCD-WRA for full water and/or product resistance.

Coverage

Standard line and IMS colors should yield approximately 2500 to 3000 square feet/gallon when printed through a 380.34 mesh.

Wash Up

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

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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.

Uvipak UCD is not recommended for printing on PVC extruded bottles due to potential embrittlement of the substrate.

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

Co-Use with Other Inks

UviPak UCD can be *inter-printed* over and/or under the UviPak PE and UviPak PET series.

UviPak UCD can be *intermixed* with UviPak PE at a maximum of 25% by weight of the completed formula.

It is **not** recommended that UviPak UCD be *intermixed* with UviPak PET or any solvent based ink system.

Color Availability

The UviPak UCD color range includes standard printing colors as well as intense matching system colors. This color range includes opaque pigments (where appropriate), which allows a variety of difficult colors to be matched on different colored containers.

Intense Seritone Matching (IMS) Colors

The UviPak UCD ink series uses the Intense Seritone Matching System (IMS). The IMS system has been designed to enable printers to readily match PANTONE and most other colors in-house. The system consists of IMS base colors, each of which has been selected for its cleanliness of tone and suitability for intermixing.

Using the IMS base colors plus the Shading Black (UCD-SB) and Tinting White (UCD-TW), almost any color can be produced. It is not recommended to use either the 009/301 Dense/Opaque Black or 311/312 Opaque White for color matching purposes.

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. If necessary, certification of lead and heavy metals content can be obtained from an independent laboratory.

IMS Toners

UCD-SB	IMS Shading Black
UCD-TW	IMS Tinting White
UCD-062	IMS Yellow
UCD-064	IMS Yellow (Green Shade)
UCD-066	IMS Yellow (Red Shade)
UCD-114	IMS Orange
UCD-121	IMS Red (Yellow Shade)
UCD-127	IMS Violet
UCD-164	IMS Red (Blue Shade)
UCD-165	IMS Magenta BS
UCD-167	IMS Magenta YS
UCD-230	IMS Blue (Green Shade)
UCD-233	IMS Blue (Red Shade)
UCD-235	IMS Blue RS
UCD-325	IMS Green

Opaque Colors

UCD-141	Fire Red
UCD-210	Ultra Blue

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UCD-221	Emerald Green
UCD-301	Opaque Black
UCD-311	Opaque White
UCD-026	Brilliant White

Halftone Colors

UCD-IHY	Intense Halftone Yellow
UCD-IHR	Intense Halftone Red
UCD-IHB	Intense Halftone Blue
UCD-IHK	Intense Halftone Black
UCD-HTX	Extender Base

Thinners, Additives and Clears

UCD-TH	Thinner
UCD-MX	Mixing Clear
UCD-WRA	Water Resist Additive

Metallics

The standard Mixing Clear (UCD-MX) is recommended for use with all metallic and pearlescent powders. The viscosity of the UCD-MX offers good powder suspension, excellent cure speeds, and very good mixed shelf life. The following mixing ratios are recommended:

Recommended ratios	UV Metallic Pastes	Metallic Powders
Silvers (aluminum)	12% by weight	8% by weight
RS Gold	22% by weight	20% by weight
GS Gold	25% by weight	20% by weight

Due to the possibility of chemical changes after mixing, it is recommended that metallic shades be mixed fresh daily.

Special Matches

Special colors can be supplied against prints, wet ink, PANTONE®* numbers, or other Sericol standard colors.

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, and waste disposal information.

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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