

DURACAL

Long Term Decal UV Ink for Premium Pressure Sensitive Vinyl

Features

- ▶ Excellent Outdoor Durability When Overprinted
- ▶ Highly Flexible
- ▶ Excellent Chemical and Abrasion Resistance
- ▶ Bright Clean Single Pigment Blending System
- ▶ Unlimited Color Matching Capability
- ▶ Capability of Matching Metallics

Substrate Application

Premium
Pressure
Sensitive Vinyl's

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Thinning

Stir well before every use. Duracal inks are supplied in a press ready condition for most printing applications. It may be necessary to thin slightly (3-5% with DCL-TH Thinner for colors or DCL-OPTH Thinner for clear coat) for automatic presses and in-line processors.

Mesh

Duracal colors are recommended to print through 355 to 390 (140 to 150/cm) monofilament polyester fabrics. DCL - OP Clear and Metallics are designed to print through 305 to 355 (120 to 140/cm) monofilament polyester fabrics.

Stencils

Stencil materials must be solvent resistant and produce a thin film stencil (3-6 microns over mesh). Dirasol 911, SuperCoat 915, Super Coat 916 dual cure, or Dirasol 132 one pot direct emulsions are recommended to give the highest print quality, minimize deposit variables, and improve economy.

Curing

Ultraviolet curable inks are dependent on a high dosage of ultraviolet light to initiate cure. Light energy must penetrate the entire ink layer to achieve proper cure and ink performance. Only the recommended screen mesh listed above should be used to ensure proper ink film thickness and proper cure.

Duracal colors are designed to cure in units containing one 200-watt/inch (80-watt/cm) lamp at 40-50 feet per minute. Duracal OP Clear is designed to cure in units with one 300 watt/inch (120-watt/cm) lamp at 40-50 feet per minute. Cure speeds are dependent on colors, film thickness, opacity, and condition of the curing unit.

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 DCL-MX (Mixing Clear) until proper cure is obtained.

Adhesion should be at least 90% immediately out of the reactor with final adhesion developing in one-half hour. If total cure on a given substrate with a specific color needs to be established, the printed piece should be passed through the reactor one or two more times. This will usually simulate final adhesion.

Coverage

Duracal inks should give coverage of 3000 to 3500 square feet/gallon provided the ink deposit is between .50 and .70 mil. thick or 12 to 18 microns.

Wash Up

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

Pre-Production Test

It is strongly recommended that adhesion be tested prior to production. Pressure sensitive films can vary from different manufacturers and even between different batches from the same manufacturer. PS vinyls contain ingredients that could migrate to the surface due to age or storage of the film causing poor adhesion. In this case, wiping the film with alcohol can improve adhesion.

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

Outdoor Use

Accelerated weather tests have been conducted on prints produced with Duracal in QUV and Xenon Arc weatherometers. Under these conditions, over-printed Duracal colors withstood 2500 hours with no appreciable color change or deterioration evident. Accelerated weathering tests cannot be precisely related to actual outdoor performance, but it is considered that 2500 hours of exposure approximately equates to up to seven years outdoor exposure in temperate climates.

For optimum light fastness in color matched shades it is recommended not to use less than 5% of any one color.

NOTE: Duracal inks must be overprinted with DCL-OP Overprint Clear to achieve outdoor durability.

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Warranty

Information regarding warrantable applications can be obtained from your Technical Sales Manager. For the warranty to be valid, it must be obtained in writing prior to the production use of the Duracal system.

Color Availability

The Duracal color range includes matching system colors and the intense four-color process halftone colors. DCL-301 Opaque Black, DCL-311 Opaque White, and DCL-OP Overprint Clear are also available.

Color Matching

The Duracal matching system has been designed to enable printers to readily match colors in-house. The system consists of 13 blending colors, each of which has been selected for its cleanliness or tone, durability, and suitability for intermixing. Using the matching system colors plus DCL-SB Shading Black, DCL-TW Tinting White, and DCL-MX Mixing Clear, almost any color can be produced.

Caution: Using less than 5% of any color in a match will decrease its outside durability.

Four Color Process Colors

Duracal halftone inks are high intensity colors and need to be let back with halftone base to achieve a specific density. Both high and low viscosity halftone bases are available and selection will depend on the type of press used. Contact your Technical Sales Manager for specific recommendations.

Metallics/Pearlescents

A special Metallic Mixing Clear is recommended for use with metallic and pearlescent pigments. The viscosity of the Metallic Mixing Clear insures good metallic suspension and excellent cure speeds. The recommended mixing ratio is a maximum of 12% by weight. (**NOTE:** Call your Sericol Technical Service Manager for specific recommendation of metallic and pearlescent pigments.) Screen mesh should range between 305 and 355 monofilament polyester.

Special Matches

Special colors can be supplied against prints, wet ink or other Sericol standard colors.

Standard Colors

DCL-301	Opaque Black
DCL-311	Opaque White
DCL-OP	Overprint Clear
DCL-MMX	Metallic Mixing Clear

Matching System Colors

DCL-010	Yellow GS
DCL-011	Krolar Primrose Yellow
DCL-012	Krolar Medium Yellow
DCL-014	Yellow RS
DCL-021	Krolar Orange
DCL-030	Red YS
DCL-031	Red BS
DCL-032	Deep Red
DCL-034	Red QBS
DCL-035	Magenta
DCL-037	Pink
DCL-039	Violet
DCL-040	Green BS
DCL-041	Green YS
DCL-050	Blue GS
DCL-052	Blue RS
DCL-SB	Shading Black
DCL-TW	Tinting White
DCL-MX	Mixing Clear

Halftone Colors

DCL-IHY	Intense Halftone Yellow
DCL-IHR	Intense Halftone Red
DCL-IHB	Intense Halftone Blue
DCL-IHK	Intense Halftone Black
DCL-LVX	Low Viscosity Base
DCL-HVX	High Viscosity Base

Reducers/Modifiers

DCL-TH	Thinner
DCL-OPH	OP Thinner

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Storage

Containers should be tightly closed immediately after use. At the end of long printing runs, surplus ink from the screen should be disposed. 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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