Dual Cure DC Series

LED/Mercury Vapor Cure Container Ink

Dual Cure DC is a one-part screen ink developed to cure under both standard mercury vapor as well as LED curing conditions. This unique UV ink adheres to HDPE, LDPE, PET, PVC and PP without the use of adhesion promoters or catalysts. DC Series exhibits excellent flexibility for squeeze tests on thin walled bottles, yet it maintains outstanding adhesion and water resistance properties.

Performance Properties

- Cures with hard surface for immediate packaging
- Distinct rheological properties for smooth prints
- High flexibility for thin walled containers
- No flame required for PET adhesion
- Opaque, non-yellowing bright white
- Superb water resistance
- Unequaled adhesion to PE, PP, and PET

Recommended Substrates

For best results the following require a flame treatment prior to printing:

- High Density Polyethylene
- Low Density Polyethylene
- Polypropylene

No flame is required for:

- PVC
- PET

Curing

Ink will cure well when printed through 380-460 (150 - 180cm) plain weave polyester mesh or finer. DC's optimal cure window of 125 - 150 mJ/ cm^2, 550 - 650 mW/ cm^2 is generally achieved with one 300 watt per inch mercury vapor lamp at press speeds up to 70 containers per minute or with one 395 nM, 8 watt LED lamp at press speeds up to 70 containers per minute. Cure speeds may vary as thicker material and dark surface colors require more energy.

Adhesion should be a minimum of 95% from curing unit with final adhesion developing within four hours of initial polymerization. Coarser fabrics can be utilized; however, cure parameters may need to be adjusted for increased ink film.

If a loss of gloss or adhesion due to insufficient cure in noticed, the use of 5 – 10% DC Metallic Mixing Clear will increase light penetration and improve cure in opaque colors without viscosity reduction.

Water Resistance

DC has passed all laboratory conducted water immersion/wet flex tests. Printed bottles were tested immediately as well as after a 24 hour 'post cure' period. This period, between curing and testing, provides the ink film and substrate time to stabilize, thereby improving adhesion properties.

Printing

Mix well prior to use. While supplied in press ready condition, DC may be reduced up to 10% with 23850 DC Thinner. Care should be taken to print the ink at optimal temperature 70 - 90° F (21 - 27° C). Cool ink will heavier viscosity and will not flow properly. Hot ink will be lower in viscosity resulting in poor definition and decreased opacity.

Coverage

3,200 to 3,600 square feet per gallon based on ink deposit .40 - .60 mil dependent on color and printing conditions.

Storage

Care should be taken to store ink in tightly closed containers located in a cool (60-80°F/15-27°C) dark place. After long production runs, excess ink form the screen should be properly disposed. With suitable conditions, unopened ink is expected to have a shelf life of approximately twelve (12) months from date of manufacturer.

Metallic's

Use the Metallic Mixing Clear to prepare metallic ink as its increased viscosity helps insure a good particle suspension and extended shelf life. Recommended mixing ratios, by weight are:

- 28% gold paste
- 12% silver paste

For optimum coverage and opacity, 305-420 plain weave mesh is recommended.

Additives

- 1534 Adhesion Promoter up to 3% as needed
- 23850 Thinner up to 10% as needed
- 24003 Liquid LED Curative (for added product resistance)

Precautions

Read the safety data sheet prior to processing. It contains instructions for precautions to be taken when handling inks. If ink comes in contact with skin wipe off with a clean, dry cloth (do not use solvent). Wash and rinse the affected areas with soap and water.

Process Printing

For superior halftone reproduction, DC halftones are available in a range of density levels. Additional control of density may be achieved with use of DC HT Base. For best results, 380 (150cm) or finer and a smooth, thin stencil coating should be utilized with process printing.

	Press Ready	High Density
DC Halftone Yellow	0.90	1.10
DC Halftone Magenta	1.40	1.75
DC Halftone Cyan	1.40	1.80
DC Halftone Black	1.60	2.00

(816) 221-5567

www.polymericgroup.com

Polymeric US Inc.
117 E. 14th Avenue
N. Kansas City, MO. 64116

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Color Availability

DC is available in eleven opaque standard colors. Custom matches, metallic, fluorescent and transparent colors are available upon request.

DC-111 Lemon Yellow	DC-220 Emerald Green
DC-131 Brilliant Orange	DC-301 Opaque Black
DC-141 Fire Red	DC-311 Opaque White
DC-155 Rubine Red	DC-160 Rhodamine Red
DC-026 Brilliant White	DC-205 Reflex Blue
DC Overprint/Mixing Clear	DC-210 Ultra Blue
DC Metallic Mixing Clear	

Pantone Matching System® Colors

The nine PANTONE ® approved Color Matching System (CMS) shades are used to simulate the PANTONE® Color Specifier colors. Formulas were designed for maximum opacity and are available in book or Imaging Color source Software formats

DC-064 CMS GS Yellow	DC-066 CMS RS Yellow
DC-114 CMS Orange	DC-121 CMS YS Red
DC-164 CMS BS Red	DC-165 CMS Magenta
DC-127 CMS Violet	DC-230 CMS Blue
DC-325 CMS Green	DC Tinting White
DC Shading Black	

We strongly recommend testing complete construction as per shop conditions prior to full production. MIX WELL BEFORE USE. Follow the directions on the package, ask for the safety data sheets and always follow the directions contained therein.

Important – Only the correct use of the product will allow satisfactory results. For this reason, closely related to the product supplied, Polymeric must decline all direct and indirect responsibility for the proper or improper use of the product. Make certain that product is right for the desired use, work according to the instructions given in our technical data sheets. Before use contact our Technical Service in case of doubt.

A. Warranty Liability Limited to Purchase and Installation Costs

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