Duraflex

Duraflex DF is a UV curable ink system specifically formulated for flat, pressure sensitive decal applications requiring exterior exposure for five years. Extensive weathering tests have proven Duraflex yields resilient decals, which will not edge curl due to ink/vinyl shrinkage or diminish in color intensity.

Performance Properties

- Exceptional opacity and high gloss
- Extremely flexible for multi-layer applications and die-cutting
- Low shrinkage, which diminishes edge curl
- Non-blocking, low tack finish for easy handling
- Solvent and abrasion resistant
- Suitable for up to 5 years of exterior exposure
- Suitable with pre-mask films for easy application

Recommended Substrates

- Coated paper
- Many coated metals
- Polycarbonate (adhesive not recommended)
- Polystyrene
- Pressure Sensitive Vinyl
- Print Treated Polyester
- PVC
- Vinyl coated magnets

Curing/Processing Guidelines

Ink will cure well when printed through 355 (140cm) plain weave polyester mesh or finer. DF's optimal cure window of 175 - 200 mJ / 550 - 650 mW is generally achieved with one 200 watt per inch mercury vapor lamp at a belt speeds between 50 - 60 feet per minute (20 - 30 m / min). This should provide thorough cure of the product. 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 is noticed, the use of 5 – 10% DF Mixing Clear will increase light penetration and improve cure.

Pre-Mask

A medium to high tack adhesive is recommended for good adhesion.

Light Fastness

At full strength and cured properly, DF colors are formulated to withstand up to three years of exterior exposure. Factors that will alter the outdoor durability of the ink include but are not limited to: substrate grade/age, poor cure of the ink film, formulas, directional positioning, ink film deposit, exposure to excessive abrasives and air pollutants.

Care should be taken when reducing the mass tone* colors with clear or tinting white as this could negatively affect the exterior durability of the color. Colors that should not be used for outdoor applications are: CMS 164 BS Red, CMS 114 Orange, 180 Warm Red and 131 Brilliant Orange. Automotive grade color alternative recommendations are available by calling our Technical Services Department. *Mass tone: the full product color without dilution.

ROLLER COATING

- 23505 SP RC Solarshield Clear

SCREEN

- 6918+ Solarshield Overprint Clear

Printing

Mix well prior to use. While supplied in press ready condition, DF may be reduced up to 10% with DF Thinner for special viscosity adjustments. Care should be taken to print the ink at optimal temperature 70 - 90° F (21 - 27° C). Cool ink will have heavier viscosity and will not flow properly, whereas 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 of .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 increase viscosity helps insure a good particle suspension.

Recommended mixing ratios, by weight are:

- 28% gold paste
- 12% silver paste

For optimum coverage and opacity, 280-305 (110 – 120cm) plain weave mesh. Use DF Overprint Clear for extended weatherability and to improve the non-tarnishing properties of the product.

Additives

- 1004 Thinner up to 10% as needed.
- 1534 Adhesion Promoter up to 3% as needed
- 11939 Water Resistant Additive

Precautions

Read the material 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.

(816) 221-5567

www.polymericgroup.com

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

Duraflex

Process Printing

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

	Press Ready	High Density	Backlit Density
DF Halftone Yellow	0.90	1.10	1.35
DF Halftone Magenta	1.40	1.75	2.05
DF Halftone Cyan	1.40	1.80	2.20
DF Halftone Black	1.60	2.00	2.25

Color Availability

Duraflex DF is available in twenty opaque standard colors. Custom matches, metallic, fluorescent and transparent colors are obtainable upon request.

DF-101 Primrose Yellow	DF-210 Ultra Blue
DF-111 Lemon Yellow	DF-220 Emerald Green
DF-123 Medium Yellow	DF-225 Forest Green
DF-131 Brilliant Orange	DF-226 Lime Green
DF-135 Vivid Orange	DF-235 Teal
DF-141 Fire Red	DF-240 Purple
DF-151 Scarlet Red	DF-260 Brown
DF-155 Rubine Red	DF-301 Opaque Black
DF-160 Rhodamine Red	DF-311 Opaque White
DF-180 Warm Red	DF-312 Jet Black
DF-190 Process Blue	DF-026 Brilliant White
DF-200 Peacock Blue	DF Mixing/Overprint Clear
DF-205 Reflex Blue	DF 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

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

We strongly recommend a preliminary test of printing and curing on the supports intended to use, in order to ascertain exactly the procedure, the working times and the obtained effect. 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

Notwithstanding anything provided herein or any other written material to the contrary, Polymeric only warrants the purchase price and costs of installation. POLYMERIC SHALL HAVE NO LIABILITY OR OBLIGATION TO ANY USER, BUYER, PURCHASER, DISTRIBUTOR OR OTHER PERSON OR ENTITY FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED, INCLUDING WITHOUT LIMITATION, PERSONAL INJURY, LOSS OF BUSINESS, LOSS OF PROFIT, OR OTHER DAMAGE, whether or not buyer shall have informed Polymeric of the possibility or likelihood of any such damages.

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C. A Pretest Prior to Production is Recommended to Ensure Proper Suitability for the Intended Application.

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