

DP-800

DIAZO-FREE (*RD SENSITIZING TECHNOLOGY*) DUAL-CURE EMULSION; GOOD RESISTANCE TO SOLVENT-BASED INKS; SOME RESISTANCE TO WATER-BASED AND CO-SOLVENT INKS--THUS SUITABLE FOR VIRTUALLY ALL GENERAL GRAPHICS AND INDUSTRIAL APPLICATIONS

DP-800, using *RD Sensitizing Technology*, is a diazo-free, ready-to-use dual-cure emulsion modeled after Ulano's **LX-660**. It does not require sensitizing: no mixing of diazo powder with water, no stirring of diazo solution into the emulsion, and no waiting time for de-bubbling. **DP-800** is formulated to provide good resistance to water-based and co-solvent inks. It is thus suitable for virtually all general graphics and industrial applications. **DP-800** is olive-beige in color. Please note that **DP-800** must be used under yellow safelight conditions.

INSTRUCTIONS

Step 1: PREPARE THE FABRIC

Used or surface treated fabric need only be degreased using **Magic Mesh Prep**, **Screen Degreaser Liquid No. 3**, or dilute **Screen Degreaser Concentrate No. 33**. (Mechanical roughening is recommended for new fabric that is not surface treated. It increases the surface area of fabric for a better mechanical bond of the stencil, increasing printing run length. Use **Microgrit No. 2** before degreasing. Abrading and degreasing can be combined in one step with **Ulanogel 23**.) A degreaser, **Magic Mesh Prep** also serves as a wetting agent and antistatic treatment. Screen fabric treated with **Magic Mesh Prep** can be coated with emulsion more evenly and will transfer ink more readily during printing.

Step 2: COAT THE SCREEN

PLEASE NOTE: DP-800 with *RD Technology* is fully sensitized and very reactive to stray light; therefore, to avoid stencil pre-exposure, it must be handled under yellow safe light conditions.

Method 1: Apply one coat of emulsion on the printing side, then one coat on the squeegee side. Dry the screen thoroughly.

Method 2: Apply two coats on the printing side, then two coats on the squeegee side, wet-on-wet. After each coating, rotate the screen 180°. Dry the screen thoroughly.

Method 3: Follow Method 2. Then, after drying the screen horizontally, printing side down, apply two additional coats on the printing side, wet-on-wet. Method 3 optimizes the acutance (definition or edge sharpness) of printed edges.

Step 4: DRY THE SCREEN

Dry multicoated screens (Methods 2 or 3) thoroughly in a horizontal position, printing side down, at room temperature in a dirt- and dust-free area. Use a fan to accelerate the drying. Avoid high humidity. Under humid conditions, dry the coated screen with warm, filtered air up to 104° F. (40° C.) in a commercial dryer. Use a dehumidifier in the drying area, if possible.

Step 5: CALCULATE THE APPROXIMATE EXPOSURE TIME

From the Base Exposure Table below, select the type of light source you have and its wattage or amperage. The exposure times indicated are for 305/inch (120/cm.) white fabric at an exposure distance of 40 inches (= ca. 1 meter), using coating Methods 1, 2, or 3. The exposure time shown for the light source and coating method being used is the Base Exposure Time. Multiply the Base Exposure Time by all relevant Exposure Variable Factors (table, below) to find the Approximate Exposure Time.

Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME

Make a Step Wedge Test (an instructional video for doing so is available in the "Support" section of the Ulano Website: www.ulano.com) or use the **Ulano ExpoCheck**—carried through to actual printing—to determine your optimum exposure time. Optimum exposure is indicated:

■ At that exposure time when the emulsion first reaches its maximum color density, and the edges of the positive do not "resolve." This is best observed while the stencil is still wet following the washout. ■ There is no suggestion of softness or sliminess on the squeegee side emulsion after processing the stencil. ■ The print best duplicates the test positive *at the level of resolution that the job requires.*

Step 7: WASHOUT

Wet both sides of the screen with a gentle spray of cold water. Then spray the printing side forcefully until the image areas clear. Rinse both sides with a gentle spray until no soft emulsion is left on the squeegee side, and no foam or bubbles remain. Remove excess water with a wet vacuum, which is preferable to blotting with unprinted newspaper stock.

Step 8: BLOCKOUT & TOUCHUP

Blockout Option 1: Before drying and exposure, use excess emulsion from the coating step to cover the blockout area.

Blockout Option 2: After exposure and washout, dry the screen. Apply **Screen Filler No. 60** or **Extra Heavy Blockout No. 10**.

Touchup Option 1: When using water-containing inks, block out with excess emulsion, then re-expose the screen.

Touchup Option 2: For non-water-containing inks, use **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** thinned with water.



Technical Data Sheet

Step 9: STENCIL REMOVAL

Remove ink from the screen with **All-Purpose Ink Wash** or the solvent or solvent blend recommended by the ink manufacturer. Degrease with **Screen Degreaser Liquid No. 3** to remove ink and solvent residues that might impair the action of the stencil remover. Rinse with a forceful spray. Brush **Stencil Remover Liquid No. 4** or **Stencil Remover Paste No. 5** on both sides of the screen. Do not let the stencil remover stand for more than five minutes, and never allow the stencil remover to dry on the screen, as this can result in a permanent stencil. Rinse off the stencil remover and emulsion with a gentle spray of water; *follow with a high pressure spray of water from a commercial power spray unit*. **DP-800** works well with in-line decoating equipment.

Use **Walk Away Haze Remover** or **Haze Remover No. 78** to remove any ink and haze residue.

BASE EXPOSURE TABLE (For 305 threads/in.(120/cm.) white polyester or nylon at 40 in. (100 cm.) exposure distance.

LIGHT SOURCE	Coating Method 1	Coating Method 2	Coating Method 3
Carbon Arc			
110 amps	33 sec.	104 sec.	135 sec.
Metal Halide			
1000 watts	54 sec.	160 sec.	3 ½ min.
2000 watts	27 sec.	81 sec.	104 sec.
3000 watts	18 sec.	54 sec.	68 sec.
4000 watts	14 sec.	42 sec.	52 sec.
5000 watts	11 sec.	32 sec.	42 sec.
Pulsed Xenon			
2000 watts	148 sec.	7 ½ min.	10 min.
8000 watts	37 sec.	2 min.	2 ½ min.
Mercury Vapor			
2000 watts	36 sec.	1.8 min.	2 ½ min.
Fluorescent Tubes*			
40 watts	5 ½ min.	13 ½ min.	Not recommended

*Base exposure times are for unfiltered black light, or super diazo blue tubes at 4 – 6 inc. (10 – 15 cm.) exposure distance. For plant-light, filtered black light, and "daylight" fluorescent tubes, use at least double the exposure distance.

EXPOSURE VARIABLES

Distance Factors	Fabric Factors	High Humidity
0.5 m = 0.25	Steel = 2.0 – 4.0	1.3 – 1.8
0.7 m = 0.49	Dyed = 1.5 – 2.0	Taped (Montage) Positives
1.0 m = 1.0	coarser than 120/cm = 1.1 – 2.0	1.2 – 1.3
2.0 m = 4.0	finer than 120/cm = 0.7 – 0.9	Vellum Positives
		1.3 – 1.5

HANDLING: **DP-800** is pre-sensitized and fast-exposing. To avoid pre-exposure, it must be handled under yellow safelight conditions.

STORAGE: 18 months

Storage of coated screens: 4 weeks (at 20-25° C in total darkness).

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