

DP-1211

ULTRA-FAST-EXPOSING SBQ-PHOTOPOLYMER TEXTILE EMULSION FOR USE WITH WATER-BASED AND PLASTISOL INKS

DP-1211 is a ready-to-use, ultra-fast-exposing, pure photopolymer direct emulsion formulated for use with plastisol and water-based inks. **DP-1211**'s excellent coating properties and printing properties allow it to be used for a broad range of imprinted sportswear applications.

INSTRUCTIONS

Step 1: PREPARE THE MESH

Used or surface treated mesh need only be degreased using **Screen Degreaser Liquid No. 3**, dilute **Screen Degreaser Concentrate No. 33** or **Degreaser Concentrate 1:20**, or **Magic Mesh Prep**. (Mechanical abrasion is an option for new mesh that is not surface treated. It increases the surface area of screen mesh 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**.)

Step 2: SENSITIZING

DP-1211 is fully presensitized. No sensitizer need be added. **DP-1211** should be handled only under yellow safe light conditions.

Step 3: COAT THE SCREEN

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°.

Method 3: Follow Method 2 (above). Then, after drying the screen, apply two additional coats on the printing side, wet-on-wet.

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 speed drying. If using a commercial dryer, dry the screen with warm, filtered air, up to 104° F. (40° C.). Use a dehumidifier in the drying area, if possible.

Step 5: CALCULATE THE EXPOSURE

Refer to the Base Exposure Table (reverse side). Base Exposure Time X Exposure Variable Factors = Approximate Exposure Time.,

Step 6: STEP WEDGE TEST

Calculate five test exposures—two below and two above the Approximate Exposure Time. Tape the test positive to the screen. Expose the screen for the shortest exposure time to be tested. Mask 1/5 of the positive and expose the screen to arrive at the next shortest exposure time. Repeat this procedure until five exposures are made, to arrive at the longest exposure time. Make a print from the stencil and compare it to the test positive. The optimum exposure is indicated by: ■ No positive outline or darkening of the emulsion color is observable if the exposure is increased. ■ The squeegee side emulsion is hard and not slimy. ■ The print best duplicates the test positive at the needed level of resolution.

Step 7: WASHOUT

After exposure, wet both sides of the screen with a gentle spray of cold water. Then spray forcefully from the printing side until the image areas clear. Rinse both sides of the screen with a gentle spray until no soft emulsion is left on the squeegee side, and no foam or bubbles remain. Blot excess water from the printing side with newspaper (unprinted newspaper stock).

Step 8: BLOCKOUT AND TOUCHUP

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

Blockout Option 2: For non-water based-inks, after exposure and washout, dry the screen. Apply **Red Blockout, Screen Filler No. 60** or

Extra Heavy Blockout No. 10. • **Touchup Option 1:** Use excess emulsion and re-expose the screen. **Touchup Option 2:** For non-water-based inks, use **Red Blockout, Screen Filler No. 60** or **Extra Heavy Blockout No. 10** thinned with water.

Step 9: STENCIL REMOVAL

Use mineral spirits, or the least powerful ink diluent necessary, to remove all ink remaining in the screen. Strong solvents can fuse **DP-1211** stencils to the mesh. Use **Screen Degreaser Liquid No. 3** to help remove ink and solvent residues that might impair the action of the stencil remover. Brush **Stencil Remover Liquid No. 4** or **Stencil Remover Paste No. 5** on both sides of the screen. As alternatives, use dilute **Stencil Remover Concentrate 1:20**, **Stencil Remover Liquid Concentrate No. 42**, or **Stencil Remover Powder No. 44**. With automated stencil removal equipment, use **Stripmatic**. If using plastisols, use dilute **Ink and Stencil Remover Concentrate** (a combined plastisol ink wash and stencil remover liquid concentrate) manually or in dip tanks. Do not let the stencil remover dry on the screen. Wash the screen with a forceful spray of water. Use **Walk Away Haze Remover**, **Fast Acting Haze Remover**, or **Haze Remover Paste No. 78** to remove ink and haze residues, if necessary.

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

LIGHT SOURCE		COATING METHOD		
		1	2	3
Carbon Arc				
	15 amps	96 sec.	288 sec.	360 sec.
	30 amps	48 sec.	144 sec.	198 sec.
	40 amps	36 sec.	108 sec.	144 sec.
	60 amps	24 sec.	72 sec.	96 sec.
	110 amps	13 sec.	40 sec.	54 sec.
Metal Halide				
	1000 watts	22 sec.	60 sec.	82 sec.
	2000 watts	11 sec.	30 sec.	41 sec.
	3000 watts	7 sec.	20 sec.	26 sec.
	4000 watts	5 sec.	15 sec.	20 sec.
	5000 watts	4 sec.	12 sec.	16 sec.
Pulsed Xenon				
	2000 watts	55 sec.	165 sec.	220 sec.
	5000 watts	22 sec.	66 sec.	88 sec.
	8000 watts	14 sec.	41 sec.	55 sec.
Mercury Vapor				
	125 watts	228 sec.	600 sec.	840 sec.
	1000 watts	29 sec.	82 sec.	105 sec.
	2000 watts	14 sec.	41 sec.	53 sec.
	4000 watts	7 sec.	20 sec.	26 sec.
Fluorescent Tubes*				
	40 watts	72 sec.	180 sec.	300 sec.

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

EXPOSURE VARIABLES

Multiply the above base exposure times by *all* factors and variables that apply.

Mesh

metal mesh	2.0-4.0
dyed mesh	1.5-2.0
finer than 330T/in (130T/cm)	0.7-0.9
coarser than 250T/in (100T/cm)	1.1-2.0
high heat and humidity	1.3-1.8

DISTANCE FACTORS

20 inches /50 cm.	0.25	44 inches /110 cm.	1.21
24 inches /60 cm.	0.36	48 inches /120 cm.	1.44
28 inches /70 cm.	0.49	52 inches /130 cm.	1.69
32 inches /80 cm.	0.64	56 inches /140 cm.	1.95
36 inches /90 cm.	0.81	60 inches /150 cm.	2.25
40 inches /100 cm.	1.00	72 inches /180 cm.	3.2

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