Technical Data Sheet

FX88-SR

GENERAL-PURPOSE DIAZO-SENSITIZED SCREEN EMULSIONS

FX88-SR is undyed (for easier see-through registration; color additive supplied separately) and is very solvent-resistant. **FX88-SR** produces tough stencils with good resolution and edge definition and can be reclaimed easily. It can be used with solvent-based poster or enamel inks. **FX88-SR is** supplied with pre-measured diazo sensitizer in powder form.

INSTRUCTIONS

Step 1: PREPARE THE MESH

Used or surface treated mesh need only be degreased using **Screen Degreaser Liquid No. 3.** Mechanical roughening is an option for new mesh that is not surface treated. It increases the surface area of mesh for a better mechanical bond of the stencil, increasing printing run length. Use **Ulnaogel No. 23** to roughen and degrease in a single step.

Step 2: SENSITIZE THE EMULSION

Dissolve the diazo sensitizer by adding lukewarm water up to the shoulder of the diazo bottle according to the table below.

FX88-SR	Diazo #	# of Fills to Shoulder
QUART (60cc)	DIAZO C6	1 Time
1 GALLON (100cc)	DIAZO C5	4 Times
5 GALLON (500cc)	DIAZO C24	4 Times

Shake it well. Wait 15 minutes for bubbles to disperse. Pour the fully dissolved sensitizer into the emulsion. Stir the emulsion with a clean, flat plastic or stainless steel instrument until it is uniform in color. Close the container. Wait at least one hour for the sensitized emulsion to de-bubble. Write the date of sensitizing on the label of the emulsion container.

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

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. 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: EXPOSE THE EMULSION

Select an exposure time from the Exposure Table below based on the type of light source you have and the coating method you use. Multiply the selected exposure time by all relevant exposure variables and distance factors to obtain an Approximate Exposure Time. Use the Ulano Exposure Calculator or make a Step Wedge Test to determine the optimum exposure. Optimum exposure is indicated when: ■ No outline of the positive or darkening of the emulsion color is observable if the exposure is increased. ■ The squeegee side emulsion is hard and not slimy. ■ A print made from the stencil best duplicates test positive at the required level of resolution.

Step 6: WASH OUT THE EMULSION

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 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 unprinted newspaper stock.

Step 7: 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. 65** or **Extra Heavy Blockout No. 10**.
Touchup Option 1: Use excess emulsion and re-expose the screen.
Touchup Option 2: Use **Screen Filler No. 65** or **Extra Heavy Blockout No. 10** thinned with water. Dry the screen.

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Step 8: RECLAIM THE SCREEN
Remove ink from the screen using the solvent or solvent blend recommended by the ink manufacturer. 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. Do not let the stencil remover dry on the screen. Wash the screen with a forceful spray of water. Use **Haze Remover No. 78** to remove ink and haze residues, if necessary.

STORAGE
Unsensitized emulsion can be stored for up to 1 year. Sensitized emulsion can be stored for 3 – 6 weeks at room temperature; up to 3 months in a refrigerator. Store coated screens in a cool, dry, completely dark area until exposure.

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

---FX88-SR----

Light Source	Coating Method 1	Coating Method 2	Coating Method 3
Metal Halide			
1000 watts	55 sec	155 sec	205 sec
2000 watts	28 sec	78 sec	103 sec
3000 watts	18 sec	51 sec	65 sec
4000 watts	13 sec	39 sec	51 sec
5000 watts	10 sec	30 sec	39 sec
Mercury Vapor			
250 watts	285 sec	12.5 min	17.5 min
2000 watts	36 sec	103 sec	132 sec
4000 watts	18 sec	51 sec	65 sec
Fluorescent Tubes*			
FT 40 watts	180 sec	7.5 min	N/R

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

EXPOSURE VARIABLE FACTORS (Factors for Variables Affecting Base Time)

:				**Viscosity Adjustment:**	
Steel/metalized polyester		2.0 - 4.0		5% dilution	0.95
Dyed Mesh		1.5 – 2.0		10% dilution	0.9
305T white polyester or nylon		1.0		5% more viscous	1.1
Finer than 330T (130T/cm)		0.7 - 0.9			
Coarser than 250T (100T/cm)		1.1 - 2.0			
Multifilament PET		1.3 – 1.5		**High Heat and Humidity:**	
Exposure Distance:				Factor	1.3-1.8
20"/50cm	0.25	36"/90cm	0.81		
24"/60cm	0.36	40"/100cm	1.00	**Taped-up Positives:**	
28"/70cm	0.49	52"/130cm	1.69	Factor	1.2-1.3
32"/80cm	0.64	60"/150cm	2.25		

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