Technical Data Sheet

QFX®

ULTRA-FAST-EXPOSING SBQ-PHOTOPOLYMER GRAPHICS EMULSION

QFX is a ready-to-use, ultra-fast-exposing SBQ-photopolymer direct emulsion formulated for industrial and fine halftone graphics printing. It has superb resolution and a high solids content for the production of stencils with exceptional edge definition and resolution. **QFX** resists most solvent-based inks. Stencils made with **QFX** are extremely durable, yet can be reclaimed easily.

INSTRUCTIONS

Step 1: PREPARE THE FABRIC

Used or surface-treated fabric need only be degreased using **Screen Degreaser Liquid No. 3** or dilute **Screen Degreaser Concentrate No. 33**, or **Magic Mesh Prep**. **Magic Mesh Prep** also promotes more uniform coating and provides an antistatic treatment. (Mechanical abrasion, an option for new fabric that is not surface treated, increases the surface area of fabric for a better mechanical bond of the stencil, increasing printing run length. Use **Micrograt No. 2** before degreasing. Abrading and degreasing can be combined in one step with **Ulanogel 23**.)

Step 2: SENSITIZING

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

Step 3: COATING 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 humidifier in the drying area, if possible.

Step 5: CALCULATE THE EXPOSURE

Refer to the Base Exposures listed on the next page. 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 your light source and coating method is your Base Exposure Time. Multiply your Base Exposure Time by all relevant Exposure Variable Factors to find your Approximate Exposure Time.

Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME

Make a Step Wedge Test (there is an instructional video covering this on the Ulano Website (www.ulano.com), or use the Ulano **ExpoCheck** to determine your optimum exposure time. Optimum exposure is indicated at that exposure time when: ■ No positive outline or darkening of the emulsion color is observable if the exposure is increased. ■ The squeegee side emulsion is hard and not soft or slimy. ■ An actual print best duplicates the test positive *at the level of resolution that the job requires.*

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 newsprint (unprinted newspaper stock).

Step 8: BLOCKOUT AND TOUCHUP

Option 1: Before drying and exposing the coated screen, use excess emulsion from the coating step to cover the blockout area.
Option 2: For non-water-based inks, after exposure and washout, dry the screen. Apply **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 **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** thinned with water.

Step 9: STENCIL REMOVAL

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** or **Ghost Remover** with **Ghost Remover Activator** to remove ink and haze residues, if necessary.

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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	**2**	**3**
Carbon Arc			
15 amps	120 sec	360 sec	450 sec
30 amps	60 sec	180 sec	248 sec
40 amps	45 sec	135 sec	180 sec
60 amps	30 sec	90 sec	120 sec
110 amps	16 sec	50 sec	68 sec
Metal Halide			
1000 watts	28 sec	78 sec	103 sec
2000 watts	14 sec	39 sec	51 sec
3000 watts	9 sec	26 sec	33 sec
4000 watts	7 sec	20 sec	26 sec
5000 watts	5 sec	15 sec	20 sec
Pulsed Xenon			
2000 watts	72 sec	210 sec	233 sec
5000 watts	29 sec	84 sec	113 sec
8000 watts	18 sec	53 sec	72 sec
Mercury Vapor			
125 watts	285 sec	750 sec	1050 sec
1000 watts	36 sec	103 sec	132 sec
2000 watts	18 sec	51 sec	66 sec
4000 watts	9 sec	26 sec	33 sec
Fluorescent Tubes*			
40 watts	90 sec	225 sec	375 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.

Fabric

Metal fabric	2.0-4.0
Dyed fabric	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.	3.20

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