

QTX®

ULTRA-FAST-EXPOSING SBQ-PHOTOPOLYMER TEXTILE EMULSION

QTX is a ready-to-use, ultra-fast-exposing SBQ-photopolymer direct emulsion formulated for imprinted sportswear printing. The high solids content of QTX results in superior coating properties, better mesh bridging on coarse fabrics, and fast drying. QTX is resistant to plastisol inks and, with diazo added, to many water-based inks. Stencils made with QTX are extremely durable and 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**, dilute **Screen Degreaser Concentrate No. 33**, or **Magic Mesh Prep**. (Mechanical abrasion, an option for new mesh that is not surface treated, increases the surface area of the 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**.) Rinse thoroughly. Use **Magic Mesh Prep** to promote uniform water retention during adhering. (**Magic Mesh Prep** also acts as both a degreaser and an antistatic treatment, and facilitates the flow of ink through the mesh during printing.)

Step 2: SENSITIZING

QTX is fully presensitized. No sensitizer need be added. QTX 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

From the Base Exposure Table (reverse side), select the type of light source you have and its wattage or amperage. Multiply your Base Exposure Time by all relevant Exposure Variable Factors (reverse side) to find your Approximate Exposure Time. $\text{Base Exposure Time} \times \text{Exposure Variable Factors} = \text{Approximate Exposure Time}$.

Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME

Make a Step Wedge Test (there is an instructional video covering this on the Ulano Web site: www.ulano.com) or use the **Ulano ExpoCheck**—carried through to actual printing—to determine your optimal exposure time. Optimum exposure is indicated: ■ At the exposure time when the emulsion first reaches its maximum color density and the edges of the positive (artwork) do not “resolve” (i.e., there is no outline of the positive). ■ There is no suggestion of softness or sliminess on the squeegee side of the stencil. ■ The 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 with **All-Purpose Ink Wash**, the solvent recommended by the ink manufacturer, mineral spirits, or the least powerful ink diluent necessary, to remove all ink remaining in the screen. Strong solvents can fuse QTX stencils to the mesh. Use **Screen Degreaser Liquid No. 3**

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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 stand for more than 5 minutes, and never allow it to dry on the screen, as this can result in a permanent stencil. Rinse off the stencil remover and stencil with a gentle spray of water, then follow with a forceful spray. Use **Walk Away Haze Remover** or **Haze Remover Paste No. 78** to remove any ink haze or residues.

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			
110 amps	13 sec.	40 sec.	54 sec.
Metal Halide			
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.
8000 watts	14 sec.	41 sec.	55 sec.
Mercury Vapor			
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.

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.	3.2

504dm; rev.812dm