

LX[®]-836

DURABLE DIAZO-PHOTOPLYMER (DUAL-CURE) EMULSION FOR DIRECT CERAMIC PRINTING AND IMPRINTED SPORTSWEAR

LX-836 is formulated for direct printing on tile, and, ceramics, and glass, as well as imprinted sportswear. It is both water and solvent resistant. Mechanical resistance and printing runs can be enhanced considerably by chemical hardening with **Hardener X**, though such treatment will render the stencil "permanent," so that it will be virtually impossible to reclaim. LX-836 is violet, and turns brown when sensitized. (Properly exposed LX-836 will revert back to its original violet color, serving as a built-in indicator of proper exposure.)

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**. (Mechanical roughening is an option 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. Roughening and degreasing can be combined in one step with **Ulanogel 23**.)

Step 2: SENSITIZE THE EMULSION

LX-836 is partially presensitized; therefore, it must be handled under yellow light. Dissolve the diazo sensitizer powder by adding lukewarm water up to the shoulder of bottle. Shake it thoroughly. Wait 15 minutes for bubbles to disperse. Pour the fully dissolved sensitizer into the emulsion. Stir with clean, broad flat plastic or stainless steel instrument until the emulsion is uniform in color. Close the container. Wait at least one hour for the emulsion to debubble. Write the date of sensitizing on the label.

Step 3: COAT THE SCREEN

LX-836 has excellent coating properties on mesh counts of 40 – 195 threads/inch (16 – 77/cm.).

As a starting point, we recommend coating once or twice on the printing side and once on the squeegee side, wet on wet, with a round-edged coating trough. Ultimately, the optimal coating technique must be determined empirically, by making coating tests.

Step 4: DRY THE SCREEN

Dry coated screens thoroughly in a horizontal position, printing side down. Ideally, use a commercial dryer with warm, filtered air, up to 104° F. (40°C.). If a commercial drying unit is not available, dry screens at room temperature in a dark (or safe lighted), dirt-and dust-free area. Use a fan to accelerate the drying, and use a dehumidifier in the drying area.

Step 5: EXPOSE THE STENCIL:

The following are Base (theoretical) Exposure Times with a 5,000-watt metal halide lamp at a distance of 40 inches (1 meter), using 1-1 coating:

156 threads/inch (approx. 61/cm.) white mesh: 90 seconds

195 threads/inch (approx. 77/cm.) white mesh: 75 seconds

(Note that, using the same coating regimen, the coarser the mesh, the longer the exposure time.)

Multiply the Base Exposure Time by all relevant Exposure Variable Factors (*see* the table on the next page) to find your Approximate Exposure Time.

Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME

Use the Approximate Exposure Time (the Base Exposure Time X all relevant Exposure Variable Factors) as the central time in a Step Wedge Test (instructions can be found in the **Ulano Direct Emulsions Technical Data Booklet**) or with the **Ulano Exposure Calculator Kit**. Carry the test 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." ■ The squeegee side emulsion is hard and not soft or slimy. ■ The print best duplicates the test positive *at the level of resolution that the job requires*.

Step 7: WASHOUT

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

