Double Duty™
HIGHLY DURABLE DUAL-CURE EMULSION; RESISTS INDUSTRIAL ETCHANTS: SUSTAINS EXTENDED TEXTILE PRINTING RUNS USING DISCHARGE AND OTHER WATER-BASED INKS

Double Duty is an olive-grey, enhanced dual-cure emulsion formulated for use with industrial etchants, and with abrasive, frit-containing inks for ceramics and glass. Because of its mechanical durability, Double Duty is also well suited to lengthy textile printing runs using discharge and other water-based textile inks. It has 40% solids content (unsensitized) and a viscosity of 6500-8000 centipoise (sensitized).

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. 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 Microgrit No. 2 before degreasing. Abrading and degreasing can be combined in one step with Ulanogel 23.)

Step 2: SENSITIZING
Dissolve the diazo sensitizer by adding lukewarm water up to the shoulder of the diazo bottle. Shake it well. Wait 15 minutes for bubbles to disperse. Pour the fully dissolved sensitizer into the emulsion. Stir with a 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 sensitized emulsion to de-bubble. Write the date of sensitizing on the emulsion container label.

Step 3: COATING THE SCREEN
Method 1: Apply one coat of emulsion on the printing side, then one coat on the squeegee side. 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. Dry the screen again.

Step 4: DRY THE SCREEN
Dry multicoated screens (Methods 2 or 3) horizontally, printing side down, at room temperature in a dirt- and dust-free area. Use a fan to speed drying or, preferably, dry coated screens with filtered air, up to 104°F (40°C.) in a commercial dryer. Dehumidify the drying area, if possible.

Step 5: 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 cold, dry, completely dark area until exposure.

Step 6: CALCULATE THE APPROXIMATE EXPOSURE
Refer to the Base Exposures listed on the next page. Base Exposure Time X Exposure Variable Factors = Approximate Exposure Time.

Step 7: 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 slimy. ■ An actual print best duplicates the test positive at the level of resolution that the job requires.

Step 8: WASHOUT
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 9: BLOCKOUT & TOUCHUP
Blockout Option 1: Before drying and exposure, use excess emulsion from the coating step to cover 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. Touchup Option 2: For non-water-based inks, use Screen Filler No. 60 or Extra Heavy Blockout No. 10 thinned with water.

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Step 10: RECLAIM THE SCREEN
Remove ink with the appropriate solvent. Rinse with water. Degrease with Screen Degreaser Liquid No. 3 to remove ink and solvent residues. Rinse with a forceful spray. Brush Stencil Remover Liquid No. 4 or Stencil Remover Paste No. 5 on both sides of the screen. Do not let stencil remover dry on screen. Wash with a forceful spray of water. Use Walk Away Haze Remover or Haze Remover Paste No. 78 to remove ink and haze residues, if necessary.

At 40 inches/ca. 102 cm.:
A base exposure using a 2X2 coating regimen on 305/inch yellow mesh (120/cm) is 60 seconds. For water or ceramic inks, double the exposure.
A base exposure using a 2X2 coating regimen on 230/inch yellow mesh (ca. 90/cm.) is 75 seconds. For water or ceramic inks, double the exposure.

EXPOSURE VARIABLES
Factors for Variables Affecting Base Time

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<thead>
<tr>
<th>Fabric</th>
<th>Exposure Distance</th>
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<tbody>
<tr>
<td>metal fabric</td>
<td>2.0 – 4.0</td>
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<tr>
<td>dyed fabric</td>
<td>1.5 – 2.0</td>
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<tr>
<td>finer than 330T/in (130T/cm)</td>
<td>0.7 – 0.9</td>
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<tr>
<td>coarser than 250T/in (100T/cm)</td>
<td>1.1 – 2.0</td>
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<tr>
<th>High Heat and Humidity</th>
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<tr>
<th>Taped-Up Positives</th>
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<tbody>
<tr>
<td>Factor</td>
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<tr>
<td>1.2 – 1.3</td>
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