

## PROCLAIM HR

### High resolution diazo-photopolymer (dual-cure) emulsion with unequalled exposure latitude, solvent resistance and ease of removal.

**Proclaim HR** is a high resolution diazo-photopolymer (dual-cure) emulsion formulated to provide unequalled exposure latitude and ease of decoating, even if underexposed and used with aggressive inks and washup solvents. **Proclaim HR** is multi-purpose, fast exposing, and provides good acutance. Its high solids content (37% unsensitized) provides good stencil build per coat, excellent mesh bridging, and fast drying. **Proclaim HR** is very suitable for demanding graphics, electronics, and industrial applications.

#### 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**

**Proclaim HR** is partially sensitized; therefore, it must be handled under yellow light. Dissolve the diazo sensitizer powder by adding lukewarm water up to the shoulder of the bottle according to the table below.

| PROCLAIM HR      | Diazo #   | # of Fills to Shoulder |
|------------------|-----------|------------------------|
| QUART (60cc)     | DIAZO C45 | 1 Time                 |
| 1 GALLON (100cc) | DIAZO C41 | 2 Times                |
| 5 GALLON (500cc) | DIAZO C42 | 2 Times                |

Shake 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 emulsion to degas. Write the date of sensitizing on the label.

##### **Step 3: COAT THE SCREEN**

**Method 1:** Apply one coat of emulsion to 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.

**Method 3:** Follow Method 2. Then, after drying the screen, apply two additional coats on the printing side, wet-on-wet. Dry the screen again. Method 3 optimizes the definition of printed edges **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 accelerate the 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: CALCULATE THE APPROXIMATE EXPOSURE TIME**

From the Base Exposure Table below, select the type of light source you have and its wattage or amperage. The exposure times indicated are for 305/inch (120/cm.) white mesh 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 (table, below) to find your Approximate Exposure Time.

##### **Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME**

Make a Step Wedge Test (instructions can be found in the **Ulano Direct Emulsions Technical Data Booklet**) or use the **Ulano Exposure Calculator Kit**—carried 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 text positive *at the level of resolution that the job requires.*

##### **Step 7: WASHOUT**

Wet both sides of the screen with a gentle spray of cold water. Then spray the printing side forcefully 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 8: BLOCKOUT & TOUCHUP**

**Blockout Option 1:** Before drying and exposure, use excess emulsion from the coating step to cover the blockout area.

**Blockout Option 2:** For non-water-based inks, 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:** For non-water-based inks, use **Screen Filler No. 65** or **Extra Heavy Blockout No. 10** thinned with water.



## Technical Data Sheet

### 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** to remove ink and haze residues, if necessary.

**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 | Coating Method 2 | Coating Method 3 |
|--|---------------------------|------------------|------------------|------------------|
|  | <b>Metal Halide</b>       |                  |                  |                  |
|  | 1000 watts                | 50 sec           | 145 sec          | 190 sec          |
|  | 2000 watts                | 25 sec           | 73 sec           | 95 sec           |
|  | 3000 watts                | 17 sec           | 48 sec           | 63 sec           |
|  | 4000 watts                | 13 sec           | 36 sec.          | 48 sec.          |
|  | 5000 watts                | 10 sec.          | 29 sec.          | 38 sec.          |
|  | <b>Mercury Vapor</b>      |                  |                  |                  |
|  | 125 watts                 | 9 min            | 26.5 min         | NR               |
|  | 1000 watts                | 66 sec.          | 198 sec.         | 266 sec.         |
|  | 2000 watts                | 33 sec.          | 99 sec.          | 133 sec.         |
|  | 4000 watts                | 17 sec.          | 50 sec.          | 67 sec.          |
|  | <b>Fluorescent Tubes*</b> |                  |                  |                  |
|  | 40 watts                  | 4 min.           | 10 min.          | NR               |

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

### EXPOSURE VARIABLES

#### Distance Factors

0.5 m = 0.25  
0.7 m = 0.49  
1.0 m = 1.0  
2.0 m = 4.0

#### Mesh Factors

Steel = 2.0 – 4.0  
Dyed = 1.5 – 2.0  
coarser than 120/cm = 1.1 – 2.0  
finer than 120/cm = 0.7 – 0.9

#### High Humidity

1.3 – 1.8  
Taped (Montage) Positives  
1.2 – 1.3  
Vellum Positives  
1.3 – 1.5

### STORAGE:

Unsensitized: 1 year

Sensitized: 4- 6 weeks (at 20-25°C)

Storage of coated screens: 4 weeks (at 20-25° C in total darkness)

Note: During the storage of the coated screens, the emulsion can absorb moisture from the air; therefore, we recommend another drying prior to the exposure.

For additional information, consult the *Ulano Direct Emulsions Technical Data Book* for processing suggestions and tips, procedures for making a Step Wedge Test, and additional information on the Ulano Chemical Line.

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