

## 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** or dilute **Screen Degreaser Concentrate**

**No. 33**. (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 **Microgrit No. 2** before degreasing. Roughening and degreasing can be combined in one step with **Ulanogel 23**.)

##### **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. 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. 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.



## 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** or **Ghost Remover** with **Ghost Remover Activator** 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>Carbon Arc</b>			
15 amps	232 sec	11.5 min	15.5 min
30 amps	116 sec	348 sec	464 sec
40 amps	87 sec	261 sec	348 sec
60 amps	58 sec	174 sec	232 sec
110 amps	32 sec	95 sec	127 sec
<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>Pulsed Xenon</b>			
2000 watts	136 sec.	404 sec.	548 sec.
5000 watts	55 sec.	162 sec.	220 sec.
8000 watts	34 sec.	101 sec.	137 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	Mesh Factors	High Humidity
0.5 m = 0.25	Steel = 2.0 – 4.0	1.3 – 1.8
0.7 m = 0.49	Dyed = 1.5 – 2.0	Taped (Montage) Positives
1.0 m = 1.0	coarser than 120/cm = 1.1 – 2.0	1.2 – 1.3
2.0 m = 4.0	finer than 120/cm = 0.7 – 0.9	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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