

569, 569CL, and 569FAST HIGH RESOLUTION, COMPLETELY SOLVENT RESISTANT DIRECT EMULSIONS; PHTHALATE FREE

569 direct emulsions are totally solvent-resistant. They have high solids content and produce stencils with high resolution and good edge definition for fine-detail and halftone printing. **569** stencils can be reclaimed easily. **569** is purple, **569CL** is undyed for easier see-through registration. **569FAST** is light purple and exposes in half the time of **569** and **569CL**. **569FAST** is ideal for high-quality, high-volume production needs with high intensity light sources, and can also be used with low-intensity exposure units. **569** emulsions are supplied with powder diazo sensitizer.

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 abrasion 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. Abrading and degreasing can be combined in one step with **Ulanogel 23**.)

Step 2: SENSITIZE THE EMULSION

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, 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 label of the emulsion container.

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°. Dry the screen thoroughly, printing side down. 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) thoroughly in a horizontal position, printing side down, at room temperature in a dirt- and dust-free area. Use a fan to speed 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: EXPOSE THE EMULSION

Select an exposure time from the Exposure Table below based on the type of light source you have and the coating method you use. Multiply the selected exposure time by all relevant exposure variables and distance factors to obtain an Approximate Exposure Time. Use the Ulanogel Exposure Calculator to make a Step Wedge Test to determine the optimum exposure. Optimum exposure is indicated when: ■ No outline of the positive or darkening of the emulsion color is observable if the exposure is increased. ■ The squeegee side emulsion is hard and not slimy. ■ A print made from the stencil best duplicates test positive at the required level of resolution.

Step 6: WASH OUT THE EMULSION

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 7: 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. Touchup Option 2: For non-water-based inks, use **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** thinned with water. Do not re-expose.

Step 8: RECLAIM THE SCREEN

Remove the ink with an appropriate solvent. Rinse with water. Degrease with **Screen Degreaser Liquid No. 3** to remove oily ink and solvent residues. Rinse the screen. 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. Rinse gently, then use a forceful spray of water. Use **Haze Remover Paste No. 78** to remove ink and haze residues, if necessary.



Technical Data Sheet

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 cool, dry, completely dark area until exposure.

BASE EXPOSURE TABLE (For 305T/in (120T/cm) white polyester or nylon at 40 inches (100 cm.) exposure distance.

Light Source -----569, 569CL-----				-----569FAST-----			
Carbon Arc	Coating Method 1	Coating Method 2	Coating Method 3		Coating Method 1	Coating Method 2	Coating Method 3
15 amps	8 min	24 min	30 min		240 sec	12 min	15 min
30 amps	240 sec	12 min	15 min		120 sec	6 min	8 min
40 amps	180 sec	9 min	12 min		90 sec	270 sec	6 min
60 amps	120 sec	6 min	8 min		60 sec	180 sec	240 sec
110 amps	65 sec	200 sec	270 sec		33 sec	100 sec	135 sec
Metal Halide							
1000 watts	110 sec	310 sec	7 min		55 sec	155 sec	205 sec
2000 watts	55 sec	155 sec	205 sec		28 sec	78 sec	103 sec
3000 watts	36 sec	102 sec	130 sec		18 sec	51 sec	65 sec
4000 watts	26 sec	78 sec	102 sec		13 sec	39 sec	51 sec
5000 watts	20 sec	60 sec	78 sec		10 sec	30 sec	39 sec
Pulsed Xenon							
2000 watts	288 sec	14 min	15.5 min		144 sec	7 min	8 min
5000 watts	115 sec	335 sec	7.5 min		58 sec	168 sec	225 sec
8000 watts	72 sec	210 sec	288 sec		36 sec	105 sec	144 sec
Mercury Vapor							
250 watts	9.5 min	25 min	35 min		285 sec	12.5 min	17.5 min
2000 watts	72 sec	205 sec	264 sec		36 sec	103 sec	132 sec
4000 watts	36 sec	102 sec	130 sec		18 sec	51 sec	65 sec
Fluorescent Tubes*							
FT 40 watts	6 min	15 min	N/R		180 sec	7.5 min	N/R

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

EXPOSURE VARIABLE FACTORS (Factors for Variables Affecting Base Time)

Fabric:		Viscosity Adjustment:	
Steel/metalized polyester	2.0 - 4.0	5% dilution	0.95
Dyed Fabric	1.5 - 2.0	10% dilution	0.9
305T white polyester or nylon	1.0	5% more viscous	1.1
Finer than 330T (130T/cm)	0.7 - 0.9		
Coarser than 250T (100T/cm)	1.1 - 2.0		
Multifilament PET	1.3 - 1.5	High Heat and Humidity:	
Exposure Distance:		Factor	1.3-1.8
20"/50cm 0.25	36"/90cm 0.81		
24"/60cm 0.36	40"/100cm 1.00	Taped-up Positives:	
28"/70cm 0.49	52"/130cm 1.69	Factor	1.2-1.3
32"/80cm 0.64	60"/150cm 2.25		