

925WR and 925WR/CL

PHTHALATE-FREE, WATER RESISTANT SCREEN EMULSIONS

925WR is a pale violet emulsion that shares the main characteristics of Ulano's TZ emulsions, but with a higher solids content and even better resolution, edge definition, and exposure latitude. **925WR** comes with a high quality diazo sensitizer in syrup form, for faster and surer mixing. **925WR/CL** is the same as **925WR**, but is supplied undyed for easier see-through registration. The dye is provided separately.

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: 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 debubble. 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. 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 (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 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: 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 EXPOSURE

Refer to the Base Exposure Table (below). Base Exposure Time X Exposure Variable Factors = Approximate Exposure Time

Step 7: STEP WEDGE TEST

Calculate five test exposures—two below and two above the Approximate Exposure Time. Tape a test positive to the screen. Expose the screen for the shortest exposure time to be tested. Mask 1/5 of the positive and expose to arrive at the next shortest exposure time. Repeat until five exposures are made, to arrive at the longest exposure time. Make a print from the stencil and compare it to the test positive. Optimum exposure is indicated by: ■ 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. ■ The print best duplicates the test positive at the needed level of resolution.

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

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.

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

Technical Data Sheet



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 **Haze Remover Paste No. 78** or **Ghost Remover** with **Ghost Remover Activator** to remove ink and haze residues, if necessary.

BASE EXPOSURE TABLE

LIGHT SOURCE		COATING METHOD		
		1	2	3
Carbon Arc	15 amps	6.5 min.	19 min.	24 min.
	30 amps	192 sec.	9.5 min.	13 min.
	40 amps	144 sec.	7 min.	9.5 min.
	60 amps	96 sec.	288 sec.	6.5 min.
	110 amps	52 sec.	160 sec.	216 sec.
Metal Halide	1000 watts	88 sec.	248 sec.	328 sec.
	2000 watts	44 sec.	124 sec.	164 sec.
	3000 watts	29 sec.	82 sec.	104 sec.
	4000 watts	21 sec.	62 sec.	82 sec.
	5000 watts	16 sec.	48 sec.	62 sec.
Pulsed Xenon	2000 watts	230 sec.	11 min.	12.5 min.
	5000 watts	92 sec.	268 sec.	6 min.
	8000 watts	58 sec.	168 sec.	231 sec.
Mercury Vapor				
	250 watts	7.5 min.	20 min.	28 min.
	2000 watts	58 sec.	164 sec.	211 sec.
	4000 watts	29 sec.	82 sec.	104 sec.
Fluorescent Tubes*				
	40 watts	288 sec.	12 min.	N/R

*Base exposure times are for unfiltered black light, or super diazo blue tubes at 4-6" (10-15 cm.)

EXPOSURE VARIABLES

Factors for Variables Affecting Base Time

Fabric	
metal fabric	2.0-4.0
dyed fabric	1.5-2.0
finer than 330T/in (130T/cm)	0.7-0.9
coarser than 250T/in (100T/cm)	1.1-2.0

High Heat and Humidity	
Factor	1.3 – 1.8

Taped-Up Positives	
Factor	1.2 – 1.3

Exposure Distance			
20 inches /50 cm.	0.25	44 inches /110 cm.	1.21
24 inches /60 cm.	0.36	48 inches /120 cm.	1.44
28 inches /70 cm.	0.49	52 inches /130 cm.	1.69
32 inches /80 cm.	0.64	56 inches /140 cm.	1.95
36 inches /90 cm.	0.81	60 inches /150 cm.	2.25
40 inches /100 cm.	1.00	72 inches /180 cm.	3.24

Viscosity Adjustment	
5% dilution	0.95
10% dilution	0.9
5% more viscous	1.1

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