Technical Data Sheet

LX-660 *(New and Improved)*

DIAZO-PHOTOPOLYMER (DUAL-CURE) DIRECT EMULSION WITH SUPERIOR RESISTANCE TO WATER-BASED INK SYSTEMS

LX-660 is a durable, diazo-photoplymer (dual-cure) emulsion with superior resistance to water-based ink system, as well as many solvent-based inks. It is suitable for virtually all general purpose graphics and industrial applications. LX-660 is red, and is supplied with premeasured, 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 roughening 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. Roughening and degreasing can be combined in one step with **Ulanogel 23**.)

Step 2: SENSITIZE THE EMULSION

To sensitize LX-660, add water up to the shoulder of the diazo bottle supplied with the emulsion. Shake the container well until the diazo powder is completely dissolved. Add the diazo solution to the emulsion and mix thoroughly using a suitable tool made of stainless steel, glass, or plastic until the emulsion is uniform in color. Close the container. Wait at least one hour for the emulsion to debubble. 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 180º. 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. Ideally, dry the coated screen in a commercial drying unit, with warm, filtered air, up to 104º F (40º C). 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 fabric 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, not soft or slimy. ■ The print best duplicates the test 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 newsprint (unprinted newspaper stock).

Step 8: BLOCKOUT AND TOUCHUP

Blockout Option 1: Before drying and exposure, use excess emulsion from the coating step to cover the blockout area.
Blockout Option 2: When using non-water-based inks, dry the screen after exposure and washout. Apply **Screen Filler No. 60** or **Extra Heavy Blockout No. 10.**

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Step 9: RECLAIM THE SCREEN
Remove ink with the appropriate solvent. Rinse the screen with water. Degrease the screen with **Screen Degreaser Liquid No. 3** to remove ink 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 the stencil remover dry on the screen. Wash with a forceful spray of water. Use **Haze Remover Paste No. 78** or **Ghost Remover** and **Ghost Remover Activator** to remove ink and haze residues.

BASE EXPOSURE TABLE (for 304/inch (120/cm) white polyester or nylon at 40 inches (100cm) exposure distance).

Carbon Arc	**Coating Method 1**	**Coating Method 2**	**Coating Method 3**
15 amps	280 sec.	14 min.	18 ½ min.
30 amps	140 sec.	7 min.	9 ½ min.
40 amps	105 sec.	315 sec.	7 min.
60 amps	70 sec.	210 sec.	280 sec.
110 amps	38 sec.	115 sec.	150 sec.
Metal Halide			
1000 watts	60 sec.	175 sec.	230 sec.
2000 watts	30 sec.	90 sec.	115 sec.
3000 watts	20 sec.	60 sec.	75 sec.
4000 watts	15 sec.	46 sec.	58 sec.
5000 watts	12 sec.	35 sec.	46 sec.
Pulsed Xenon			
2000 watts	164 sec.	8 ¼ min.	11 min.
5000 watts	66 sec.	196 sec.	4.5 min.
8000 watts	41 sec.	123 sec	165 sec.
Mercury Vapor			
250 watts	10.5 min.	16 min.	Not recommended
2000 watts	40 sec.	120 sec.	160 sec.
4000 watts	20 sec.	60 sec.	80 sec.
Fluorescent Tubes*			
FT 40 watts	3.5 min.	8.8 min.	Not recommended

*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		**High Heat and Humidity:**	
Multifilament PET	1.3 – 1.5		Factor	1.3 – 1.8
Exposure Distance:				
20"/50cm 0.25	40"/100cm 1.00		**Taped-up Positives:**	
24"/60cm 0.36	52"/130cm 1.69		Factor	1.2 – 1.3
28"/70cm 0.49	60"/150cm 2.25			
32"/80cm 0.64	72"/180cm 3.24		**Vellum Positives:**	
36"/90cm 0.81	100"/250cm 6.25		Factor	1.3 – 1.5

HANDLING: LX-660 is partially presensitized and should be handled under yellow safelight conditions before exposure.

STORAGE: Unsensitized emulsion (with no diazo added) can be stored for up to 1 year. Sensitized emulsion can be stored for 3 - 6 weeks at room temperature, and up to 3 months in a refrigerator. Store coated screens in cold, dry, completely dark area until exposure.

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