

## GELATIN-BASED

# INDIRECT SYSTEM PHOTOGRAPHIC FILMS

### HI-FI GREEN®, SUPER PREP®, BLUE POLY-2®, BLUE POLY-3®, RED TI, ULANOPREX

#### 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**. New fabric that is not surface treated should be mechanically abraded. This increases the surface area of the fabric surface for a better mechanical bond of the stencil. Use **Microgrit No. 2** before degreasing. Abrading and degreasing can be combined in one step with **Ulanogel 23**. Rinse thoroughly.

##### **Step 2: EXPOSE THE STENCIL FILM**

Place the emulsion side of a right-reading photo positive against with the backing sheet of the stencil film in a vacuum frame. The positive should be between the light source and the stencil film, and *the exposure should be thorough the backing sheet of the stencil film*. From the **Base Exposure Table** below select a Base Exposure Time corresponding to the film you are using and the light source you have. Multiply the Base Exposure Time by the factor for each relevant variable listed in the **Exposure Variables Table** below to find your Approximate Exposure Time. Use the Approximate Exposure Time as the central time in a Step Wedge Test, or with the **Ulano Exposure Calculator**.

##### **Step 3: DEVELOP THE STENCIL FILM**

Dissolve pre-measured A & B Developer Powders according to the instructions on the packet. (Hydrogen peroxide can be used if A & B Powders are not available. It should be diluted to a 1 ½% solution in a clean glass or plastic container *using distilled water only*.) Place the exposed film, emulsion side up, in a developer tray. Pour the developer solution quickly and evenly over the film. Let the film develop for 90 seconds (180 seconds for Ulanoprex), rocking the tray occasionally.

##### **Step 4: WASH OUT THE STENCIL**

Use a gentle washout spray—preferably with an aerator nozzle—to wash out the stencil at the recommended temperature.

<b>Recommended Washout Temperatures:</b>	
Super Prep, Hi-Fi Green	38-41°C (100°-105° F)
Blue Poly-2, Blue Poly-3	36-40°C (97°-104° F)
Red TI	41-43°C (105°-110° F)
Ulanoprex	43-49°C (110°-120° F)

Wash out the film for several minutes until all the unexposed emulsion has been washed away. Then, gradually lower the temperature of the water to room temperature. Continue to wash for 30 seconds.

##### **STEP 5: ADHERE THE STENCIL**

Place the washed out film, emulsion side up, on the buildup board. Gently lower a properly prepared, damp screen, printing side down, onto the film. Place a pad of newsprint (unprinted newspaper stock) on the squeegee side of the screen. Wipe over the newsprint pad with a folded rag or print roller to blot the soft top layer of the film up into the fabric. Remove the bottom sheets of wet newsprint, and continue blotting. Repeat this procedure until the newsprint picks up little or no color from the film emulsion.

##### **Step 6: DRY THE STENCIL: REMOVE THE BACKING SHEET**

Dry the adhered stencil thoroughly with cool air. When the fabric surrounding the film is dry (and before the stencil is dry), with the plastic support still in place, apply **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** to the open area of the screen. After the stencil and blockout have both dried, peel off the plastic support.

#### **STENCIL REMOVAL**

Remove all ink from the screen with the recommended solvent. Degrease with **Screen Degreaser Liquid No. 3** to speed stencil removal. Wet the stencil from both sides with hot water and let stand for a few minutes. Use **Enzyme No. 1** (instructions are available in the **Ulano Chemical Line Booklet**) neutralized with vinegar to remove the stencil.

# Technical Data Sheet



**BASE EXPOSURE TABLE** (Exposure times in seconds at 40 inches (100 cm.) exposure distance)

LIGHT SOURCE	Blue Poly-2 Super Prep	Blue Poly-3	Red Ti	Ulanoprex	Hi-Fi Green
<b>Carbon Arc:</b>					
15 amps	611	641	1117	379	763
30 amps	304	320	558	189	381
40 amps	229	240	419	142	286
60 amps	152	160	279	95	190
110 amps	83	87	152	52	104
<b>Metal Halide:</b>					
1000 watts	142	150	261	88	178
2000 watts	71	75	130	44	88
3000 watts	47	51	87	29	59
4000 watts	36	37	65	22	44
5000 watts	26	27	48	16	33
<b>Pulsed Xenon:</b>					
2000 watts	141	148	258	87	176
5000 watts	56	59	103	35	70
8000 watts	35	37	64	22	44
<b>Mercury Vapor:</b>					
125 watts	1319	1385	2415	818	1649
1000 watts	165	173	302	102	206
2000 watts	82	87	151	51	103
4000 watts	41	43	75	26	51
<b>Fluorescent Tubes*:</b>					
40 watts	375	394	686	232	469

\*Note: The base exposure times are given for 10 cm (4 inches) exposure distance for unfiltered black light. For "cool white" or "daylight" tubes, use at least double the exposure time.

**EXPOSURE VARIABLES TABLE** (Factors for Variables Affecting Stencil Exposure)

<b>Exposure Distance Factors:</b>		<b>Mesh Factors:</b>	
20 inches (50 cm)	0.25	Thick stencil on stainless steel mesh (optional)	1.0-3.0
24 inches (60 cm)	0.36	Thick stencil on metalized polyester mesh (optional)	1.0-3.0
28 inches (70 cm)	0.49	<b>Imaging Factors:</b>	
32 inches (80 cm)	0.64	Fine line positive printing	0.80
36 inches (90 cm.)	0.81	Fine line reverse printing	1.20
40 inches (100 cm.)	1.00	Halftones, to 50/in (20 lines/cm)	0.90
44 inches (110 cm.)	1.21	Halftones above 20 lines/cm (50in)	0.80
48 inches (120 cm.)	1.44	<b>Humidity Factors</b>	
52 inches (130 cm.)	1.69	Relative humidity above 75%	0.85
56 inches (140 cm.)	1.95	Relative humidity below 25%	1.15
60 inches (150 cm.)	2.25	<b>Factor for Taped-Up Positives</b>	
72 inches (180 cm.)	3.24	Taped-up or montage positives, per layer	1.10
84 inches ((210 cm.)	4.41		
100 inches (250 cm.)	6.25		

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