

## QUASAR R 100

**Indirect System Photographic Stencil Film With Wide Processing Latitude, Excellent Edge Definition, And High Resolution; Suitable For A Wide Range Of Applications, Including Graphics And Electronics**

### 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**. New that is not surface treated should be mechanically abraded. This increases the surface area of the 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 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 through the backing sheet of the stencil film*. (That is, the duller, emulsion side of the **QUASAR R 100** should be oriented *away* from the light source.) From the **Base Exposure Table** (below) select a Base Exposure Time corresponding to 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 as *the* exposure time with the **Ulano Exposure Calculator**.

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

Dissolve pre-measured A & B Developer Powders according to the instructions on the bottles. (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. Rock the tray occasionally to carry fresh developer across the surface of the film.

#### **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 of 36 - 40° C. (97 - 104° F.). Wash 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 a "buildup board" that is slightly smaller than the inside dimensions of the frame and thick enough so that the only contact is between the film and fabric. Gently lower a properly prepared, damp screen, printing side down, onto the film. Place several sheets of newsprint (unprinted newspaper stock) on the squeegee side of the screen. Wipe over the newsprint 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 filler have both dried, peel off the plastic support. (By combining the drying times of the stencil and filler, there is no need to use a harmful fast-drying, methylene chloride-containing screen filler.)

#### **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 Ulano Ghost remover, by brushing on liberally until the stencil begins to dissolve. Follow by a gentile rinse to remove the residue, then a high-pressure power wash.

FOR ADDITIONAL INFORMATION PLEASE CONTACT YOUR LOCAL DISTRIBUTOR OR [www.ulano.com](http://www.ulano.com)

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# Technical Data Sheet

**BASE EXPOSURE TABLE** (for an exposure distance of 100 cm. (40 inches))

LIGHT SOURCE	Exposure Time
<b>Carbon Arc:</b>	
15 amps	18 ½ min.
30 amps	9 ¼ min.
40 amps	7 min.
60 amps	280 sec.
110 amps	150 sec.
<b>Metal Halide:</b>	
1000 watts	260 sec.
2000 watts	130 sec.
3000 watts	87 sec.
4000 watts	65 sec.
5000 watts	48 sec.
<b>Pulsed Xenon:</b>	
2000 watts	258 sec.
5000 watts	100 sec.
8000 watts	64 sec.
<b>Mercury Vapor:</b>	
125 watts	40 min.
1000 watts	5 min.
2000 watts	150 sec.
4000 watts	75 sec.
<b>Fluorescent Tubes*:</b>	
40 watts	11 ½ min.

\*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)

Exposure Distance Factors:		Factors:	
20 inches (50 cm)	0.25	Thick stencil on stainless steel (optional)	1.0-3.0
24 inches (60 cm)	0.36	Thick stencil on metalized polyester (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		

206 dm

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