

## EZ-50 ORANGE™

### TEXTILE CAPILLARY FILM; FAST-EXPOSING (SBQ); ORANGE “MASKING COLOR” YIELDS BETTER RESOLUTION

**EZ-50 ORANGE** is a pure photopolymer (SBQ), pre-sensitized capillary film appropriate for general sportswear printing. **EZ-50 ORANGE** is fast exposing and its high-contrast orange color “masks” halation and light scattering, thereby improving resolution without the need to use more-costly dyed mesh. **EZ-50 ORANGE** is coated on 300-gauge matte polyester. **EZ-50 ORANGE** (50 microns) is recommended for use with mesh counts ranging from 33 to 77 threads/cm. (86 – 196/inch.). **EZ-50 ORANGE** can be adhered with plain water, or with **ORANGE™** emulsion in the direct/indirect mode.

#### INSTRUCTIONS

##### **Step 1: PREPARE THE FABRIC**

Used or surface-treated fabric need only be degreased using **Screen Degreaser Liquid No. 3**, dilute **Screen Degreaser Concentrate No. 33**, or **Magic Mesh Prep**. (Mechanical abrasion, an option for new fabric that is not surface treated, 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**). Use **Magic Mesh Prep** or **CDF Mesh Prep No. 25** to promote a uniform wetting of the mesh. (**Magic Mesh Prep** also acts as both a degreaser and an antistatic treatment.) Rinse thoroughly.

##### **Step 2: ADHERE EZ-50 ORANGE TO THE FABRIC**

Work under yellow safe lighting to avoid pre-exposing **EZ-50 ORANGE**.

Standard Method: Position a piece of **EZ-50 ORANGE** on a flat surface, emulsion (duller) side up. Place the printing side of a wet screen (directly following the fabric preparation rinse) on top of the film. The film will darken as it is wetted. Use light pressure to press out to the edge of the film any bubbles or gaps between the film and the mesh. Make a single squeegee stroke across the squeegee side. Wipe off any excess water.

“Roll-Down” Method: Roll the film, emulsion side out, around a small-diameter plastic tube (ca. 1” – 1 ½ “; 2 ½ X 4 cm.). If the screen fabric is not already wet, soak it from the squeegee side. Contact the edge of the roll to the printing side of the mesh at the top end of the screen. Unwind the roll, maintaining firm contact with the mesh. Make one light squeegee stroke across the squeegee side to remove excess water.

Direct/Indirect Method Using ORANGE emulsion: Position a piece of **EZ-50 ORANGE** on a flat surface, underneath a prepared, dry screen. Place a piece of tape on the inside of the screen along one edge of the film. Place another piece of tape on the inside of the screen along the opposite edge of the film. Pour a bead of **ORANGE** emulsion across one piece of tape. Using a soft squeegee, “print” the **ORANGE** through the fabric to the film, across the film to the tape on the opposite side. Wait 30 seconds, then make a reverse “print stroke.” Wait approximately one minute before lifting the frame for drying. (When using the Direct/Indirect Method, add 50% to the exposure time shown on the Base Exposure Table to be sure of exposing the **ORANGE** emulsion that was used to adhere the film.)

##### **Step 3: DRY THE SCREEN; REMOVE THE BACKING SHEET**

Dry the screen thoroughly at room temperature. Use a fan to speed drying. If possible, use a dehumidifier in the drying area. Under humid conditions, dry the screen in a commercial dryer with filtered air < 104° F. (40° C.). Immediately before exposure, remove the backing sheet.

##### **Step 4: CALCULATE THE APPROXIMATE EXPOSURE**

From the Base Exposure Table (on the reverse), identify the light source you are using. The exposure time shown is your Base Exposure Time. Multiply your Base Exposure Time by all relevant Exposure Variable Factors (reverse) to find your Approximate Exposure Time.

##### **Step 5: DETERMINE THE OPTIMAL EXPOSURE TIME**

Make a Step Wedge Test (instructions can be found on the Ulanog Web site: <www.ulano.com>) or use the **Ulanog ExpCheck**—carried through to actual printing—to determine your optimum exposure time. Optimum exposure is indicated: ■ At that exposure time when the edges of the positive do not “resolve.” ■ The squeegee side of the stencil is hard and not soft or slimy. ■ The print best duplicates the test positive *at the level of resolution that the job requires*. (Note that, since resolution is relative to stencil thickness, it is not possible to resolve a line finer than the overall thickness of the fabric and stencil.)

##### **Step 6: WASHOUT:**

Use a gentle spray of water on the squeegee side, then complete the washout from the printing side until the image area is clear. Rinse both sides until no soft emulsion is left and no foam or bubbles remain, finishing on the squeegee side with a gentle spray. Blot excess water from both sides of the screen with newsprint. Dry the screen. (It is possible to soak the screen in a tray of water to accelerate the washout spray time.) A fully-exposed stencil will be robust enough to withstand washing and soaking.

##### **Step 7: TOUCHUP AND BLOCKOUT**

For blockout, use **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** on the dry fabric. For touchups, use either **Screen Filler No. 60** or **Extra Heavy Blockout No. 10** thinned with water.

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##### **Step 8: RECLAIM THE SCREEN**

**Caution:** Aggressive solvents may cause difficulties in reclaiming **EZ-50 ORANGE**.

Remove ink with **Eco-Wash 160, All-Purpose Ink Wash**, mineral spirits, the ink manufacturer's recommended solvent, or the least powerful ink diluent necessary to remove all ink remaining in the screen. Use **Screen Degreaser Liquid No. 3** to remove ink or solvent residues that might impair the action of the stencil remover. Brush **Stencil Remover Liquid No. 4** or **Stencil Remover Paste No. 5** on both sides of the screen until the stencil begins to deteriorate. Do not allow the stencil remover to dry on the screen, as this can result in a permanent stencil. Rinse the screen gently with water, then finish rinsing with a forceful spray of water. Use **Walk Away Haze Remover** or **Haze Remover Paste No. 78** to remove ink residue, stencil haze, or ghost images from the screen fabric.

**STORAGE:** Unexposed screens can be stored in a dark, dry, cool environment for up to one month. Unused film can be stored in its tube for up to one year. High heat and humidity reduce shelf life.

**BASE EXPOSURE TABLE for EZ-50 ORANGE at 40 inches (100 cm.) on white polyester or nylon.**

Light Source	EZ-50 ORANGE				
<b>Carbon Arc:</b>					
30 amps					112 sec.
110 amps					32 sec.
<b>Metal Halide:</b>					
1000 watts					74 sec.
2000 watts					37 sec.
3000 watts					24 sec.
4000 watts					20 sec.
5000 watts					15 sec.
7000 watts					12 sec.
<b>Pulsed Xenon:</b>					
2000 watts					215 sec.
5000 watts					87 sec.
8000 watts					56 sec.
<b>Mercury Vapor</b>					
1000 watts					96 sec.
2000 watts					48 sec.
4000 watts					24 sec.
<b>Fluorescent Tubes#</b>					
40 watts					216 sec.

#Base Exposure Times at 4 inches (10 cm.) using unfiltered black light tubes. For "cool white" or "daylight" tubes, use at least double the exposure time.

**EXPOSURE VARIABLES FACTORS: variables affecting exposure time**

Mesh		Exposure Distance:		Exposure Distance:	
Dyed Mesh	1.5-2.0	20"/50 cm	0.25	56"/140 cm	1.95
		24"/60 cm	0.36	60"/150 cm	2.25
<b>Imaging</b>		28"/70 cm	0.49	72"/180 cm	3.24
Fine line positive printing	0.80	32"/80 cm	0.64	84"/210 cm	4.41
Fine line reverse printing	1.20	36"/90 cm	0.81	100"/250 cm	6.25
Halftones, to 50 lines/in (20/cm)	0.90	40"/100 cm	1.00		
Halftones above 50 lines/in (20/cm)	0.80	44"/110 cm	1.21		
<b>Adhering</b>		48"/120 cm	1.44		
Adhered with <b>Orange</b> (Direct/Indirect Method)	1.5	52"/130 cm	1.69		
<b>Taped-up Positives</b>					
Tape-up or montage positives, per layer	1.10				

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