

## CDF® Vision Plus-18

**DIAZO DUAL-CURE CAPILLARY FILM; SUPERB COPYING DUE TO ANTI-HALATION PROPERTIES; NO POLISHING, FINGERPRINTING, OR CURLING UNDER HIGH HUMIDITY; EASY TO APPLY; ENHANCED CROSS-LINKING YIELDS SHARP PRINTING SHOULDERS AND MECHANICAL DURABILITY**

**CDF Vision Plus-18** is a diazo dual-cure capillary film recommended for mesh counts of 120-165 threads/cm. (305-420/inch). Its anti-halation properties reduce light scattering and improve resolution and edge definition. It has wide exposure latitude. Its special formulation controls mesh penetration and forms an enhanced cross-linking "matrix" during exposure, resulting in sharp printing shoulders and mechanical durability. Particulate-size control reduces granularity effects, further enhancing resolution and definition. Under high humidity conditions, **CDF Vision Plus-18** resists polishing in the roll, and fingerprints and curling in the shop. **CDF Vision Plus-18** is compatible with UVs, vinyls, and virtually all solvent-based inks. It is suited to such printing applications as: electronics, circuit traces, membrane switches, halftones, CDs and DVDs, ceramic decals, posters, and containers and bottles.

### 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**, 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. Use **Microgrit No. 2** before degreasing. Abrading and degreasing can be combined in one step with **Ulanogel 23**.) Rinse thoroughly. Use **Magic Mesh Prep** or **CDF Mesh Prep No. 25** to promote uniform water retention in the mesh openings during adhering. (**Magic Mesh Prep** also acts as both a degreaser and an antistatic treatment.)

#### **Step 2: ADHERE CDF VISION PLUS-18 TO THE FABRIC**

**Standard Method:** Position a sheet of **CDF Vision Plus-18** on a flat surface, emulsion side up. Place the printing side of a wet screen (ideally, directly following the fabric preparation rinse) on top of the film. The film will darken as it is wetted. Make a single squeegee stroke across the squeegee side. Wipe off any excess water, especially from the inside of the frame. "**Roll-Down**" **Method:** Roll the cut-to-size film, emulsion side out, around a small plastic tube 1" – 1 ½" (ca. 2 ½ X 4 cm.) in diameter. Make a squeegee stroke on the printing side of the mesh to assure uniform wetting. 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.

#### **Step 4: 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 5: CALCULATE THE APPROXIMATE EXPOSURE**

From the Base Exposure Table (reverse side), 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 to find your Approximate Exposure Time. (Base Exposure Time X Exposure Variable Factors = Approximate Exposure Time.)

#### **Step 6: DETERMINE THE OPTIMAL EXPOSURE TIME**

Make a Step Wedge Test (there is an instructional video covering this on the Ulano Web site ([www.ulano.com](http://www.ulano.com)) or use the **Ulano ExpoCheck** to determine your optimum exposure time. Optimum exposure is indicated: ■ At that exposure time when the film first reaches its maximum color density and 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: because resolution is relative to stencil thickness, it is not possible to resolve a line finer than the overall thickness of the fabric and stencil.) An actual test print should be made as part of any exposure evaluation.

#### **Step 7: 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. Remove excess water for faster drying. Dry the screen thoroughly.

#### **Step 8: TOUCHUP AND BLOCKOUT**

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

#### **Step 9: RECLAIM THE SCREEN**

Use **All-Purpose Ink Wash**, the ink manufacturer's recommended washup solvent, or the least powerful ink diluent necessary to remove all ink remaining in the screen. Use **Screen Degreaser Liquid No. 3** to help remove ink or solvent residues that might impair the action of the stencil remover. Rinse the screen with a powerful spray of water. 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, as this can result in a permanent stencil. Wash the screen with a strong spray of water. Use **Walk Away Haze Remover** or **Haze Remover Paste No. 78** to remove ink and haze residues.

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## Technical Data Sheet

**STORAGE:** Unused roll and sheets should be kept under cool conditions (not exceeding 24° C. or 75° F.) with relative humidity of 20-40%. Shelf life is 15 months from the date of manufacture. Storage outside the recommended conditions will result in reduced shelf life. Screens with unexposed film adhered can be stored for up to two weeks in a cool, dark, dry area. Heat and humidity reduce storage time.

### BASE EXPOSURE TABLE for CDF Vision Plus-18 at 40 inches (100 cm.) on white polyester or nylon.

<u>Light Source</u>	<u>CDF Vision Plus-18</u>						
<b>Metal Halide:</b>							
2000 watts	1 min.						
3000 watts	40 sec.						
4000 watts	30 sec.						
5000 watts	24 sec.						
7000 watts	17 sec.						
8000 watts	15 sec.						
<b>Fluorescent Tubes#</b>							
40 watts	6 min.						

#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. NR = not recommended

### EXPOSURE VARIABLES FACTORS: variables affecting exposure time

<b>Mesh</b>		<b>Exposure Distance:</b>		<b>Exposure Distance:</b>	
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 reverse printing	1.2	32"/80 cm	0.64	84"/210 cm	4.41
		36"/90 cm	0.81	100"/250 cm	6.25
		40"/100 cm	1.00		
		44"/110 cm	1.21		
<b>Adhering</b>		48"/120 cm	1.44		
Direct/Indirect Method using LX-660 (Blue) or DP-800 direct emulsion	1.5	52"/130 cm	1.69		
<b>Taped-up Positives</b>					
Taped-up or montage positives, per layer	1.1				

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