

The Screen Preparation
PHOTO FLASH EMULSION APPLICATION PROCESS



APPLICATION		PHOTOFLASH 300			
ITEM	%	5 KGS 5000gms	1 KG 1000 gms	250 GMS	125 GMS
Photoflash 300	98.00	4.900	0.980	245.00	122.50
Sensitizer	0.50	0.025	0.005	1.25	0.63
Pigment	1.50	0.090	0.015	3.75	1.87
TOTAL WEIGHT*	100.00	5.000	1.000	250.00	125.00

NOTE: You can calculate the weight in percentage, if the emulsion to be used is not found above.

NOTE:

- EMULSION COLOR APPLICATION: OPTIONAL BUT RECOMMENDED.
- MIX SENSITIZER POWDER ACCORDINGLY AND UNDER DIM LIGHT.
- EMULSION MIXED WITH SENSITIZER MUST BE KEPT IN A DARK COLORED CONTAINER FOR LONGER SHELF LIFE (ABOUT TWO MONTHS MAXIMUM STORAGE TIME) TO PREVENT SPOILAGE.

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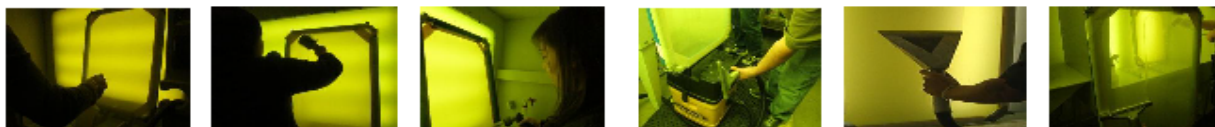
1 DEGREASE & DRY SCREEN FRAME

1a. Apply a Degreaser on screen mesh to remove contaminants such as oil, grease, dust, and residual ink.

1b. Use a clean nylon scrub pad or brush (to degrade) and spread the Degreaser with light agitation in a circular motion. Work up lather on both sides of the screen. Work up lather on both sides of the screen. Degreaser may be left on screen to dwell while wet.

1c. Rinse thoroughly at low pressure to reduce static electricity effects that can attract dust.

1d. Vacuum off the water and then put the screen in a drying cabinet to avoid dust from settling on it. Or, wipe dry the washed screen with clean Chamois Fabric. Let dry Completely before coating with emulsion.



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2 PREPARE THE PHOTO EMULSION

PREPARE THE PHOTO EMULSION



On sensitizer bottle/sachet, add lukewarm water (100cc or less). Shake vigorously until completely dissolved. Stir entire sensitizer solution and the pigment into the photo emulsion, using a stirrer, until photo emulsion is uniform in color. Allow sensitized photo emulsion with at least 1-2 hours of de-airing before use. Best keep sensitized emulsion in a dark colored container and kept in a cool dark room for maximum of two months to prevent spoilage or emulsion expiration.

IMPORTANT NOTE

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De-Airing time: Once stencil is mixed with sensitizer or has been moved, let the emulsion stay for at least 2 hours or until no bubbles are present to avoid pin holes.

Please note: Quantity of sensitizer depends on weight of the photo emulsion to be used.

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3 COAT THE SCREEN

COAT THE SCREEN



Use *emulsion coater*. Fill your coater with the sensitized emulsion, approximately $\frac{3}{4}$ full in a *dim room*. Starting on the substrate side, pass the coater over the screen at a medium, consistent speed while applying consistent and even pressure to the coater. Repeat once more on the substrate side to completely fill-in the mesh openings. Rotate the screen and repeat this method on the print (squeegee) side. This will encapsulate the mesh with photo emulsion and push any excess photo emulsion to the substrate side. The last coat should always be at the print (squeegee) side. Repeated coatings on the substrate side will begin to build-up stencil thickness onto it. Your specific coating technique will vary depending on your application.

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4 DRY THE SCREEN

DRY THE SCREEN

Dry the coated screen in a horizontal (flat) position with substrate side face down and print (squeegee) side face up to have a smooth surface on the inside for the squeegee to glide over and not get caught on the edge of the emulsion or drag on it. Ideal condition includes an enclosed room or area with unlit or properly filtered lighting, 70°F (21°C) to 100°F (38°C), with less than 50% humidity and circulated filtered air.



The ideal relative humidity is about 40%. Having a hygrometer in the screen storage area is necessary for this reason. If the relative humidity is above 50%, put the screen back into the drying cabinet for a few minutes (3-5 minutes) prior to exposing the screen. Emulsion pulls moisture from the air and can re-wet a screen. A "wet" screen takes longer to expose properly than a dry one and this will ensure your screen is dry. Many of the screen breakdown problems are a result of screens being under exposed because of the moisture in them.

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5 EXPOSE THE STENCIL

EXPOSE THE STENCIL



To find the optimal exposure time given your specific variables (*distance of artwork from the light, age and type of light source, wattage, emulsion type, film type, etc*), you must perform some testing. Many exposure calculators are available; however, using your own positives will ultimately give you the most accurate exposure time. When testing, keep track of your variables: emulsion type, coating technique (1+1, 2+3, etc.), mesh count & color, positive type, lamp distance (if adjustable), etc. The most accurate test method is the "step" test- i.e. 5 minutes, 10 minutes, 15 minutes, etc.

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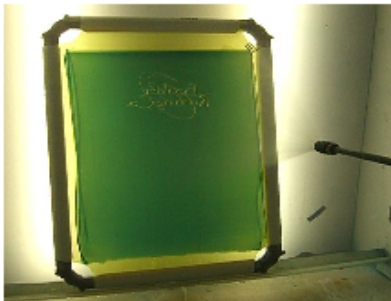
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6 DEVELOP THE STENCIL



Immediately after exposure, begin development by quick soaking or wet the stencil with water from both the print and squeegee sides for a few seconds before washing it. While keeping both sides wet, spray the squeegee side until no “slimy” emulsion remains. If the screen was properly exposed and fully dry prior to exposure, no delaminating will occur. Finish on the print side. A fine spray works best to remove fine details.



Power Sprayer



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Karcher Pressure Washer

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7 DRY THE STECIL AFTER DEVELOPING



Dry the screen. A vacuum with a special nozzle is an easier way of doing it and putting the screen in a drying cabinet after blotting off the excess water on the image area to avoid scumming (the shiny clear film that forms in the image area from unexposed emulsion settling there) that will dry in and not let the ink through it. If this happens, use a damp cloth to open the area.



PLEASE NOTE: Well Dried screen without photo-hardener application gives you the opportunity to reclaim the screen mesh. Generally, photo-hardener must be applied if production runs are over 100 prints as the exposed emulsion tends to wash off due to frequent wash.

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8 RECLAIM THE SCREEN

RECLAIM THE SCREEN

Remove most of the ink from the screen. To remove residual ink, apply a sufficient amount of Photo Degreaser and agitate with a dedicated nylon scrub pad or brush. Rinse thoroughly with water. While the stencil is wet, soak the screen onto the Photo Reclaimer solution (stencil remover solution: 10g/1ltr water) to cover the entire surface of the stencil on both print and squeegee sides. Allow Photo Reclaimer to penetrate and break down the stencil for 2 to 3 minutes.

NOTE: DO NOT ALLOW RECLAIMER TO DRY ON STENCIL. Thick stencils may require mild agitation and another application or soaking of Photo Reclaimer solution. Thoroughly spray out the screen. Follow it up with a Degreaser or liquid soap to degrease mesh (Step 1).



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9 REMOVING THE GHOST IMAGE

REMOVING THE GHOST IMAGE

Ghost Image may appear after screen reclaiming. To remove the ghost image from the reclaimed screen, thoroughly apply the Isophorone Liquid on both sides (print & squeegee) by using a paint brush or a clean cloth. Immediately apply Ghost Haze Remover on both (print & squeegee) sides with a rubber spatula. Let stay for 5 minutes, if necessary then rinse off with water. Repeat the process if necessary. Finally, degrease.

NOTE: Do not do reclaiming & Ghost Image removal process too often on similar screened frame as these process normally weaken the screen mesh.



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