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Troubleshooting – Exposing Diazo Phototool

Hints for Processing Diazo Phototools

Diazo Phototools

Positive working, room light handling films specifically designed to reproduce the printed master artwork.

Features

Specifically formulated emulsion for sharp resolution and highly defined images.

Films are coated on a .007” polyester base for maximum dimensional stability and durability to keep their original image geometry.

Processing Tips

These pages will identify correct methods of accomplishing exposure and development, list common problems and provide practical trouble-shooting solutions.

Diazo Phototool Exposure

There are two major steps in the processing of Diazo Phototool film - exposure and development.

Diazo Phototool film is sensitive to the UV portion of the spectrum with its peak sensitivity in the range of 380-410 Nanometers (3800/4100 Angstroms). Metal halide type UV lamps, having a peak output of 410 Nanometers (4100 Angstroms) or other additive type light sources are recommended.

Exposure can be made in a conventional vacuum frame.

Correct exposure times should be determined to meet specific operating conditions. The following charts suggest ways to find the correct exposure times for initial testing.

Exposure Guide

The use of the Stouffer Sensitivity Guides (21 Step Transparent) is an effective imaging tool for Diazo Phototool.

A. Locate the Sensitivity Guide aside of silver master, with the emulsion, side of Guide toward emulsion of duplicating film or phototool film.

B. When using other than silver film, place the Guide in a clear area under the film you are duplicating in order to compensate for any difference between the Dmin (Minimum Density) of the film being used and the silver guide.

C. Locate the best exposure. Reproduce the Guide on the film duplicate to have a solid step Two (2) and a clear step One (1).

	Best Exposure
___ Clear Step 1	Note: This is the exposure that is best but has no latitude.
___ Good Step 2	When copying less than 5 mil lines or low density films, this exposure should be used.
	Production Exposure
___ Clear Step 1	Note: This exposure gives the latitude required in the production area. When Step 3 starts to go, check film to verify line width (5 mil lines or higher).
___ Clear Step 2 (or slight trace of color)	
___ Good Step 3	
___ Good Step 3	
	Overexposure
___ Clear Step 1	Note: The use of over-exposure to shrink a line when using a positive image is an acceptable practice.
___ Clear Step 2	
___ 3 Loss of color	
___ 4 Good	

Problem	Corrective Action
Loss of line width over entire copy	A. Check for overexposure. B. Evaluate original for (soft edges) low density. C. Check that matte Black Imaging is behind diazo film.
Loss of line width at outer edges of copy	A. Evaluate drop-off of U.V. light on exposure unit. B. U.V. light too close to film for size of film being used.
Loss of resolution – “unsharp” line edges over entire copy	A. Check for poor edges on original. B. Check for out-of-contact print: (E to B) will cause “unsharp” edges. C. Check vacuum for poor pressure and hoses for pin holes.
Loss of resolution in isolated areas of film	A. Check for air pockets trapped between films during exposure. B. Check for indentions or warping of matte Black Imaging Board behind film.
Image Gain: Discoloration in D-MIN area to high D-MIN	A. Underexposure – increase exposure. B. Overage film – film has developed before use. C. Film stored too close to ammonia. D. Diazo master still has ammonia on it; allow to air before making next print.

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