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Troubleshooting – Developing 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 Development

Close attention to proper development techniques will prevent many of the problems commonly associated with diazo film during processing

Most diazo developers presently sold do not develop films in a single pass through the developer. Usually at least two pass development is required. In order to control the process, a developer is recommended that has the following capabilities:

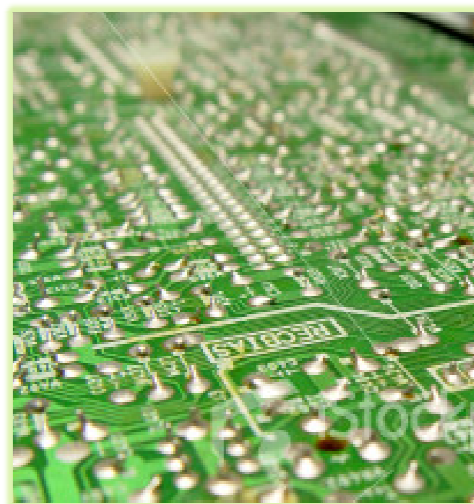
- A. Continuous flow (controlled supply) of ammonia (pump preferred) – be sure it is in a location where vapor lock will not occur.
- B. Temperature Control
- C. Easy access for cleaning
- D. No tension on film during the processing cycle.

The chart below offers tips on how to deal with the most frequent problems

Summary

This article attempts to describe the most critical steps in the production of the diazo Phototool but it can't begin to outline the unique and differing processing situations that face PCB manufactures. For this reason, it is best to rely on their film supplier, where an applications oriented, technically qualified film professional will be able to provide the assistance needed to ensure that the quality built into the system is realized.

Diazo film has helped make the manufacture of phototools an easier, less expensive process, but attention to detail is essential for optimum results.

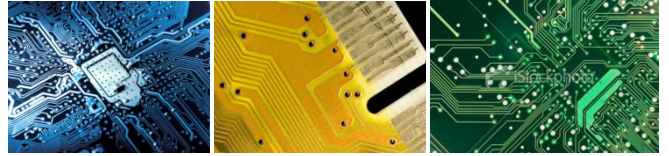


Problem	Corrective Action
Film not developed in two passes through developer	<ol style="list-style-type: none"> A. Check the ammonia supply. Confirm ammonia is above 23° Baume and machine temperature is 150° or above. B. Check delivery system of ammonia (1) Drip feed shut down. (2) Pump hose collapsed. Advance hose. C. Check for kinks on suction side of hose at stainless steel draft tube.
Vapor Lock	<ol style="list-style-type: none"> A. Vapor lock – pump in confined area – overheated. Cool or dilute ammonia with distilled water only – not below 23° Baume. B. Hose on top of developer overheated – cool or remove hose to side.
Temperature	<ol style="list-style-type: none"> A. Confirm correct temperature with temp tapes. Temp below 150° will cause poor development. NOTE: Do not exceed 180° to avoid dimensional problems. B. Have electrician check heating rods – if burned out, replace. Call for service.
Exhaust System	<ol style="list-style-type: none"> A. Check to make sure exhaust blower is operative – If not, replace it. B. Check auxiliary exhaust system – if too strong it will draw ammonia out of developer. Consult serviceman.
Improper Drainage	<ol style="list-style-type: none"> A. Check level of developer for proper development and drainage. B. Check hose – remove kinks or blockage. C. Overflow bottle filled? Empty.

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