

ALPHA ASSEMBLY PHOTORESIST 642

PRODUCT DESCRIPTION:

Alpha Assembly Photoresist 642 is a negative-working resist designed for the gravure and screen industries. Resist 642 was specifically formulated to increase throughput and improve yields. Excellent adhesion and resistance to scratching provide high quality coatings, which result in superior yields. High photo-speed combined with fast drying allow Resist 642 to achieve maximum throughput.

SAFELIGHT RECOMMENDATIONS:

Gold fluorescent tubes or yellow “antibug” incandescent light bulbs may be used as safelights. UV filter sheets may also be wrapped around cool white fluorescent tubes. Red fluorescent tubes provide a more positive safe-lighting system. They should be used if coated, undeveloped cylinders will be exposed to safelight conditions for an appreciable length of time.

SURFACE PREPARATION:

All surfaces should be cleaned prior to applying Resist 642. Residual oils and particulates on the substrate can affect the adhesion and overall quality of the coating.

COATING:

The coating thickness of the resist should be optimized for each specific process. Coating thickness variations from run to run or within the same run can affect the drying, exposure, and development times. Resist 642 can be diluted with Alpha Assembly KPR Thinner to provide a wide range of coating thicknesses. Uniform coatings can be achieved by all standard methods including ring coating techniques.

PREBAKING:

Alpha Assembly Resist 642 is a fast-drying resist. Under normal circumstances, no prebaking is required. However, it is desirable to allow the resist to air-dry 10 to 15 minutes prior to exposing.

EXPOSING:

The exposure of the resist is dependent on the resist thickness and spectral output of the light source. Proper exposure should be predetermined using a photographic step tablet. If a step tablet is used, a retention of a solid step 6 (approximately 0.8 ND) after development is recommended.

DEVELOPING:

Alpha Assembly Resist 642 can be developed in a vapor-spray degreaser (with either 1, 1, 1 – trichloroethane or 1, 1, 2 – trichloroethylene), or it can be developed by either spray or immersion techniques with Alpha Assembly KPR 3 / 4 Developer. Normal develop times are 30 seconds to 1 minute.

DYES:

For inspection purposes, it is often desirable to dye the resist. Alpha Assembly Resist 642 is compatible with Alpha Assembly KPR Blue Dye. The dye should be added immediately following development and should be allowed to stand only as long as it takes the dye to be absorbed.

ETCHING:

Alpha Assembly Resist 642 provides a high degree of resistance to all copper etching techniques and systems.

PHYSICAL PROPERTIES:

PROPERTY	VALUE
Solid Range (w/w)	10.2 to 11.8 percent
Viscosity Range (Centistokes)	45 to 55
Approximate Specific Gravity (25/25)	1.020
Moisture Content	Less than 1.0 percent
Flash Point (Setaflash ASTM D3278-78)	
Alpha Assembly Resist 642	124 °F (51 °C)
Alpha Assembly KPR ¾ Developer	80 °F (27 °C)
Associated Products	
Alpha Assembly KPR Thinner	
Alpha Assembly KPR ¾ Developer	
Alpha Assembly KPR Blue Dye	