HD MicroSystems™
An Enterprise of Hitachi Chemical and DuPont Electronics

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PRODUCT BULLETIN

PA-400 Series Ancillary Products for Photosensitive Polyimides

HD MicroSystems produces a range of solvent based ancillary products for its line of negative tone photosensitive polyimides. The HD-4100 Series are the premier photosensitive polyimides especially developed for high-performance applications in wafer fab and packaging. These products are engineered to be readily compatible with various thin film metalization schemes, high lead or non-lead solders, various plating solutions and underfill materials. HD-4100 Series polyimides have a high Tg and high elongation. Like most polyimides, HD-4100 Series products are not prone to oxidation and are resistant to most wet and dry chemical processes practiced in wafer fabrication.

Product Codes

A variety of different product codes comprise the HD-4100 series product line. These products all share the same polyimide platform and resolution capability. Please consult the *HD-4100 Series Product Bulletin* or the *HD MicroSystems Production Selector Guide* for the best product code for your application.

Developer

The standard developer for HD-4100 series products is **PA-401D**, which is based on cyclopentanone [CPO]. PA-401D offers good solubility and an evenly controlled develop rate. It is also the recommended edge bead remover for all HD-4100 series products.

Faster developing can be achieved with **PA-400D**. The major solvent component for PA-400D is gamma butyrolactone [GBL]. The process window for this developer is not as wide PA-401D for some applications. These products should be considered if faster throughput is desired or if an HD-4000 polyimide product is being processed on a coater track already plumbed with one of these developer types. The develop rate of PA-400D is 1.25X compared with PA-401D.

Rinse

The preferred rinse for HD-4000 series products is **PA-400R** and based on PGMEA.

Edge Bead Remover & Backside Rinse

PA-401D is the recommended edge bead remover [EBR] and backside rinse all for HD-4100 products. In addition, NMP or GBL based solvents such as PA-400D can also be used. However both these solvents have a high boiling point and do not readily spin-dry on standard wafer coater tracks. This often results in a residue on the backside of coated wafers and/or slight crazing of the uncured polyimide layer at wafer edge.

Availability

HD MicroSystems produces all the ancillaries referenced in this bulletin in a variety of lot sizes and in 4 liter, 20 liter and 200 liter container sizes. For further information, please contact your area HD MicroSystems Technical Representative or distributor.

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