MC PC Series Resists

Protective Coatings

Technical Data Sheet

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General Information

MC PC62E, MC PC 20E are transparent, protective coatings for the semiconductor industry. The MC PC62EC and MC PC 20EC are the blue-green colored versions of these protective coatings.

They are based on a high quality Novolak resin and the solvents Ethyllactate and Butylacetate. The recipe is similar to the ingredients of a common positive photoresist, but without the photoactive compound (PAC). They can be used for many applications where photolithographic patterning is not required.

Coating Thickness

This technical data sheet intends to give you a guide-line for process parameters for various applications. However, the optimum values e.g. spin profile, coating method and remover depend on the individual equipment and need to be adjusted on each individual demand.

MC PC62E and MC PC62EC: Spin coating at 4000 rpm results in a film thickness of approximately: 6.2 µm.

MC PC20E and MC PC20EC: Spin coating at 4000 rpm results in a film thickness of approximately: 2 µm.

Fields of Application

Protective Coating for mechanical protection

- Grinding and dicing processes
- Other mechanical treatments

Protective Coating for etching and plating processes

- The MC PC Series Resist are resistant to most (acidic) etchants and plating solutions
- It can be used in dry etching processes as well

Processing the MC PC Series Resists

(in chronological order)

Substrate preparation: Put the substrate on the hotplate at a minimum temperature of 120 °C for 10 minutes to remove adsorbed water from the substrates surface. Alternatively, you can use a furnace at same temperature for 30 min. Of course standard HMDS procedure (only from vapor phase at an optimum substrate temperature of 125°C!) is also an adequate preparation.

Spin-coat the resist after cooling down the substrates, spin at the final speed level for at least 30-40 seconds.

Bake the coated substrates at 100°C for 1 minute for each micron of thickness. Alternatively you can use a bake at 110°C for 30 seconds for every micron. The coating is stable in alkaline solutions such as AZ 400K 1:4 Developer, with a total thickness loss of 90 nm within the first 3 minutes. During a bath of 5 Minutes in this developer you will observe a thickness loss in the range of 800 nm. If a longer time in the developer solution is required a higher temperature (up to 170°C) can be applied, but due to cross linking, the removal of the resist might be more difficult the higher the baking temperature has been.

Stripping of the coating can be done with typical commercial strippers used with positive tone photoresists, e.g. AZ100 Remover, TechniStrip P1316 or acetone (followed by IPA rinse) besides many other options such as alkaline solutions or plasma ashing in oxygen plasma.