

Brewer Science® ProTEK® SR

Scratch-Resistant Coating for Backside DRIE Process



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ProTEK® SR material is a spin-applied coating that protects front-side circuitry during the backside DRIE process, resulting in increased device yields.

Benefits

- ▶ Coating protects delicate front-side circuitry during backside DRIE process
- ▶ Coating can be used as an etch stop when etching through a wafer using DRIE process
- ▶ High film hardness (9H pencil) resists scratching
- ▶ High glass transition temperature (117°C) assures ProTEK® SR film will not stick to DRIE chuck
- ▶ Low outgassing in a vacuum assures no contamination of DRIE chamber or process
- ▶ Low film ion levels prevent contamination of wafers, tools, and handling equipment

Coat Parameters

Spin Coat: > 1000 rpm (customer set) for 90 s

Acceleration: > 5000 rpm/s

Bake (all bakes required):

- 1) 100° to 130°C for 120 s
- 2) 150° to 165°C for 120 s
- 3) 205°C for 60 s

Alternative Oven Bake Method:

- 1) Hot plate: 130°C for 120 s
- 2) Oven: 200°C for 30 min
- 3) Remove wafer from oven and cool to room temperature

Recommended Two-Bath Removal Process

Bath 1: ProTEK® Remover 100 at room temperature for 30 min

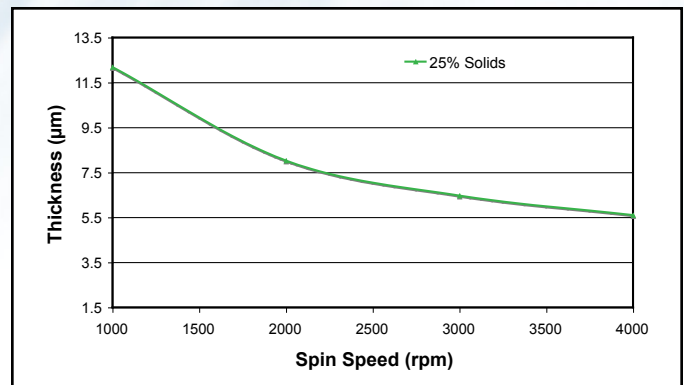
Bath 2: ProTEK® Remover 100 at room temperature for 30 min

Rinse 1: IPA at room temperature for 5 min

Rinse 2: Deionized water at room temperature for 5 min

Dry: Spin Dry

Spin Speed Curve



Various film thicknesses can be achieved by varying the spin speed. We do not recommend processing ProTEK® SR coatings at speeds lower than 1000 rpm.

Storage Conditions: Room temperature (16°C to 26°C)

Shelf Life: 365 days

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