

Brewer Science® ProTEK® B3

Alkaline-Resistant Coating



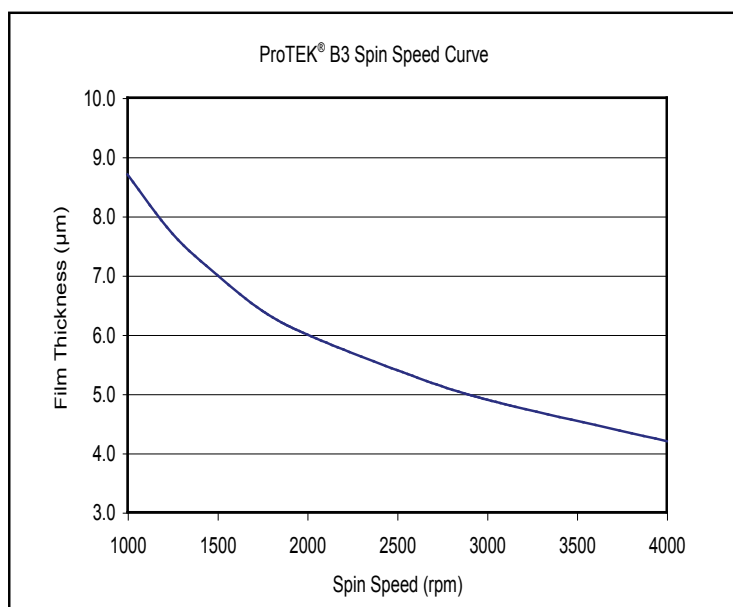
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ProTEK® B3 coating protects front-side circuitry during deep backside alkaline bulk micromachining while increasing throughput and yield

Benefits

- ▶ Protect delicate front-side circuitry during backside bulk micromachining
- ▶ Increase yield by minimizing front-side damage caused by alkaline etch solution punch-through during wet etching
- ▶ Improve throughput by
 - Reducing labor and process time associated with mechanical clamps
 - Increasing the number of wafers per etch bath

ProTEK® B3-25 Coating Spin Speed Curve



Processing Recommendations

ProTEK® B3 Primer

Spin coat: 1500 rpm for 60 s

Acceleration: 1000 to 10,000 rpm/s

Bake (hot plate): Bake at 205 °C for 60 s

ProTEK® B3 Protective Coating

Various film thicknesses of ProTEK® B3 coating can be achieved by varying the spin speed. We suggest using a spin speed range between 1000 to 4000 rpm.

Spin coat: > 1000 rpm (customer set) for 60 s

Acceleration: > 5000 rpm/s

Hot plate bake (all bakes required):

Bake 1: 100 °C to 140 °C for 120 s

Bake 2: 205 °C for 60 s

Alternative Oven Bake Method

Hot plate bake: 130 °C for 120 s

Oven bake: 200 °C for 30 min

Remove wafer from oven and cool to room temperature.

Recommended Two-Bath Removal Process

Bath 1: Air Products' ACT® XT-1100 at room temperature for 30 minutes

▶ Bath 2: NMP (Air Products' ACT® 412) at 80 °C for 30 minutes

▶ Rinse: Room temperature IPA for 5 minutes, followed by room temperature deionized water for 5 minutes

▶ Dry: Spin dry

Storage Conditions

ProTEK® B3 Coating: Room temperature (16 °C to 26 °C)

ProTEK® B3 Primer: Room temperature (16 °C to 26 °C)

Shelf Life

ProTEK® B3 Coating: 365 days

ProTEK® B3 Primer: 180 days

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