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# BrewerBOND® 220

## Temporary Wafer Bonding Material

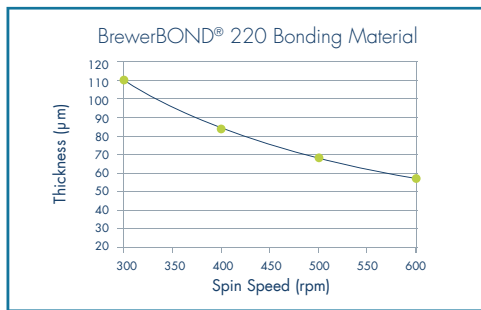
BrewerBOND® 220 temporary wafer bonding material is an organic coating that enables back-end-of-line (BEOL) processing of ultrathin wafers using standard semiconductor equipment. This product improves throughput, simplifies spin cleaning, and shortens processing time.

### KEY MARKET SECTORS

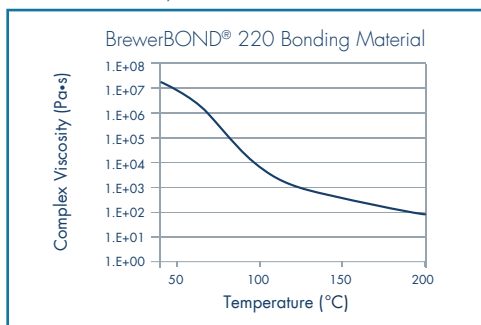
- 3-D wafer-level packaging
- MEMS
- Compound semiconductor

### PROCESSING

#### Spin Speed Curve Data



#### Melt Viscosity



Viscosity (Brookfield) = 1480 cP at 37.8°C

T<sub>d</sub> (TGA\*) = 254°C (Air)

\* IPC-TM-650 2.4.24.6 (2% Loss)

T<sub>g</sub> (DSC) = 50.1°C

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### BENEFITS

- Enables backside temperature processing at 200°C – 240°C
- Enables slide debonding with low force
- Enables minimal device wafer bowing during processes
- Up to 160-µm film possible with a single coat and customized spin process

#### BrewerBOND® 220 Bonding Material Coating Parameters (8" substrate)

##### Static dispense in center of wafer

Spin Speed See spin speed curve provided for thickness target  
 Acceleration 500 rpm/s  
 Spin Time 30 s

#### Spin Coating and Hot Plate Baking Processes

Material	thickness	Coat			Bake - temp, time (°C, min)		
		spin (rpm)	accel (rpm/s)	time (s)	bake 1	bake 2	bake 3
BrewerBOND® 220	~50 µm	650	500	30	80, 3	180, 3	220, 3
BrewerBOND® 220	~100 µm	350	500	30	80, 5	130, 5	220, 7

\*all bake conditions proximity

#### Bonding Process (8" wafer)

Temperature 130°C  
 Time 2 min  
 Vacuum 5 mbar  
 Force 2100 N

Process can be optimized for higher-temperature bonding and using various wafer sizes.

#### Slide Debonding Process (8" wafer)

Temperature 190°C  
 Force 4 lb  
 Speed 2 mm/s

Can be debonded at temperatures as low as 150°C.