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 cleaning, and shortens processing time.

BENEFITS

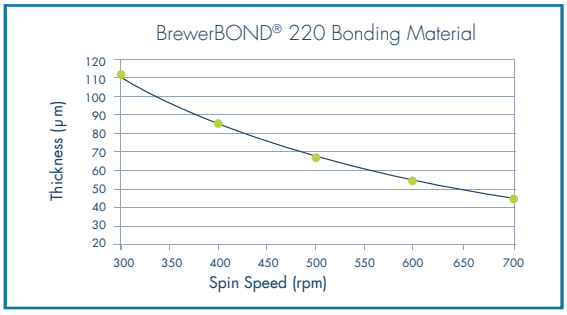
- Enables backside temperature processing at 200°C – 240°C
- Enables slide debonding with low force
- Enables minimal device wafer bowing during processes
- Up to 160-µm film possible with a single coat and customized spin process

MARKET SECTORS

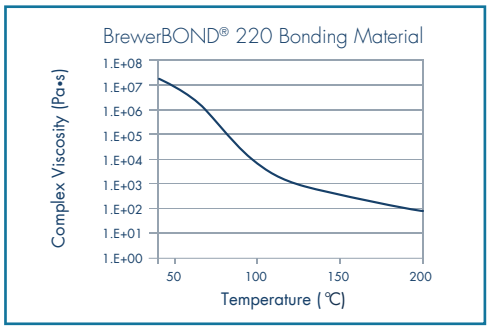
- 3-D wafer-level packaging
- MEMS
- Compound semiconductor

PROCESSING

Spin Speed Curve Data



Melt Viscosity



PROCESSING

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

Material	Thickness	Spin (rpm)	Accel. (rpm/s)	Time (s)	Bake 1	Bake 2	Bake 3
BrewerBOND® 220	~50 µm	650	500	30	80°C 3 min	180°C 3 min	220°C 3 min
BrewerBOND® 220	~100 µm	350	500	30	80°C 5 min	180°C 5 min	220°C 10 min

**all bake conditions proximity*

Bonding Process *(8" substrate)*

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

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

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

Viscosity (Brookfield)

Viscosity (Brookfield) =1480 cP at 37.8°C

Viscosity (Brookfield) = 2820 cP at 25°C

T_d (TGA*) = 254°C (Air)

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

T_g (DSC) = 50.1°C

Effective Date: 5/04/2017