



# BrewerBOND® 305

## Temporary Wafer Bonding Material

BrewerBOND® 305 temporary wafer bonding materials are organic coatings that enable back-end-of-line (BEOL) processing of ultrathin wafers using standard semiconductor equipment. These products improve throughput, simplify cleaning, and shorten processing time.

*Note: Values listed in this data sheet apply to all BrewerBOND® 305 materials unless otherwise noted.*

## BENEFITS

- Backside processing at temperatures up to 300°C
- Mechanical or laser debonding with low force
- Maximize wafer yield with optimized temporary wafer bonding and mechanical or laser debonding process
- Post-bond total thickness variation (TTV) < 2 µm
- Reduced cleaning chemical consumption and time

## MARKET SECTORS

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

## MATERIAL PROPERTIES

### Thermal Properties

T<sub>d</sub> (TGA\*): 397°C (Air)

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

T<sub>g</sub> (DSC): 70°C

### Viscosity (Brookfield) at 100°F (37.8°C)

BrewerBOND® 305 material: 6700 ±200 cP

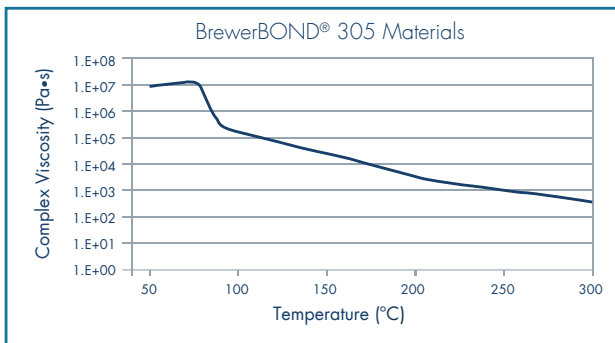
BrewerBOND® 305-30 material: ~3300 cP (tracking)

### Viscosity (Brookfield) at Room Temperature (25°C)

BrewerBOND® 305 material: 12800 cP

BrewerBOND® 305-30 material: ~5500 cP

### Melt Viscosity



## PROCESSING

### Coating Parameters (200-mm substrate)

Dynamic dispense: 60 rpm, accel: 100 rpm/s, 10 s

Spin speed: See spin speed curve for thickness target

Material	Thickness	Spin (rpm)	Accel. (rpm/s)	Time (s)	Bake 1	Bake 2	Bake 3
BrewerBOND® 305	~50 µm	1000	3000	30	60°C 3 min	160°C 3 min	220°C 3 min
BrewerBOND® 305-30	~30 µm	1000	3000	30	60°C 3 min	160°C 2 min	220°C 2 min

### Bonding Process

Temperature: 200°C

Time: 3 min

Vacuum: 5 mbar

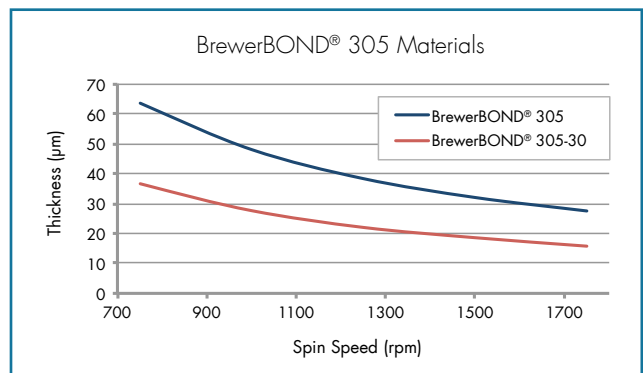
Force: 1800 N

### Debonding Process (Mechanical)

Temperature: Room temperature

Force: Process dependent

### Spin Speed Curves



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