# BrewerBOND® 305

## Temporary Wafer Bonding Material

BrewerBOND® 305 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.

## KEY MARKET SECTORS

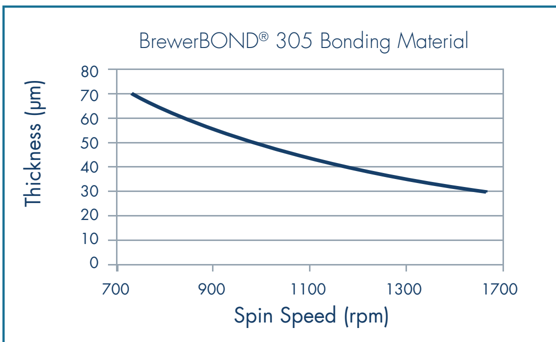
- 3-D wafer-level packaging
- MEMS
- Compound semiconductor

## BENEFITS

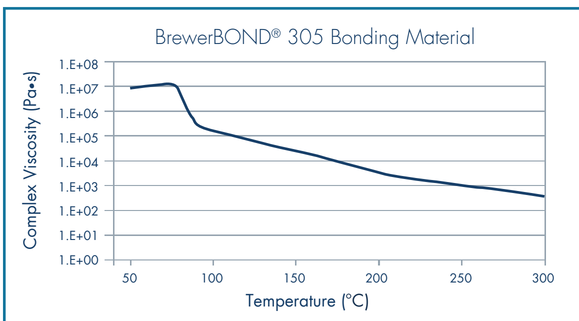
- Enables backside temperature processing at 250°C - 300°C
- Enables mechanical or laser debonding with low force
- Maximizes wafer yield with optimized temporary wafer bonding with mechanical or laser debonding process
- Post-bond TTV < 2 μm
- Reduced cleaning chemical consumption and time

## PROCESSING

### Spin Speed Curve Data




### Melt Viscosity




Viscosity (Brookfield) = 7330 cP at 100°F

$T_d$ (TGA*) = 397°C (Air)
  * IPC-TM-650 2.4.24.6 (2% Loss)

$T_g$ (DSC) = 70°C

### BrewerBOND® 305 Bonding Material Coating Parameters (8″ substrate)

| | |
|---|---|
| Dynamic Dispense | 60 rpm, accel: 100 rpm/s, 10 s |
| Spin Speed | See spin speed curve provided for thickness target |
| Acceleration | 3,000 rpm/s |
| Spin Time | 30 s |

| | Coat | | | | Bake - temp, time (°C, min) | | |
|---|---|---|---|---|---|---|---|
| Material | thickness | spin (rpm) | accel (rpm/s) | time (s) | bake 1 | bake 2 | bake 3 |
| BrewerBOND® 305 | ~50 μm | 1000 | 3000 | 30 | 60, 3 | 160, 2 | 220, 2 |

**all bake conditions proximity*

### Bonding Process (8″ wafer)

| | |
|---|---|
| Temperature | 200°C |
| Time | 3 min |
| Vacuum | 5 mbar |
| Force | 1800 N |

### Mechanical Debonding Process

| | |
|---|---|
| Temperature | Room temperature |
| Force | 14 lb |

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F.6.6.7098.B Effective Date: 08/27/2014