brewer science
*Where innovation takes flight!℠*

# BrewerBOND® 701

## Temporary Wafer Bonding Laser Release Material

BrewerBOND® 701 material is suitable for all production environments due to its high throughput and no-stress separation. The material was created for applications where higher temperature stability and lower total thickness variation (TTV) requirements are needed for downstream processing. BrewerBOND® 701 material is complementary to a wide variety of adhesive platforms and is an alternative technology to using mechanical debonding processes.

## BENEFITS

- Compatible with high-temperature backside processing ≤ 400°C
- Enables no-stress separation from carrier at room temperature
- Enables alternative processes including selective debonding when used with other release layers
- Enables rapid debonding with excimer laser equipment

## MARKET SECTORS

- Silicon interposer as bridge technology to initiate 3-D packaging
- eWLB (FIWLP & FOWLP)
- Memory
- Compound semiconductor

## LASER RELEASE METHOD

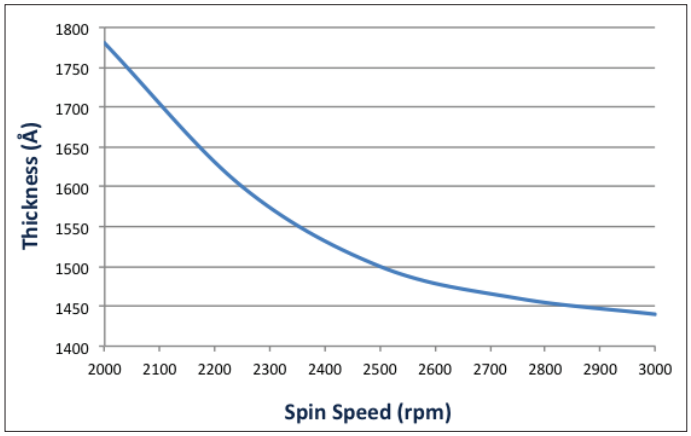
*Distinctive characteristics of the laser release method:*

- Maximum throughput of up to 50 wafers per hour
- Ability to withstand back-end process temperatures up to <350°C.
- Low-stress release, making it suitable for all production environments
- Release upon excimer laser exposure - no force used
- Ideal for high-volume production

The laser release maximum throughput makes it a good choice for high-volume production goals. This method works for all production environments.

## PROCESSING

### Spin Speed Curve (SSC)




### Coating Parameters (8" substrate)

Dispense: Static in center of substrate
Spin Speed: SSC provided for thickness target
Acceleration: 5,000 rpm/s
Spin Time: 60 s

### Hot Plate Baking Process

Contact Bake: 300°C for 5 min

### Laser Debonding Parameters

**Information based on performance using SUSS or Kingyoup laser debonding tool:*

Step and repeat scan method
Spot size: 12.5 mm x 4 mm
190 mJ/cm$^2$ to 250 mJ/cm$^2$

### Dynamic Viscosity

N/A

### Material Properties

n at 248 nm: 1.731
k at 248 nm: 0.112

n at 308 nm: 1.955
k at 308 nm: 0.136

Cauchy A: 1.63
Cauchy B: 0.0206
Cauchy C: 0

### Cleaning

*Coating can be removed by an oxidizing plasma or an oxidizing solvent stripping process such as ozone plasma stripping, Piranha® solution, or RCA cleaning.