

Bondline™ 2909 is an electrically conductive anisotropic epoxy. Possible use as a combination underfill and flip chip electrical interconnect. Because 2909 is electrically conductive before cure, unknown bad die can be eliminated.

*“A Reliable  
and Responsive  
Adhesive  
Company.”*

### Adhesive Properties

|                                       |                                      |
|---------------------------------------|--------------------------------------|
| Color:                                | Olive                                |
| Viscosity*:                           | 30,000 cps                           |
| Work Life @ 25°C:                     | 24 hours                             |
| Hardness (Shore D):                   | 87                                   |
| Cure Options:                         | 1 hour @ 150°C or<br>2 hours @ 100°C |
| Service Temperature Range:            | -55°C to 150°C                       |
| Lap Shear Strength @ 25°C (Al to Al): | 3500 psi                             |
| @ 25°C (Au to Au):                    | 3000 psi                             |
| Electrical Resistance:                | 0.000128 Ohm / 0.25 in <sup>2</sup>  |
| (Measured through bonded Au joints)   |                                      |
| Mobile Ion Concentration              |                                      |
| Chloride:                             | <50 ppm                              |
| Sodium:                               | <10 ppm                              |
| Potassium:                            | <5 ppm                               |
| Specific Gravity:                     | 1.6                                  |
| Glass Transition Temperature (Tg)**:  | 121°C                                |
| Weight Loss (TGA) @ 300°C:            | 1.5%                                 |
| Coefficient of Thermal Expansion**:   |                                      |
| Below Tg:                             | 35 x 10 <sup>-6</sup> in/in/°C       |
| Above Tg:                             | 100 x 10 <sup>-6</sup> in/in/°C      |
| Shelf Life:                           | 1 year @ -40°C or Colder             |
| Availability:                         | Net volume 1cc to 10cc, available in |

Adhesive properties are not intended to be used as specification limits.

\* Brookfield DV II+, CP 51 Spindle, 10 rpm, 25°C

\*\* Cured 1 hour @ 150°C

# **Bondline™**

*Electronic Adhesives, Inc.*

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# ***General Instructions for Adhesive Storage and Use***

## **FROZEN STORAGE** – Unless otherwise stated

This adhesive must be stored at (minus) –40°C (°F) or colder at all times. Storing this adhesive at temperatures warmer than (minus) –40°C (°F) may alter the adhesives' properties and shorten its work life. DO NOT RE-FREEZE adhesive that has already been thawed!

## **THAWING PROCESS**

Adhesive must reach room temperature before use. Remove syringes from freezer. Place syringes on end for thawing. See chart below for thaw time based on syringe size.

| SYRINGE SIZE | THAW TIME  |
|--------------|------------|
| 1cc          | 5 minutes  |
| 3cc          | 10 minutes |
| 5cc          | 15 minutes |
| 10cc         | 20 minutes |

**\*\* NOTE:** To accelerate thaw time, place syringes in front of an air blower or fan. This will reduce the thaw time by approximately 50%. Remove all condensation from syringes prior to use.

## **SURFACE PREPARATION**

Make sure that all surface areas to be bonded are free of any contamination. If parts have been solvent cleaned make sure solvent is dried before applying adhesive

## **APPLICATION**

Check the work life of the adhesive, on the technical data sheet. Adhesives must be used within the work life time period. The adhesives' properties will change (usually thicken) if it is used past the allowable work life.

Apply adhesive using dispensing equipment of choice. Contact Bondline Technical Service with questions about dispensing adhesives.

## **CURE**

Choose a Cure Option (time & temperature) from the Bondline technical data sheet. Preheat the oven to the temperature of the selected cure option. For optimum cure, do not deviate from the selected cure option. Be sure to allow additional time for holding fixtures to reach cure temperature. Avoid opening oven doors during cure. Large fixtures and/or multiple fixtures may require extended cure time.

## **SAFETY**

Review the adhesive Material Safety Data Sheet (MSDS) before using. Refer to the MSDS in case of emergency. Always wear protective gloves and goggles while handling adhesives. Only work with adhesives in well-ventilated areas, with curing ovens vented outside. For industrial use only.

## **TECHNICAL SERVICE CONTACT**

For recommendations and help with any aspect of adhesive applications please contact the Bondline Technical Service Department (408) 830-9200, or via email: [info@bondline.net](mailto:info@bondline.net) or visit our website, [www.bondline.net](http://www.bondline.net)

**CAUTION:** For industrial use only. People with sensitive skin may have a reaction to this adhesive. Avoid skin contact. Wash all areas with soap and water immediately if contact does occur. It is important to refer to Material Safety Data Sheet (MSDS) OSHA for more details.

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