TECHNICAL DATA SHEET

OXY-BOND™ 109DP Clear

Revision date: 8/22/2024

N109 W13300 ELLSWORTH DRIVE GERMANTOWN, WI 53022
262-253-5900 FAX 262-253-5919

DESCRIPTION:

ResinLab® OXY-BOND™ 109DP Clear is a two-part, low viscosity epoxy resin system recommended for industrial adhesive, small potting and laminating applications that require clarity and excellent structural, mechanical, and electrical properties. It exhibits good wetting, cures at room temperature, and develops strong, low shrinkage bonds to most materials including optical fibers, glass ceramics, metals, and rigid plastics.

OXY-BOND™ 109DP Clear has excellent dimensional stability over a wide temperature range. When fully cured, it is a durable electrical insulator and is resistant to water, weather, ozone, industrial solvents and oils, alcohol, salt solutions, and other organic and inorganic compounds.

TYPICAL PROPERTIES:

All properties given are at 25 °C unless otherwise noted.

Property:	*Value:*	*Test Method or Source:*
Color	Clear	Visual
Mix Ratio **Mix Ratio by weight** **Mix Ratio by volume**	Part A to Part B 2.22 to 1 2 to 1	Calculated
Cure Schedule	24 hrs @ 25 °C 30 min @ 65 °C	
Viscosity - Part A **Viscosity - Part B** **Viscosity - Mixed**	15,500 cP 2,500 cP 7,000 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Specific Gravity - Part A **Specific Gravity - Part B** **Specific Gravity - Mixed**	1.16 1.04 1.12	Calculated
Pot Life defined as the time it takes for initial mixed viscosity to double	28 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Gel Time 100cc Sample	1.75 hours	455300005339/Gardco Gel Timer
Hardness	80 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	105 °C	Extrapolated from Henkel LDS
Tensile Properties: **Strength**	 7,000 psi	Extrapolated from Henkel LDS
AC Dielectric Strength	> 20 kV/mm	Extrapolated from Henkel LDS

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Property:	*Value:*		*Test Method or Source:*
Coefficient of Thermal Expansion by TMA: below Tg	54 ppm/°C		Extrapolated from Henkel LDS
Refractive Index: @ 589 nm	**RI** 1.58	**Temperature**	Extrapolated from Henkel LDS
Volatile Condensable Material, 2 hours at 100 °C	0.01%		Extrapolated from Henkel LDS
Softening Point	75 °C		Extrapolated from Henkel LDS
Operating Temperature Range	-60 to 120 °C**		Extrapolated from Henkel LDS
Relative Thermal Index (RTI)	90 °C		UL746B, Table 7.1 Generic Value Based on Composition

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.
** Operating Temperature Range is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.
*** This TDS contains values that have been updated. The values reported in this technical data sheet are typical values of the product, and are highly dependent on test conditions and methodology. We actively seek the most precise and accurate ways to measure and interpret performance of our products, and to update estimated values with measured values. The formula has not been revised or changed in any way. Although the values on paper have changed, you can expect the same performance of the product.

Additional Performance Data – Lap Shear Adhesion, 4535601224468/ASTM D1002:				
Substrate Type	**Strength**	**Test Temperature**	**Cure Schedule**	**Bond Line Thickness**
Al to Al	2,500 psi	25 °C	Extrapolated from Henkel LDS	0.005 "
Al to Al	500 psi	100 °C	Extrapolated from Henkel LDS	0.005 "

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INSTRUCTIONS:

1. Bring to room temperature prior to use.
2. Cartridge format: Mixer should be attached keeping the cartridge vertical and any air pocket purged this way. After the mixer contains material, the mixer tip can be dropped to dispense pre-bleed amount. Attach a new static mixer with each cartridge, then pre-bleed the first 3 inches of dispensed material or until a uniform color is obtained. Maintain adequate velocity during dispensing to ensure complete mixing.
3. Bulk format: stir until homogeneous weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. Do not pour from mixing container, transfer to a new container as residual unmixed material may cause a tacky spot on the surface of the casting. Maintain adequate velocity during dispensing to ensure complete mixing.
4. Clean up uncured resin with suitable organic solvent such as MEK or acetone.
5. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.

SHELF LIFE AND STORAGE:

9 months at 25 °C
Specialty packaging may be less.

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and cured. Fluctuating temperatures (within 5 to 50 °C) aggravate this phenomenon. Heating the individual component to 50 to 60 °C while stirring can usually restore products to original state. Storage at 25 +/- 10 °C is optimum for most products.