TECHNICAL DATA SHEET

EP1225 Black

Revision date: 12/13/2021

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

DESCRIPTION:

Resinlab® EP1225 Black is a two part unfilled epoxy adhesive designed for bonding of metals, ceramics and most plastics. It has a slightly thixotropic viscosity to give gap filling ability but still self level before cure. It cures to a tough semi-rigid polymer providing excellent protection against water, humidity, salt spray and other chemicals.

EP1225 Black was formulated to a 2A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. Cure is normally achieved at room temperature within 24 hours. Cure time can be accelerated by the application of heat to achieve final cured properties. Heating at 65 °C for 10 minutes is sufficient to obtain a tack free surface, full cure in 60 minutes. Time to heat substrate must be taken into account. Cooler temperatures will also extend work time and increase cure times.

TYPICAL PROPERTIES:

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

Property:	*Value:*	*Test Method or Source:*
Color	Black	Visual
Mix Ratio	Part A to Part B	Calculated
Mix Ratio by weight	2.22 to 1	
Mix Ratio by volume	2 to 1	
Cure Schedule	24 hrs @ 25 °C 1 hr @ 65 °C	
Viscosity - Part A	140,000 cP	Rheometer parallel plate 25mm @ 1/s 455300006291
Viscosity - Part B	7,000 cP	
Viscosity - Mixed	66,000 cP	
Specific Gravity - Part A	1.12	Calculated
Specific Gravity - Part B	0.97	
Specific Gravity - Mixed	1.07	
Pot Life defined as the time it takes for initial mixed viscosity to double	12 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Hardness	60 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	40 °C	453560822409 by DSC
Water Absorption	1.05 %	24 hr immersion 457561824543/ASTM D570
Tensile Properties:		4535601224470/ASTM D638
Strength	1,250 psi	
Elongation	20 %	
Modulus	24,000 psi	
Lap Shear Strength 0.010" Bond Line, Al to Al	1,700 psi	4535601224468/ASTM D1002

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Property:	*Value:*	*Test Method or Source:*
Compressive Properties:		4535601224467/ASTM D695
Ultimate Strength	9,000 psi	
Modulus	40,000 psi	
Thermal Conductivity by LFA	0.27 W/m.K *	453560822409/ASTM E1461
Volume Resistivity	1.2 x 10^{11} ohm-cm *	455300006612/ASTM D257
AC Dielectric Strength	765 V/mil *	ASTM D149 Method A, immersed in ASTM D3487 Type II Oil
Coefficient of Thermal Expansion by TMA		455300005340/ASTM E831 TMA, 5 °C/min
below Tg	105 ppm/°C	
above Tg	210 ppm/°C	
Operating Temperature Range	-40 to 150 °C**	
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.

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.

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SHELF LIFE AND STORAGE:

12 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.