TECHNICAL DATA SHEET

EP1282 Black

Revision date: 10/2/2025

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

DESCRIPTION:

ResinLab® EP1282 Black is a two part unfilled epoxy encapsulant designed for medium sized castings. It is recognized under the Component Recognition Program of Underwriters Laboratories Inc., (File# E186034) for UL Standard 94. It qualifies for a horizontal burn rating at 1.5 mm thickness and has an assigned a Performance Level Category (PLC) rating of 0 for Comparative Tracking Index (CTI), this corresponds to >600 volts.

EP1282 Black cures at room temperature to a tough and flexible polymer. It has good wetting and adhesion to most surfaces and is free flowing to penetrate voids and give good air release and a smooth high gloss surface. It has very good resistance to water, acids and bases and most organic solvents. Thermal shock and cycling properties are enhanced by its high elongation giving it the ability to absorb differences in CTE's of substrates and potted components. It is a low stress epoxy proven for SMT.

EP1282 Black will have incomplete mix, or separate in the static mixer, when applied with small shot sizes or when dispensed at low velocity or slow shot speed. Best practice is to dispense a 50 mL cartridge quickly into a syringe, then deliver small shots of the premixed product from the syringe. This will ensure optimal mix and consistent performance shot to shot.

EP1282 Black was formulated to a 1A:1B by volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP1282 Black will reach full cure at room temperature within 24 – 48 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 1 hour at 65 °C to 20 minutes at 100 °C are typical for small castings (less than 50 grams).

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	1.15 to 1	
Mix Ratio by volume	1 to 1	
Cure Schedule	24-48 hrs @ 25 °C 1 hr @ 65 °C 20 min @ 100 °C	
Viscosity - Part A	7,500 cP	Rheometer parallel plate 25mm @ 1/s 455300006291
Viscosity - Part B	2,000 cP	
Viscosity - Mixed	3,000 cP	
Specific Gravity - Part A	1.14	Calculated
Specific Gravity - Part B	0.99	
Specific Gravity - Mixed	1.06	

RESINLAB L.L.C. MAKES NO EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY, FITNESS OR OTHERWISE with respect to its products. In addition, while the information contained herein is believed to be reliable, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof. All recommendations or suggestions for use are made without guarantee inasmuch as conditions of use are beyond our control. The properties given are typical values and are not intended for use in preparing specifications. Users should make their own test to determine the suitability of this product for their own purposes.

TECHNICAL DATA SHEET

EP1282 Black

Revision date: 10/2/2025

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

Property:	*Value:*		*Test Method or Source:*
Pot Life defined as the time it takes for initial mixed viscosity to double	60 minutes		Rheometer parallel plate 25mm @1/s 455300006291
Peak Exotherm	< 30 °C after 30 minutes for 40 mL sample		455300005593 by Type K thermocouple
Hardness	70 Shore D		455300006287/ASTM D2240
Glass Transition Temperature/Tg	25 °C		453560822409 by DSC
Tensile Properties:			4535601224470/ASTM D638
Strength	2,400 psi *		
Elongation	56 % *		
Modulus	89,000 psi *		
Lap Shear Strength 0.010" Bond Line, Al to Al	1,500 psi *		4535601224468/ASTM D1002
Compressive Properties:			4535601224467/ASTM D695
Ultimate Strength	25,000 psi *		
Modulus	211,000 psi *		
Flame Resistance UL Certified, File #E186034	Passes with HB Rating @ 1.5 mm		45376013225560/UL94HB
Thermal Conductivity by LFA	< 0.2 W/m.K		453560822409/ASTM E1461
Electrical Resistivity:			455300006612/ASTM D257 @ 24 °C @ 20 %RH
Volume	1.3 x 10^{14} ohm-cm *		
Surface	1.4 x 10^{16} ohm/sq *		
Dielectric Constant & Dissipation Factor:	ε'	tan δ	455300006513/ASTM D150
@ 100 Hz	4.1 *	0.07 *	
@ 100 kHz	3.3 *	0.04 *	
AC Dielectric Strength	21.1 kV/mm		DCV6101609; 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	70 ppm/°C		
above Tg	225 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.

RESINLAB L.L.C. MAKES NO EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY, FITNESS OR OTHERWISE with respect to its products. In addition, while the information contained herein is believed to be reliable, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof. All recommendations or suggestions for use are made without guarantee inasmuch as conditions of use are beyond our control. The properties given are typical values and are not intended for use in preparing specifications. Users should make their own test to determine the suitability of this product for their own purposes.

TECHNICAL DATA SHEET

EP1282 Black

Revision date: 10/2/2025

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

*** Extrapolated data source: EP1282 Clear**

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:

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.

RESINLAB L.L.C. MAKES NO EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY, FITNESS OR OTHERWISE with respect to its products. In addition, while the information contained herein is believed to be reliable, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof. All recommendations or suggestions for use are made without guarantee inasmuch as conditions of use are beyond our control. The properties given are typical values and are not intended for use in preparing specifications. Users should make their own test to determine the suitability of this product for their own purposes.