TECHNICAL DATA SHEET EP750 Black

04/06/2021

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

DESCRIPTION:

Resinlab® EP750 Black is a two part unfilled epoxy structural adhesive designed for bonding applications.

EP750 Black cures completely at room temperature to a tough, semi rigid polymer. It has good wetting and adhesion to most surfaces and has a free flowing viscosity. It has very good resistance to water, acids and bases and most organic solvents.

A harder version of *EP750 Black* is obtained with a 1A:1B volume mix ratio, while a softer more flexible version of EP750 can be obtained with a 1A:2B volume mix ratio. Both versions can be used in side by side dispensing cartridges and meter/mix and dispense equipment. *EP750 Black* will reach full cure at room temperature within 24-72 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65 °C to 15 minutes at 100 °C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will extend work time and increase cure times.

TYPICAL PROPERTIES:

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

Property:	*Value: 1:1 mix ratio*	*1:2 mix ratio*	*Test Method or Source:*
Mix Ratio **By weight** **By volume**	Part A to Part B 1.18 to 1 1 to 1	Part A to Part B 0.60 to 1 1 to 2	Calculated
Color	Black	Black	Visual
Cure Schedule	Room temperature 24-72 hours 2 hours @ 65 °C 15 minutes @100 °C 10 minutes @ 110 °C	Room temperature 24-72 hours 2 hours @ 65 °C 15 minutes @100 °C 10 minutes @ 110 °C	
Viscosity – Part A **Viscosity – Part B** **Viscosity - Mixed**	16,000 cps 14,000 cps 15,000 cps (estimated)	16,000 cps 14,000 cps 14,500 cps (estimated)	Rheometer parallel plate 25mm@1/s 455300006291
Specific Gravity – Part A **Specific Gravity – Part B** **Specific Gravity - Mixed**	1.16 0.98 1.07	1.16 0.98 1.03	Calculated
Pot Life, defined as the time it takes for initial mixed viscosity to double	45 minutes	1 hour	Rheometer parallel plate 25mm@1/s 455300006291
Glass Transition Temperature/Tg	70 °C	24 °C	453560822409 by DSC
Hardness	80 Shore D	65 Shore D	455300006287/ASTM D2240
Water Absorption	0.06% after 24 hours	3.50% after 24 hours	457561824543/ASTM D570
Tensile Properties: **Strength** **Elongation** **Modulus**	 5,000 psi 4-10% 350,000 psi	 1,550 psi 75% 28,000 psi	455300006285/ASTM D638
Lap Shear Strength (0.010" bond line) **Al to Al** **Stainless Steel to Stainless Steel** **Acrylic to Acrylic** **PVC to PVC**	 2,500 psi Not tested Not tested Not tested	 1,550 psi 1,050 psi 260 psi 500 psi	455300005642/ASTM D1002

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ABS to ABS	Not tested	300 psi	
Compressive Properties:			455300006265/ASTM D695
Strength	8,500 psi	27,000 psi	
Modulus	350,000 psi	250,000 psi	
Coefficient of Thermal Expansion by TMA	62 ppm/ °C (below Tg)* 150 ppm/ °C (above Tg)*	72 ppm/ °C (below Tg) 214 ppm/ °C (above Tg)	
Dielectric Constant (25 °C/100Hz)	3.5*	3.4	455300006513/ASTM D150
Dielectric Strength	410 V/mil*	410 V/mil*	ASTM D149 Method A, immersed in ASTM D3487 Type II Oil
Volume Resistivity	8.3 x 10^{14} ohm-cm*	3.4 x 10^{13} ohm-cm	455300006612/ASTM D257
Temperature Range	-40 – 150 °C**	-40 – 150 °C**	

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.
** Temperature Rating 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 both components to room temperature prior to mixing.

2. Cartridge format: Cartridges should be stored vertically. 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. Ease of dispensing will be affected by the ambient temperature of the material.

3. Bulk format: 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. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.

5. Clean up uncured resin with suitable organic solvent such as MEK, acetone or other organic solvent.

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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.