TECHNICAL DATA SHEET

EP750 Clear

Revision date: 3/14/2022

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

DESCRIPTION:

Resinlab® EP750 Clear is a food grade two part unfilled epoxy structural adhesive designed for bonding applications. It is comprised of raw materials listed in the Code of Federal Regulations Title 21:175.105 (Adhesives) and 175.300 (Resinous and polymeric coatings)[1]. *EP750 Clear* can be used safely in applications where there is direct or indirect food contact. This includes coatings intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting or holding food.

EP750 Clear 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.

EP750 Clear was formulated to a 1:1 volume mix ratio for use in side by side dispensing cartridges and meter/mix and dispense equipment. *EP750 Clear* 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:*	*Test Method or Source:*
Color	Clear	Visual
Mix Ratio **Mix Ratio by weight** **Mix Ratio by volume**	Part A to Part B 1.18 to 1 1 to 1	Calculated
Cure Schedule	24-72 hrs @ 25 °C 2 hrs @ 65 °C 15 min @ 100 °C	
Viscosity - Part A **Viscosity - Part B** **Viscosity - Mixed**	16,000 cP 14,000 cP 15,000 cP *	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Specific Gravity - Part A **Specific Gravity - Part B** **Specific Gravity - Mixed**	1.16 0.97 1.07	Calculated
Pot Life defined as the time it takes for initial mixed viscosity to double	45 minutes	Rheometer parallel plate 25mm @1/s 455300006291
Gel Time 100cc Sample	120 minutes	455300005339/Gardco Gel Timer
Hardness	80 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	70 °C	453560822409 by DSC
Water Absorption	0.06 %	24 hr immersion 457561824543/ASTM D570

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Property:	*Value:*	*Test Method or Source:*
Tensile Properties:		4535601224470/ASTM D638
Strength	5,000 psi	
Elongation	4 – 10 %	
Modulus	350,000 psi	
Lap Shear Strength		455300005642/ASTM D1002
0.010" Bond Line, Al to Al	2,500 psi	
Compressive Properties:		455300006265/ASTM D695
Ultimate Strength	8,500 psi	
Modulus	350,000 psi	
Volume Resistivity	8.3 x 10^{14} ohm-cm *	455300006612/ASTM D257
Dielectric Constant & Dissipation Factor		455300006513/ASTM D150
@ 100 Hz	3.5 *	
DC Dielectric Strength	16.1 kV/mm *	457561824539; ASTM D3755/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	62 ppm/°C	
above Tg	150 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.

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3. Bulk format: stir until homogeneous weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. A power mixer is suggested such as a 500-1000 rpm device with a mix paddle sufficient to turn material and disperse any filler. 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 or acetone.

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.

[1]The FDA does not approve products for direct or indirect food contact. EP750 Clear is comprised solely of materials listed under these regulations and can be “used in accordance with” or “used in compliance with CFR Title 21 175.300”. It the responsibility of the end user to determine if this conformance is appropriate to the final product’s end uses. The specific requirements of an application for food, drug or potable water are detailed by the FDA, USDA (food plants) or NSF (water).