TECHNICAL DATA SHEET

EP1218RC Clear

Issue date: 5/24/2022

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

DESCRIPTION:

ResinLab® EP1218RC Clear is nonylphenol and bisphenol A free version of *EP1218 Clear*. It is a two-part unfilled electronic grade epoxy encapsulant designed for medium to large sized castings. It cures completely at room temperature to a tough, flexible polymer. The very low viscosity allows for good wicking and penetration into components and circuitry and also gives good air release. It provides very good resistance to water, acids and bases and most organic solvents. Thermal shock and cycling properties are also enhanced by its high elongation giving it the ability to absorb differences in CTE's of substrates.

It was formulated to a 1A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. Cure is normally achieved at elevated temperatures although a room temperature cure schedule can be used if time allows.

TYPICAL PROPERTIES:

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

Property:	*Value:*	*Test Method or Source:*
Color	Clear	Visual
Mix Ratio	Part A to Part B	Calculated
Mix Ratio by weight	1.08 to 1	
Mix Ratio by volume	1 to 1	
Cure Schedule	48-72 hrs @ 25 °C 4 hrs @ 65 °C 90 min @ 100 °C	
Viscosity - Part A	430 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Viscosity - Part B	700 cP	
Viscosity - Mixed	630 cP	
Specific Gravity - Part A	1.08	Calculated
Specific Gravity - Part B	1.00	
Specific Gravity - Mixed	1.04	
Pot Life defined as the time it takes for initial mixed viscosity to double	70 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Gel Time 100cc Sample	7 – 8 hours	455300005339/Gardco Gel Timer
Hardness	85 Shore A	455300006287/ASTM D2240
Glass Transition Temperature/Tg	2 °C	453560822409 by DSC
Water Absorption	0.28 % *	24 hr immersion 457561824543/ASTM D570
Tensile Properties:		4535601224470/ASTM D638
Strength	300 psi *	
Elongation	65 % *	
Modulus	600 psi *	

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Property:	*Value:*	*Test Method or Source:*
Lap Shear Strength		4535601224468/ASTM D1002
0.010" Bond Line, Al to Al	450 psi *	
Compressive Properties:		4535601224467/ASTM D695
Yield Strength	9,000 psi *	
Modulus	110,000 psi *	
Coefficient of Thermal Expansion by TMA:		455300005340/ASTM E831 TMA, 5 °C/min
below Tg	72 ppm/°C *	
above Tg	230 ppm/°C *	
Operating Temperature Range	-55 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.

*** Extrapolated data source: EP1218RC Black**

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.