TECHNICAL DATA SHEET

EP1340RC Black

Issue date: 3/27/2023

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

DESCRIPTION:

ResinLab® EP1340RC Black is a two-part medium viscosity, flame retardant epoxy casting resin system. This is a REACH compliant version of EP1340. It cures quickly to a tough, semi-rigid polymer that will have excellent chemical resistance. It has good wetting and adhesion to most surfaces and is free flowing to penetrate voids and release trapped air.

EP1340RC 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. *EP1340RC* Black will generally reach handle cure at room temperature within 1 to 4 hours depending upon mass and ambient temperature. Full cure usually achieved within 24 – 48 hours. Cure time can be accelerated by the application of heat after product has gelled. Times and temperatures from 2 hours at 65 °C to 30 minutes at 100 °C are typical for most castings (less than 100 grams).

This formula contains soft, low-abrasion fillers which can separate over time, although they have good resistance to hard settling.

TYPICAL PROPERTIES:

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

Property:	*Value:*	*Test Method or Source:*
Color	Black	Visual
Mix Ratio **Mix Ratio by weight** **Mix Ratio by volume**	Part A to Part B 1.10 to 1 1 to 1	Calculated
Cure Schedule	24-48 hrs @ 25 °C 2 hrs @ 65 °C 30 min @ 100 °C	
Viscosity - Part A **Viscosity - Part B** **Viscosity - Mixed**	15,000 cP 20,000 cP 17,500 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Specific Gravity - Part A **Specific Gravity - Part B** **Specific Gravity - Mixed**	1.37 1.25 1.31	Calculated
Pot Life defined as the time it takes for initial mixed viscosity to double	20 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Gel Time 100cc Sample	68 minutes	455300005339/Gardco Gel Timer
Peak Exotherm	53 °C after 28 minutes for 40 mL sample	455300005593 by Type K thermocouple
Hardness	75 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	23 °C	453560822409 by DSC
Water Absorption	0.18 %	24 hr immersion 457561824543/ASTM D570

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Property:	*Value:*	*Test Method or Source:*
Tensile Properties:		4535601224470/ASTM D638
Strength	1,500 psi	
Elongation	27 %	
Modulus	150,000 psi	
Lap Shear Strength		4535601224468/ASTM D1002
0.010" Bond Line, Al to Al	2,400 psi	
Compressive Properties:		4535601224467/ASTM D695
Yield Strength	28,000 psi	
Ultimate Strength	28,000 psi	
Modulus	123,000 psi	
Electrical Resistivity:		455300006612/ASTM D257
Volume	9.9 x 10^{13} ohm-cm	@ 20 °C @ 12 %RH
Surface	2.1 x 10^{15} ohm/sq	
Dielectric Constant & Dissipation Factor:		455300006513/ASTM D150
@ 100 Hz	3.9, 0.05	
@ 100 kHz	3.4, 0.02	
Coefficient of Thermal Expansion by TMA:		455300005340/ASTM E831 TMA, 5 °C/min
below Tg	54 ppm/°C	
above Tg	182 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.

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:

6 months DOP at 25 °C in cartridges.
12 months at 25 °C in bulk packaging.
Specialty packaging may be less.
This system is prone to settling due to high filler content. Inventory should be rotated on a FIFO (first in, first out) basis.
Bulk containers should be inverted every two to three weeks to reduce the accumulation of the fillers on the bottom of the containers.
If used in side-by-side cartridge format, they should be stored horizontally, preferably in a cooler or freezer, rotating stock on a FIFO basis.

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.