

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

DESCRIPTION:

Resinlab[®] EP1200 Black is a highly filled, medium viscosity, casting resin designed for applications requiring moderate thermal conductivity, high flexibility, and low CTE. It also contains abrasive aluminum oxide filler, which introduces wear considerations for wetted components.

EP1200 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.

EP1200 Black will reach handle cure within 24 hours at room temperature and final cure within 72 hours. Final cure properties can be achieved more quickly by the application of heat after product has gelled. Cure times and temperatures typical for most applications range from 2 hours at 65 °C to 30 minutes at 100 °C. Time to heat substrate must be taken into account with cooler temperatures extending the work time.

TYPICAL PROPERTIES:

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

<i>Property:</i>	<i>Value:</i>	<i>Test Method or Source:</i>
Color	Black	Visual
Mix Ratio	Part A to Part B	Calculated
By weight	1 to 1	
By volume	1 to 1	
Cure Schedule	24 hours @25 °C for handle cure 72 hours @25 °C for full cure 2 hours @ 65 °C 30 minutes @100 °C	
Viscosity – Part A	32,000 cps @1/s	Rheometer parallel plate 25mm@1/s
Viscosity – Part B	30,000 cps @1/s	455300006291
Viscosity - Mixed	36,000 cps @1/s	
Specific Gravity – Part A	2.01	Calculated
Specific Gravity – Part B	1.94	
Specific Gravity - Mixed	1.98	
Pot Life, defined as time to double viscosity	23 minutes	Rheometer parallel plate 25mm@1/s 455300006291
Gel Time	68 minutes	455300005339/Gardco Hot Pot Gel Timer
Glass Transition Temperature/Tg	8 °C	453560822409 by DSC
Hardness	75 Shore D	455300006287/ASTM D2240
Water Absorption	0.05% after 24 hours	457561824543/ASTM D570
Tensile Properties:		455300006285/ASTM D638
Strength	1,400 psi	
Elongation	11%	
Modulus	39,000 psi	
Lap Shear Strength		455300005642/ASTM D1002
0.010" bond line Al to Al	1,600 psi	

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Compressive Properties:		455300006265/ASTM D695
Strength	67,000 psi	
Modulus	20,000 psi	
Thermal Conductivity by LFA	0.6 W / (m.K)	453560822409/ASTM E1461
Thermal Conductivity Steady State @ 25 °C	1.07 W/(m.K)	ASTM C518-91 Guarded Heat Flux Meter
Surface Resistivity	1.95 x 10 ¹⁵ ohm/sq (@ 22 %RH)	455300006612/ASTM D257
Volume Resistivity	3.43 x 10 ¹³ ohm-cm (@ 17 °C)	
Dielectric Constant / Dissipation Factor		455300006513/ASTM D150
@ 100 Hz	4.3, 0.030	
@ 100 kHz	3.8, 0.030	
AC Dielectric Strength	540 V/mil (21.3 kV/mm)	ASTM D149, Method A, tested in oil
Coefficient of Thermal Expansion by TMA	66 ppm/ °C below Tg 150 ppm/ °C above Tg	455300005340 /ASTM E831 TMA, 5 °C/min
Temperature Range	-40 to 150 °C**	

** 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: 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: 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.