

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

DESCRIPTION:

ResinLab® EP1289 Black is a two part thermally conductive high strength epoxy adhesive designed for bonding battery assemblies. This product can withstand vibration and impact. It also has good resistance to water, salt spray, inorganic acids and bases and most organic solvents. **It contains 0.8% by volume 10 mil spacer beads when mixed at the recommended mass / volume ratio.**

EP1289 Black cures at room temperature to a tough, semi-flexible material. It will reach handle cure at room temperature within 16-24 hours, and full properties within 24-48 hours. Cure time can be accelerated by application of heat, but time to heat substrate must be considered.

EP1289 Black was formulated at a 2A:1B volume mix ratio for use in side-by-side cartridges and meter/mix and dispense equipment.

TYPICAL PROPERTIES:

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

Property:	Value:	Test Method or Source:
Color	Black	Visual
Mix Ratio	Part A to Part B	Calculated
By weight	2.39 to 1	
By volume	2 to 1	
Cure Schedule	Allow at least 24 hours @25 °C for full properties to develop, 48-72 hours preferred	
Viscosity – Part A	47,000 cps	Rheometer parallel plate 25mm@1/s
Viscosity – Part B	23,500 cps	455300006291
Viscosity - Mixed	34,000 cps	
Specific Gravity – Part A	2.44	Calculated
Specific Gravity – Part B	2.04	
Specific Gravity - Mixed	2.31	
Pot Life, defined as the time it takes for initial mixed viscosity to double	30 minutes	Rheometer parallel plate 25mm@1/s 455300006291
Time to reach 120,000 cps after initial mixing	45 minutes	Rheometer parallel plate 25mm@1/s 455300006291
Work Life	>90 minutes	Observed, cup and stick
Glass Transition Temperature/Tg	52 °C	453560822409 by DSC
Hardness	87 Shore D	455300006287/ASTM D2240
Lap Shear Strength	After 24 hours room temp - 1,500 psi	455300005642/ASTM D1002
0.010" bond line Al to Al	After 48 hours room temp – 2,000 psi* est'd After 3 hours 100 °C – 3,000 psi* est'd	
Thermal Conductivity by LFA	1.2 W / (m.K)	453560822409/ASTM E1461
Flame Resistance	Passes ResinLab testing with HB rating at both 3 mm and 0.25 mm thickness. Not UL Certified.	UL94
Coefficient of Thermal Expansion by TMA	34 ppm/ °C below Tg 123 ppm/ °C above Tg	455300005340/ASTM E831 TMA, 5 °C/min

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.

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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.

SHELF LIFE AND STORAGE:

12 months in bulk at 25 °C (mix before use)
3 months at 25 °C in cartridges (store horizontally)
For maximum shelf life refrigerate cartridges.
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.
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.