TECHNICAL DATA SHEET EP1238

04/29/2016

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

DESCRIPTION:

Resinlab® EP1238 is a two part acrylic / epoxy hybrid adhesive designed for bonding metals and plastics. It cures quickly at room temperature to a tough, semi-rigid material. It has good wetting to most surfaces and has controlled flow characteristics to prevent excessive running or dripping. This product has good vibration and impact resistance. It has good resistance to water, salt spray, inorganic acids and bases and most organic solvents.

It was formulated to a 2A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP1238 will reach handle cure at room temperature within 6 – 12 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65 °C to 30 minutes at 100 °C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will also 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	Off White	Visual
Mix Ratio **By weight** **By volume**	Part A to Part B 2.12 to 1 2 to 1	
Cure Schedule	6-12 hours @ 25 °C 2 hours @ 65 °C 30 minutes @ 100 °C	
Viscosity – Part A **Viscosity – Part B** **Viscosity - Mixed**	40,000 cps RVT#5, 2.5 rpm 90,000 cps RVT#6, 2.5 rpm 65,000 cps (estimated)	Brookfield Viscosity R050-12
Specific Gravity – Part A **Specific Gravity – Part B** **Specific Gravity - Mixed**	1.16 1.09 1.13	Calculated
Pot Life	20 minutes/50g sample	R050-59 extrapolated from EP1238 Black
Glass Transition Temperature/Tg	60 °C	R050-61 by DSC extrapolated from EP1238 Black
Hardness	80 Shore D	R050-17/ASTM D2240 extrapolated from EP1238 Black
Water Absorption	0.25% after 24 hours	R050-35/ASTM D570 extrapolated from EP1238 Black
Tensile Properties: **Strength** **Elongation** **Modulus**	 8,500 psi 3-4% 450,000 psi	R050-36/ASTM D638 extrapolated from EP1238 Black
Lap Shear Strength **0.010" bond line 2024 T3 Al** **0.010" bond line Chemical Resistant PVC**	 4600 psi 280 psi	R050-37/ASTM D1002 Abraded / solvent wiped

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0.010" bond line Polycarbonate	700 psi	
0.010" bond line Acrylic	490 psi	
0.010" bond line ABS	520 psi	
Compressive Properties:		R050-38/ASTM D695
Strength	21,000 psi	extrapolated from EP1238 Black
Modulus	350,000	
T Peel Strength (Al to Al)	25 pli*	
Thermal Conductivity	0.18 W / (m.K) *	
Volume Resistivity	1.6 x 10^{15} ohm-cm*	
Coefficient of Thermal Expansion	80 ppm/ °C (below Tg)* 194ppm/ °C (below Tg)*	
Dielectric Constant (25 °C, 100Hz)	3.4*	
Dielectric Strength	888 V/mil* 35.0 kV/mm*	
Temperature Range**	-40 to 150 °C	

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.
** Temperature Rating is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

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 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.