TECHNICAL DATA SHEET

EL040494-5

Revision date: 7/10/2024

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

DESCRIPTION:

ResinLab® EL040494-5 is a two-part epoxy resin recommended for industrial adhesive, small potting and laminating applications where excellent structural, mechanical, and electrical properties are required. This medium viscosity adhesive exhibits good wetting, cures at room temperature, and develops strong, low shrinkage bonds to most materials including metals and plastics. It has excellent dimensional stability over a wide temperature range.

When fully cured, *EL040494-5* is a durable electrical insulator with good physical properties and chemical resistance, including resistance to water, weather, ozone and oxygen, petroleum solvents, lubricating oils, jet fuels, gasoline, alcohol, salt solutions, mild acids and alkalis and many other organic and inorganic compounds.

Product manufactured under license from Henkel.

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
Mix Ratio by weight	4.42 to 1	
Mix Ratio by volume	4 to 1	
Cure Schedule	24 hrs @ 25 °C 1 hr @ 50 °C	
Viscosity - Part A	25,000 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Viscosity - Part B	30 cP	
Viscosity - Mixed	2,000 cP	
Specific Gravity - Part A	1.12	Calculated
Specific Gravity - Part B	1.01	
Specific Gravity - Mixed	1.10	
Pot Life defined as the time it takes for initial mixed viscosity to double	46 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Gel Time 100cc Sample	2.5 hours	455300005339/Gardco Gel Timer
Hardness	80 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	50 °C	453560822409 by DSC
Water Absorption	0.40 %	24 hr immersion 457561824543/ASTM D570
Tensile Properties:		Extrapolated from Henkel LDS
Strength	7,200 psi	
Lap Shear Strength		4535601224468/ASTM D1002
0.010" Bond Line, Al to Al	3,200 psi	
T-Peel Strength	3800 pli	Extrapolated from Henkel LDS
AC Dielectric Strength	17 kV/mm	Extrapolated from Henkel LDS

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Property:	*Value:*	*Test Method or Source:*
Coefficient of Thermal Expansion by TMA: below Tg	54 ppm/°C	Extrapolated from Henkel LDS
Water Absorption- after 1 hour boil	1.00%	Extrapolated from Henkel LDS
Linear Shrinkage	1.20%	Extrapolated from Henkel LDS
Thermal Shock Resistance 10 Cycles, -40 to 125 °C	Pass	Extrapolated from Henkel LDS
Operating Temperature Range	-60 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.

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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.

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.