TECHNICAL DATA SHEET

SEC1244

Revision date: 5/21/2025

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

DESCRIPTION:

Resinlab® SEC1244 is a silver filled, two-component, elevated temperature curing epoxy adhesive. It provides excellent electrical conductivity useful in many electronic applications. It is a smooth 100% solids thixotropic solvent free paste provided in a 1:1 weight ratio.

SEC1244 provides the additional benefit of very high thermal conductivity due to its high loading of pure silver. Alloys are not used as they have been proven to be less reliable. It gives good environmental protection while having tenacious adhesion to various metals and other common assembly materials.

SEC1244 will cure very quickly at high temperatures. Times and temperatures from 60 minutes at 100 °C to 5 minutes at 150 °C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will 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	Silver	Visual
Mix Ratio	Part A to Part B	Calculated
Mix Ratio by weight	1.05 to 1	
Mix Ratio by volume	1 to 1	
Cure Schedule	1 hr @ 100 °C 15 min @ 120 °C 5-10 min @ 150 °C	
Viscosity - Part A	310,000 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Viscosity - Part B	260,000 cP	
Viscosity - Mixed	290,000 cP *	
Specific Gravity - Part A	4.09	Calculated
Specific Gravity - Part B	4.33	
Specific Gravity - Mixed	4.21	
Pot Life defined as the time it takes for initial mixed viscosity to double	> 4 hours	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Hardness	90 Shore D	455300006287/ASTM D2240
Glass Transition Temperature/Tg	98 °C	453560822409 by DSC
Water Absorption	< 0.2 %	24 hr immersion 457561824543/ASTM D570
Tensile Properties:		4535601224470/ASTM D638
Strength	5,000 psi	
Elongation	1 – 2 %	
Modulus	600,000 psi	

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Property:	*Value:*	*Test Method or Source:*
Lap Shear Strength		4535601224468/ASTM D1002
0.010" Bond Line, Al to Al	500 psi	
Compressive Properties:		4535601224467/ASTM D695
Yield Strength	10,500 psi	
Ultimate Strength	13,500 psi	
Modulus	750,000 psi	
Thermal Conductivity by LFA	3 W/m.K	453560822409/ASTM E1461
Electrical Resistivity:		455300004460/Jandel 4 point probe
Volume	6 x 10^{-4} ohm-cm *, 15 min @ 120 °C	
Coefficient of Thermal Expansion by TMA:		455300005340/ASTM E831 TMA, 5 °C/min
below Tg	40 ppm/°C	
Operating Temperature Range	-40 to 180 °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. 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.
3. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
4. Clean up uncured resin with suitable organic solvent such as MEK or acetone.

PMF INSTRUCTIONS:

1. Allow the PMF product to thaw to room temperature (20-25 °C) by placing vertically with the dispense tip up. We do not recommend using additional heat sources to speed up the thawing process. Wipe all excess moisture off of the product prior to use.
2. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
3. Clean up uncured resin with suitable organic solvent such as MEK, acetone or other organic solvent.
4. Once the PMF product is thawed, the product needs to be applied within the specified work life and then discarded.

SHELF LIFE AND STORAGE:

6 months DOP @ 25 °C.
6 months DOP at -40 °C as a one-part premixed and frozen.
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.
NOTE: When supplied in non-PMF two-part packaging, Part A should be stored between 15 and 35 °C to prevent crystallization or separation. In the event of crystallization, warm Part A to 40-50 °C and stir until uniform.

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)

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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.