

W186 N11687 MORSE DRIVE GERMANTOWN, WI 53022  
262-502-6610 FAX 262-502-4743

### DESCRIPTION:

*Resinlab™* EP950NMF Gray is a non-metallic filled version of EP950G. It is a one-part rubber modified epoxy designed for bonding metal and other structural material subject to stress at elevated temperature. It has a medium paste like viscosity, which gives minimal sag upon cure at elevated temperature.

Being a 100% solids, single component product a variety of simple, low cost dispensing methods are available for application of this product.

This product will cure at temperatures as low as 113°C (235°F) without sacrificing shelf life or need for unusual shipping or storage considerations.

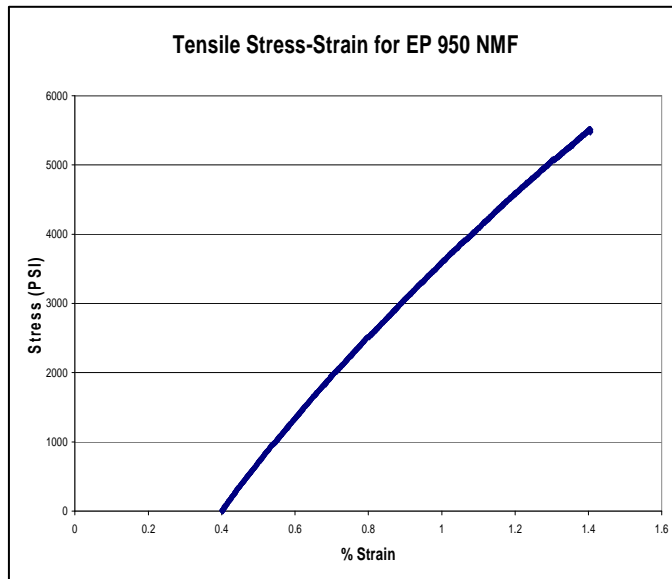
### TYPICAL PROPERTIES:

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

<u>PROPERTY:</u>	<u>VALUE:</u>	<u>TEST METHOD:</u>
Color	Gray	
Viscosity RVT, #7, 2.5 RPM	750,000 cps (mPa·s)	TM R050-12
Specific Gravity	1.40	TM R050-16
Pot Life	3 months at 25°C 6 months at <10°C	TM R050-19
Mass	100 g	
Hardness Scale	65 Shore-D	TM R050-17
Water Absorption 24 hours	2.08 %	TM R050-35
Temperature Range**	-40 to 175°C	
T-Peel	5 – 7 pli *	

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<u>PROPERTY:</u>	<u>VALUE:</u>		<u>TEST METHOD:</u>
Tensile	<b>PSI</b>	<b>N/mm<sup>2</sup></b>	TM R050-36
Yield Strength	2,500	17.2	
Ultimate Strength	5,500	37.9	
Break Strength	5,500	37.9	
Elongation At Break	1-2 %		
Modulus	600,000	4,140	
Lap Shear Strength (2024 T3 Al Abraded / MEK Wipe)	2,500	17.2	TM R050-37



Linear Coefficient of Thermal Expansion	130 x ppm/°C*
Thermal Conductivity	0.12 BTU/(hr·ft·°F) * 0.21 W/m*K *
Dielectric Constant (25C, 100Hz)	4.5 *
Dielectric Strength	410 V/mil * 16.1 kV/mm *

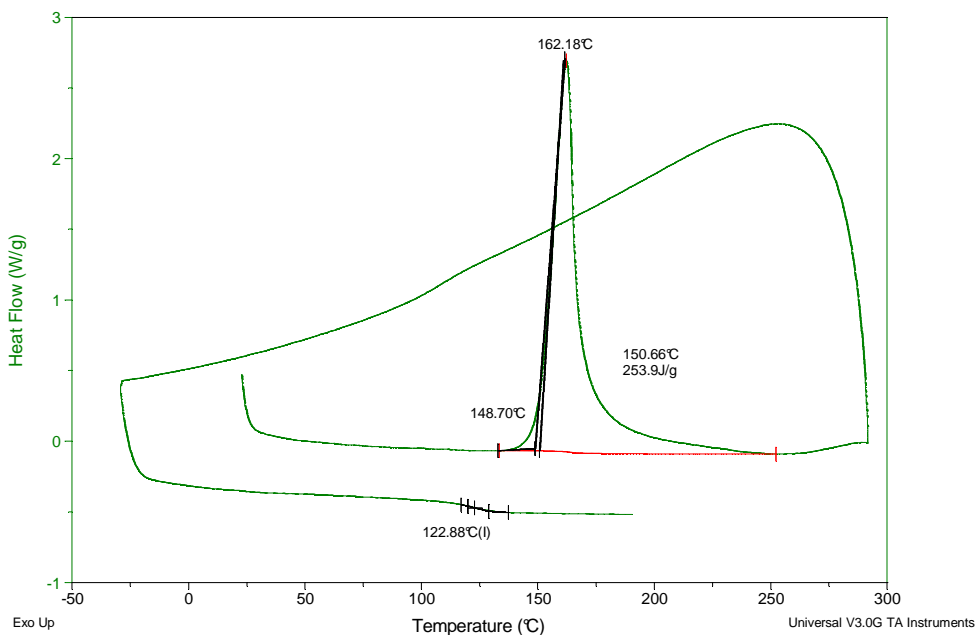
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<u>PROPERTY:</u>	<u>VALUE:</u>	<u>TEST METHOD:</u>
Volume Resistivity	$8 \times 10^{12}$ ohm-cm	
Glass Transition Temp	123°C	TM R050-25
Exothermic Energy	253.9 J/g	
Onset Temp (by DSC)	148°C	

Sample: EP 950 NMF  
Size: 24.2000 mg  
Method: HP DSC  
Comment: 300 Full Cure + Tg

DSC

File: Z:\DSC\EP 950\EP 950 NMF.001  
Operator: NVo  
Run Date: 23-Aug-07 10:47



### CURE SCHEDULE:

Times at various temperatures in a convection oven required to reach minimum lap shear strengths.

2.5 hours @ 121°C	3500 PSI
45 min @ 135°C	4000 PSI
40 min @ 150°C	4000 PSI
20 min @ 177°C	4000 PSI

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**INSTRUCTIONS:**

- 1) Bring to room temperature prior to using. Apply to substrate with spatula or flow equipment.
- 2) Apply heat. Cure times from 10 minutes at 175°C to 2 plus hours at 113°C are normally sufficient to cure this product. Actual times may be longer due to heat capacity of substrates.
- 3) Clean up uncured resin with suitable organic solvent such as MEK, acetone or a chlorinated solvent.

\* 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.

Note: Values presented above are considered to be typical properties, not to be used for specification purposes.

**SHELF LIFE:**

3 months @ 25°C