TECHNICAL DATA SHEET
EP950NMF GRAY

11/21/2011

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

DESCRIPTION:

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

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

EP950NMF Gray will cure at temperatures as low as 113 °C (235 °F) without sacrificing shelf life or the need for unusual shipping or storage conditions.

TYPICAL PROPERTIES:

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

PROPERTY:	VALUE:	TEST METHOD:
Color	ALUMINUM GRAY	
Specific Gravity	1.36 - 1.40 g/ml	TM R050-16
Viscosity Low Shear	2,000,000 - 160,000,000 cPs (mPa·s)	TM R050-12 HBT, #E, 1.0 RPM
Pot Life Mass	3 months at 25 °C or 6 months at <10 °C 100grams	TM R050-19
Hardness	72 - 95 Shore-D	TM R050-17
Water Absorption 24 hours @ RT	2.08 %	TM R050-35
Temperature Range **	-40 to 175 °C	
T-Peel*	5 – 7 pli*	

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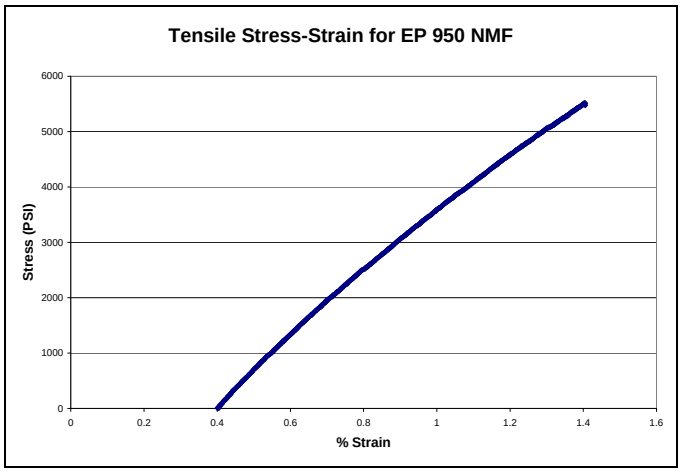
PROPERTY:	VALUE:		TEST METHOD:
Tensile			TM R050-36
	PSI	**N/mm^2**	
Elongation At Break	1-2 %		
Yield Strength	2,500	17.2	
Ultimate Strength	5,500	37.9	
Break Strength	5,500	37.9	
Modulus	600,000	4,140	



	PSI	**N/mm^2**	
Lap Shear Strength (2024 T3 Al Abraded / MEK Wipe)	2,500	17.2	TM R050-37
Dielectric Constant (25°C, 100Hz)	4.5 *		
Dielectric Strength	410 V/mil * 16.1 kV/mm *		
Volume Resistivity	8.0 x 10^{12} ohm-cm *		
Linear Coefficient of Thermal Expansion	130.0 ppm/°C (below Tg)*		
Thermal Conductivity	0.120 BTU/(hr·ft·°F) * 0.210 W/m°K *		

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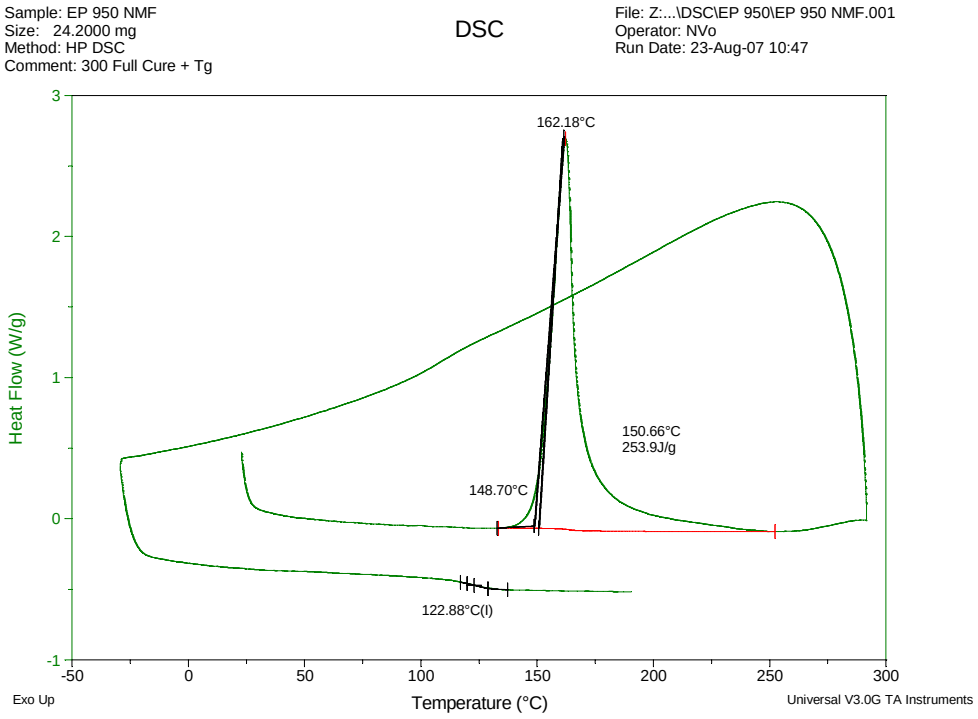
PROPERTY:	VALUE:	TEST METHOD:
DSC Analysis		TM R050-25
Onset Temp	148°C	
Exothermic Energy	253.9 J/g	
Glass Transition Temp	123°C	



RECOMMENDED CURE SCHEDULE:

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

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INSTRUCTIONS:

1. Bring material to room temperature prior to using. Apply to substrate with spatula or flow equipment.

2. Apply heat to cure. Suggested Cure times as stated above are normally sufficient to cure this product. Actual times may be longer due to heat capacity of substrates.

3. Allow product to cure undisturbed until it is fully gelled or tack-free to the touch.

4. Clean up uncured resin with suitable organic solvent such as MEK, acetone or a chlorinated solvent.

NOTES:

Values presented above are considered to be typical properties, not to be used for specification purposes. Contact our Technical Department for further information.

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 - 50 °C) aggravate this phenomena. Heating the individual component 50 to 60 °C while stirring can usually restore products to original state. Storage at 25 +/- 10 °C is optimum for most products.

* 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.

SHELF LIFE: 3 months at 25 °C or 6 months at 5 °C. Specialty packaging may be less. Usable shelf life is dependent upon method of application, storage conditions, and user's requirements.