



AN ELLSWORTH ADHESIVES COMPANY 

TECHNICAL DATA SHEET EP1305 Black

03/30/2009

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

DESCRIPTION:

Resinlab™ EP1305 Black is a highly toughened urethane modified epoxy designed for bonding PVC, metals, ceramics and other difficult to bond substrates. The system has a thixotropic non-sag viscosity but is easily dispensed from side-by-side cartridge systems.

It was especially formulated to a 1A:1B mix ratio for use in automatic mixing equipment and dispensers with static mixers. EP1305 Black will reach handle cure at room temperature within 2 – 4 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 1 hours at 100°C are typical for most applications. Cooler temperatures will also extend work time and increase cure times.

TYPICAL PROPERTIES:

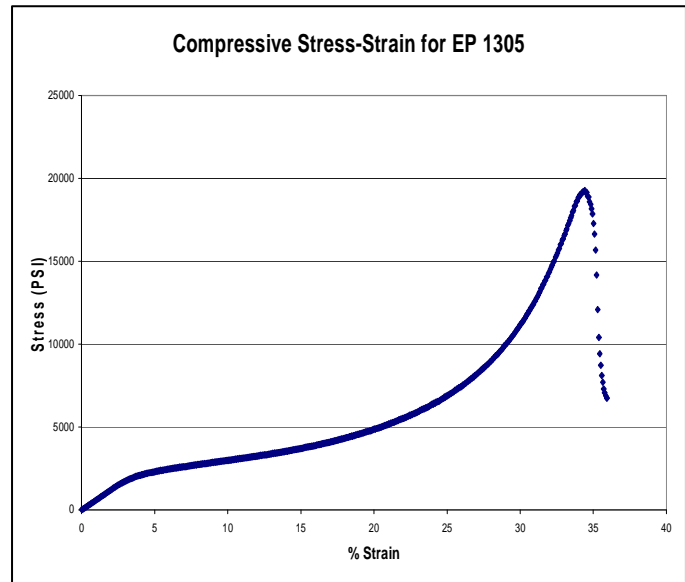
All properties given are at 25°C unless otherwise noted.

<u>PROPERTY:</u>		<u>VALUE:</u>	<u>TEST METHOD:</u>
Color		Black	
Viscosity			TM R050-12
RVT, #7, 2.5 RPM	Part A	500,000 cps (mPa-s)	
RVT, #7, 2.5 RPM	Part B	300,000 cps (mPa-s)	
	Mixed	400,000 cps (mPa-s)	
Specific Gravity	Part A	1.18	TM R050-16
	Part B	0.99	
	Mixed	1.08	
Pot Life		10-15 min.	TM R050-19
Mass		50 grams	
Hardness		55	TM R050-17
Scale		Shore-D	
Water Absorption		0.97 %	TM R050-35
24 hours			
Temperature Range **		-40 to 150°C	

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<u>PROPERTY:</u>	<u>VALUE:</u>		<u>TEST METHOD:</u>
Tensile	PSI	N/mm²	TM R050-36
Yield Strength	1,000	6.9	
Ultimate Strength	2,200	15.2	
Break Strength	2,200	15.2	
Elongation At Break	25-40 %		
Modulus	60,000-70,000	413.8-482.8	
Lap Shear Strength (2024 T3 Al Abraded / MEK Wipe)	1,000	6.9	TM R050-37
T-peel Strength (Al to Al)	15 pli *		
Compressive			TM R050-38
Yield Strength	1,500	10.3	
Ultimate Strength	20,000	137.9	
Break Strength	19,000	131.0	
Modulus	60,000	413.8	



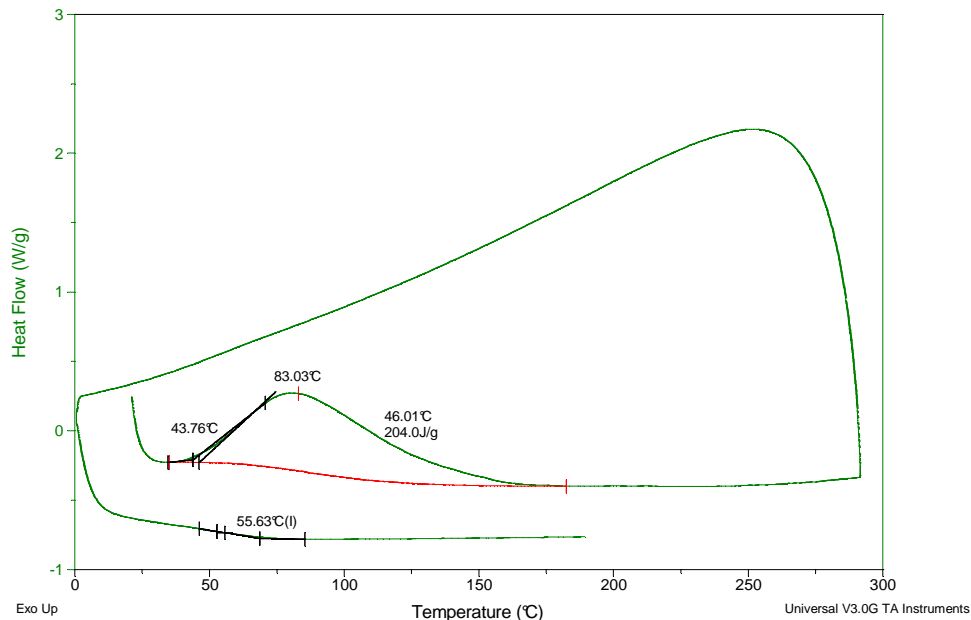
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<u>PROPERTY:</u>	<u>VALUE:</u>	<u>TEST METHOD:</u>
Linear Coefficient of Thermal Expansion	60 ppm/°C*	
Dielectric Constant (25°C, 100Hz)	4.5 *	
Dielectric Strength	440 V/mil * 17.3 kV/mm *	
Volume Resistivity	8 x 10 ¹⁴ ohm-cm *	
Glass Transition Temperature	56°C	TM R050-25
Exothermic Energy	204.0 J/g	
Onset Temp (by DSC)	43°C	

Sample: EP 1305
Size: 28.4000 mg
Method: HP DSC
Comment: 300C Full Cure + Tg

DSC

File: Z:\...DSC\EP 1305\EP 1305.001
Operator: NV
Run Date: 23-Apr-08 13:39



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INSTRUCTIONS:

1. Bring both components to room temperature prior to mixing.
2. If used in bulk, 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 surface of casting. If product is used in a side-by-side cartridge, attach a new static mixer with each cartridge, 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. 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, acetone or other organic solvent.

SIDE - BY - SIDE CARTRIDGE SUITABILITY RATING

POOR FAIR AVERAGE GOOD EXCELLENT

This rating scale is a general guideline to give the user an expected level of success in a typical bench-top dispensing scenario.

Important process variables to consider are: Cartridge type and size, wall thickness; manual or pneumatic gun type; static mixer design and dimensions; product viscosity spread and ratio; shot size, shot frequency, flow rate; temperature range during use.

This scale also address's product stability in a cartridge. Factors such as filler content and settling rate, storage temperature and cartridge orientation are important factors which affect this.

It is important for the user to define the optimum static mix for each dispensing process, a change in any of the above variables can affect the mix quality. Dispensing the product on a flat surface using the dispensing pattern can help show the quality of mixing in terms of thoroughness and lead/lag consistency.

MIX RATIO: (Parts A to B)
by weight 100 to 87
by volume 1 to 1

* 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.



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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 to 50°C) aggravate this phenomena. 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.

SHELF LIFE: 12 months at 25°C. Specialty packaging may be less.