



AN ELLSWORTH ADHESIVES COMPANY 

TECHNICAL DATA SHEET EP750 Clear

03/18/2009

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

DESCRIPTION:

Resinlab™ EP750 Clear is a two part unfilled epoxy structural adhesive which ingredients are listed in the Code of Federal Regulations Title 21 175.105 (Adhesives) and 175.300 (Resinous and polymeric coatings). It cures completely at room temperature to a tough, semi-rigid polymer. It has good wetting and adhesion to most surfaces and has a free flowing viscosity. It has very good resistance to water, acids and bases and most organic solvents.

It was especially formulated to a 1A:1B volume mix ratio for use in side-by-side dispensing cartridges and meter/mix and dispense equipment. EP750 Clear will reach full cure at room temperature within 24 –48 hours. Cure time can be accelerated by the application of heat. Times and temperatures from 2 hours at 65°C to 10 minutes at 110°C are typical for most applications. Time to heat substrate must be taken into account. Cooler temperatures will also extend work time and increase cure times.

TYPICAL PROPERTIES:

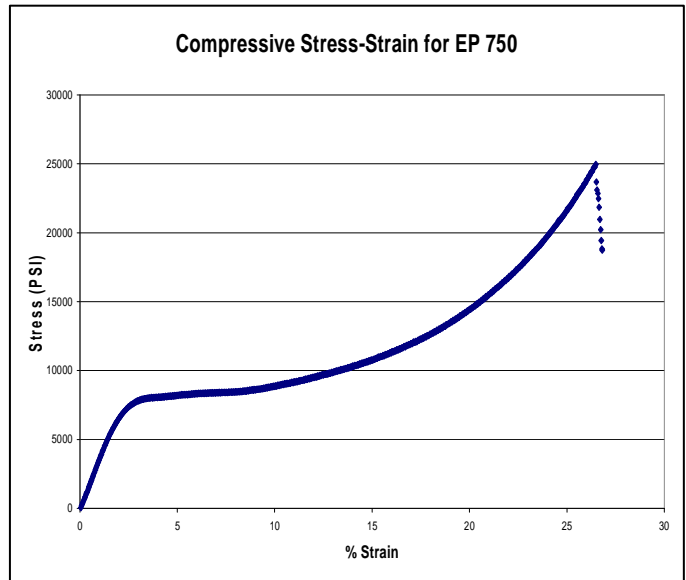
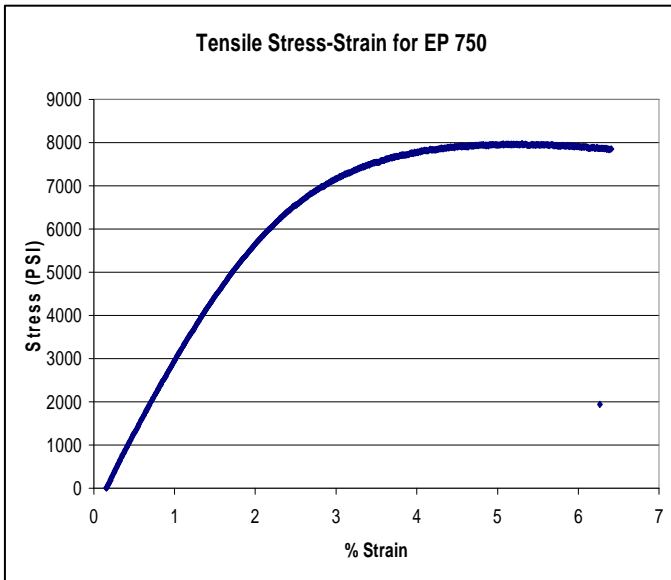
All properties given are at 25°C unless otherwise noted.

<u>PROPERTIES:</u>		<u>VALUE:</u>	<u>TEST METHOD:</u>
Color		Clear	
Viscosity			
RVT, #6, 2.5 RPM	Part A	16,000 cps (mPa-s)	TM R050-12
RVT, #5, 2.5 RPM	Part B	9,000 cps (mPa-s)	
	Mixed	12,500 cps (mPa-s)	
Specific Gravity	Part A	1.16	TM R050-16
	Part B	0.98	
	Mixed	1.07	
Pot Life		> 2 hours	TM R050-19
Mass		50 grams	
Hardness		80	TM R050-17
Scale		Shore-D	
Water Absorption		0.06 %	TM R050-35
24 hours			
Temperature Range **		-40 – 150°C	

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<u>PROPERTIES:</u>	<u>VALUE:</u>		<u>TEST METHOD:</u>
Tensile	PSI	N/mm²	
Yield Strength	3,500	24.1	TM R050-36
Ultimate Strength	8,000	55.2	
Break Strength	7,900	54.5	
Elongation At Break	4-10 %		
Modulus	350,000	2,415	
Lap Shear Strength (2024 T3 Al Abraded / MEK Wipe)	2,500	17.2	TM R050-37
Compressive			
Yield Strength	8,500	58.6	TM R050-38
Ultimate Strength	25,000	172.4	
Break Strength	25,000	172.4	
Modulus	350,000	2,415	



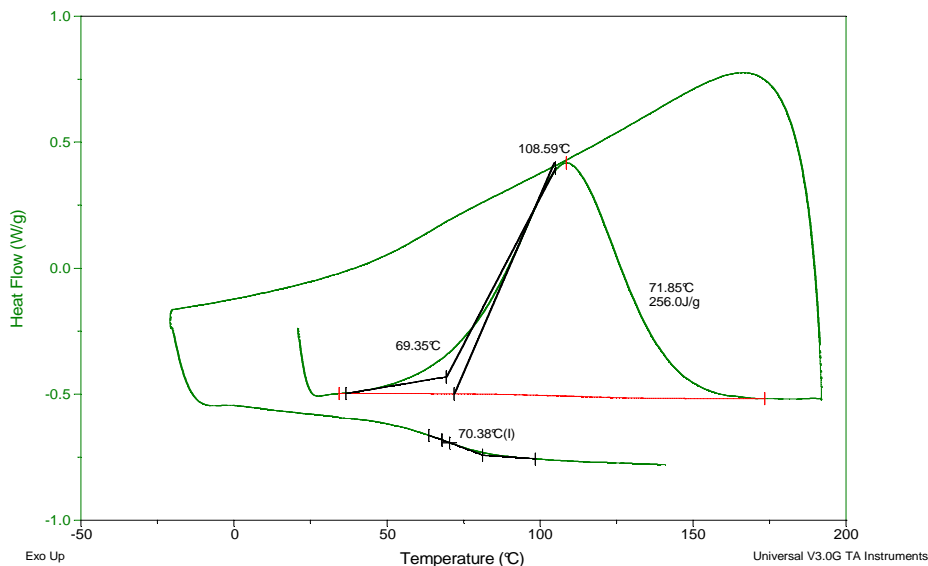
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<u>PROPERTIES:</u>	<u>VALUE:</u>	<u>TEST METHOD:</u>
Linear Coefficient of Thermal Expansion	62 ppm/°C * (below Tg) 150 ppm/°C * (above Tg)	
Dielectric Constant (25C, 100Hz)	3.5 *	
Dielectric Strength	410 V/mil * 16.1 kV/mm *	
Volume Resistivity	8.3 x 10 ¹⁴ ohm-cm	
Glass Transition Temp	70°C	TM R050-25
Exothermic Energy	256.0 J/g	
Onset Temp (by DSC)	69°C	

Sample: EP 750
Size: 21.9000 mg
Method: 200 C full cure
Comment: 200C energy + Tg

DSC

File: Z:\...TA_DSC Folder\DSC\EP 750\750.001
Operator: PR
Run Date: 30-May-01 11:01



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CURE SCHEDULE: 24 – 72 hours at 25°C
or 2 hours @ 65°C

INSTRUCTIONS:

1. Bring both components to room temperature prior to mixing. Cartridges should be stored in a vertical position to allow any air to accumulate at the tip. Mixer should be attached keeping the cartridge vertical and any air pocket purged this way. Ease of dispensing is greatly affected by ambient / material temperature.
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. 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: Part A to B
by weight 100 to 85
by volume 1 to 1

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.

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** Temperature Rating is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

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.