EV Therm 420 & EV Therm 420GB

H.B. Fuller
Engineering Adhesives

Technical Data Sheet

Thermal Management Adhesive Technologies

EV Therm 420 is a modified, highly engineered Structural Acrylic Adhesive designed to provide excellent thermal conductivity while maintaining superior strength and performance properties across a wide range of temperatures and substrates.

EV Therm 420 is low odor, has excellent flame retardant properties and meets UL 94V-0 certification.

EV Therm 420GB allows control of the adhesive gap to a diameter of 0.25mm (0.01”).

Technology/Base:	Modified Acrylic
Type of Product:	Structural Adhesive
Components:	Two Component
Curing:	Room Temperature Cure
Appearance / Color:	Off White or Amber
Consistency:	Viscous Liquid

Recommended For

Metals
- Aluminum
- Steel
- Stainless
- E-Coated Metal

Thermoplastics
- Acrylic
- ABS
- Polycarbonate

Thermosets
- Fiberglass
- Phenolic
- Gel Coat
- Epoxy
- RIM Urethane
- Polyurethane
- Liquid Molding Resin

Features and Benefits

- Thermally Conductive
- No Surface Preparation Required
- Excellent Adhesion Properties
- Excellent Strength to Metals, E-Coat, Thermoplastics, Thermosets, and Engineering Plastics
- High Impact Resistance
- Suitable for Easy Manual and Pneumatic Dispensing
- UL94 V0 Flame Retardancy
- 100% Reactive
- Room Temperature Cure
- 10:1 meter-mix product for ease of application
- Use on aluminum, stainless and plated steels forms tough, high strength bonds without surface preparation
- Low Odor

Plug into our EV Adhesive Technology
Download our app to learn more

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Rheology		**Condition/Method**
Viscosity - Resin	100,000 - 150,000 cPs @ 25°	Brookfield RV7 20 rpm
Viscosity - Activator	40,000 - 80,000 cPs @ 25°C	Brookfield RV7 20 rpm
Density		
Mixed Density	1.55 g/cc	
Mix Ratio		
Volume Mix Ratio	10:1	
Weight Mix Ratio	14:1	
Uncured Material Characteristics		
Flash Point	>200°F	
Open Time	6 - 9 minutes	
Fixture Time	10 - 20 minutes	
Cure Temperature and Time	Room Temperature, 24 hr	
Cured Mechanical Properties		
Gap Fill Dimension		
Hardness	75 Shore D	ASTM D2240
Tensile Strength		
Over Lap Shear Strength		
Carbon Steel	16 MPa (2,321 psi)	ASTM D1002, 25°C 50% RH
Aluminum	16 MPa (2,321 psi)	ASTM D1002, 25°C 50% RH
Nickel Coated Low - Carbon Steel Plated	22 MPa (3,190 psi)	ASTM D1002, 25°C 50% RH
Thermal Conductivity	1.0 W/(m*K)	
Flame Retardancy	UL94 V0	
Dielectric Strength	19.0 ± 0.9 kV/mm	
Elongation at Break	>4%	
Cured Thermal Properties		
Thermal Service Range	-67°F to 212°F	

General Information

The product is best used at temperatures between 65°F and 80°F. Temperatures below 65°F will slow the cure speed of the material and viscosities will be higher. Temperatures above 80°F will cause the material to cure faster and viscosities will be lower. For consistent dispensing maintain temperature in the above mentioned range.

For optimum bond strength and to insure maximum performance in the finished assembly mate parts together within the specified work time of the adhesive. Make sure the bond joint has uniform coverage and that a sufficient amount of adhesive is in the bond area. It is important to have the adhesive applied, parts aligned and positioned, within the established work times for the product. To ensure maximum performance in the finished assembly parts should remain undisturbed until the fixture time is reached.

Handling and Clean-Up

Clean up is best before the adhesive has cured. Cleaners containing NMP (N-methyl pyrolidone) or Citrus terpene provide the best results. On cured adhesive repeat use may be required.

Typical Packaging

EV Therm 420 is conveniently packaged in 50 ml, 490 ml, pail, and drum kits. Special packaging is available upon request.

Storage and Shelf Life

Product should be stored in a cool dry place out of direct sunlight. The shelf life of EV Therm 420 is 9 months from date of manufacture. Shelf life is based on the products being stored properly at temperatures between 55°F and 75°F. Exposure to temperatures above 75°F will reduce the shelf life. This product should NEVER BE FROZEN.

Safety and Disposal

Please see the Safety Data Sheet (SDS) for proper handling and disposal instructions.

H.B. Fuller Company
9411 Corsair Road
Frankfort, IL 60423

+1-800-552-0299

www.hbfuller.com