ELANTAS
Electrical Insulation

Technical Data Sheet

Electronic & Engineering Materials

ELAN-Tron® E 2003 Black Resin
ELAN-Tron® C 2006 Hardener

Two-Component Epoxy Battery Sealant

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ELAN-Tron® E 2003 Black / C 2006 Epoxy

Product Description

ELAN-Tron® E 2003 Black / C 2006 is a two-component, room temperature cured, epoxy adhesive system.

Areas of Application

Bonding of polypropylene and hard rubber battery cases

Features and Benefits

- Room temperature cure
- Sulfuric acid resistant
- Convenient one-to-one volume mix ratio

Application Methods

- Meter-mix

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for twelve (12) months from the date of shipment.

Failure to store the product as recommended above may lead to deterioration in product performance.

Mix individual components thoroughly before use.

Health / Safety

Refer to the Material Safety Data Sheet.

See ELANTAS PDG Technical Bulletins *TI-100 - Handling Precautions for Epoxy Resins* and *TI-4005 - Epoxy Reaction Potential Hazards* for additional information.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		ELAN-Tron® E 2003 Black Resin	**ELAN-Tron® C 2006 Hardener**	
Viscosity	25°C / 77°F	11,000 – 16,000	5,000 – 9,000	cP
Weight per Gallon	25°C / 77°F	9.5 – 9.9	7.8 – 8.2	pounds
Flash Point	ASTM D93	> 94 > 201	> 94 > 201	°C °F
Mix Ratio	Parts by weight Parts by volume	100 100	82 100	
Volatile Organic Content	ASTM D6053	0.9 [1]		pounds / gallon

[1] VOC test methods and limits vary widely by regulatory jurisdiction and product application. The value above was obtained by curing a thin film of mixed resin and hardener under specific laboratory conditions (2 grams - 1 hour - 150°C). Contact your ELANTAS PDG representative regarding alternate methods.

Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Gel Time	200 mL @ 25° / 77°F	10 – 20	minutes
Viscosity	25° / 77°F	6,000 – 10,000	cP

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Curing Schedule

12 – 24 hours at room temperature for 80 - 90% of full cure. Full properties will develop over 5 – 7 days. Alternatively, allow to gel at room temperature then cure for 30 minutes at 77°C / 170°F.

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Shore Hardness	ASTM D2240	25°C / 77°F	D 80	
Tensile Strength	ASTM D229	25°C / 77°F	4,000	psi
Lap Shear Strength – Al/Al	ASTM D1002	25°C / 77°F	1,200	psi
Glass Transition Temp. (Tg)	ASTM E831	TMA	61	°C
Coefficient of Thermal Expansion	ASTM E831	Below Tg Above Tg	60 220	ppm / °C ppm / °C
Sulfuric Acid Absorption	1.265 sp. gr.	7 d at 66°C / 150°F	< 2	%

Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	70 mils - 25°C / 77°F	610	volts / mil
Dielectric Strength	ASTM D149	70 mils - 25°C / 77°F after 24 h in water	570	volts / mil
Dissipation Factor	ASTM D150	25°C / 77°F	0.01	
Dielectric Constant	ASTM D150	25°C / 77°F	2.7	
Volume Resistivity	ASTM D257	1 kHz – 25°C / 77°F	6.5×10^{15}	ohm-cm

The above properties are typical values and are not intended for specification use.

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing a product and no such representation should be relied upon.

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