

Technical Data Sheet

Electronic & Engineering Materials

ELAN-Tron[®] U 510S-6 Black Thixo Resin
ELAN-Tron[®] UH 510S Hardener

Two-Component Polyurethane Potting Compound

ELAN-Tron® U 510S-6 Black Thixo / UH 510S

Product Description

ELAN-Tron® U 510S-6 Black Thixo Resin / UH 510S Hardener is a two-component, room temperature curing, 100%-solids polyurethane system.

Areas of Application

Potting and sealing of electrical and electronic equipment

Features and Benefits

- Flexible to -40°C and below
- Excellent thermal shock characteristics
- Resistant to hydrolysis (85°C / 85% R.H.)
- Room temperature or low temperature cure
- Thixotropic for controlled application
- Excellent adhesion to plastic and metal
- Suitable for Class 120 service

Application Methods

- Meter-mix Bench Potting / Casting
- Meter-mix Vacuum Potting / Casting

Transportation / Storage

Store at 18 – 30°C / 65 - 85°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 nine (9) months from the date of shipment.

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

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry nitrogen before resealing.

Mix individual components thoroughly before use.

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		ELAN-Tron® U 510S-6 Black Thixo Resin	ELAN-Tron® UH 510S Hardener	
Viscosity	25°C / 77°F	10,000 – 13,000	65 - 85	cP
Color		Black	Amber	
Weight per Gallon	25°C / 77°F	7.6 – 7.9	10.0 – 10.4	pounds
Flash Point	ASTM D93	> 94 > 201	> 94 > 201	°C °F
Mix Ratio	Parts by weight	100	24	
	Parts by volume	100	18.2	

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Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity	25°C / 77°F	6,500 – 8,500	cP
Gel Time	25°C / 77°F	4 – 8	minutes
Volatile Organic Content	ASTM D6053	< 0.1 ^[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 under specific laboratory conditions (2 grams - 1 hour - 150°C). Contact your ELANTAS PDG representative regarding alternate methods.

Application / Curing Schedule

Mix Resin and Hardener in the ratio specified above until homogeneous

Cure 72 hours at 25°C / 77°F – or – 2 hours at 80°C / 176°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°C	A 50 – 60	
Tensile Strength	ASTM D229	25°C / 77°C	210	psi
Thermal Conductivity	ASTM C177		0.2	w/m·K
Glass Transition Temp. (T _g)	ASTM E831	TMA	< -60	°C
Coefficient of Thermal Expansion	ASTM E831	Above T _g	200	ppm/°C

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Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	25°C / 77°C – 125 mils	400	volts/mil
Volume Resistivity	ASTM D257	25°C / 77°F	1 x 10 ¹⁵	ohm-cm
Dielectric Constant	ASTM D150	1 kHz – 25°C / 77°F	3.5	
Dissipation Factor	ASTM D150	1 kHz – 25°C / 77°F	0.04	

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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