



Technical Data Sheet

Secondary Insulation

Pedigree[®] 6183 VT

Polyester Impregnating Resin

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Pedigree® 6183 VT

Product Description

Pedigree® 6183 VT is a 100%-reactive, unsaturated polyester resin in vinyl toluene monomer. It requires the addition of a peroxide catalyst for proper cure.

Areas of Application

Impregnation of motor windings including stators and high-speed armatures

Features and Benefits

- Chemically promoted for low temperature cure
- Low viscosity
- High bond strength at elevated temperature
- 20 day catalyzed pot life
- UL recognized insulation systems up to Class 240

Application Methods

- Trickle
- Dip-and-Bake

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 three (3) months from the date of shipment.

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

Refrigeration is recommended for long term storage. Keep containers tightly sealed to minimize evaporation.

Mix product thoroughly before use

For dip-and-bake application, catalyze no more resin than needed within pot life

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	Units
Viscosity	25°C / 77°F	150 - 250	cP
Catalyst	2% by weight	ELAN-Plus™ C 8 Catalyst	
Gel Time	100°C / 212°F w/2% C 8	10 – 15 ^[1]	minutes
Viscosity Reducer		ELAN-Plus™ BS-217 Diluent	
Gel Time Adjuster		ELAN-Plus™ BS-6440 Inhibitor	
Weight per Gallon	25°C / 77°F	8.9 – 9.2	pounds
Flash Point	ASTM D93	53 127	°C °F

^[1] Gel time may drift during shipment and storage. Refer to Technical Bulletin TI-4001 for adjustment instructions.



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Typical Properties of Mixed Material

Property	Test Method	Value	Units
Volatile Organic Content	ASTM D6053-96	2.5 ^[2]	pounds /gallon

^[2] 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.

Pedigree® 6183 VT is a 100% reactive system. Total emissions are dependent on the method of application, air flow, processing temperatures and the type of unit being produced.

Application / Curing Schedule

See ELANTAS PDG Processing Guides *PG-118 – Dip Processing Pedigree® X183 Polyester Resins* and *PG-119 – Trickle Processing Pedigree® X183 Polyester Resins*.

Cure for a minimum of 30 minutes at 104°C / 220°F - or - 20 minutes at 121°C / 250°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 Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	25°C / 77°F - 1.4 mils	2200	volts/mil
Dielectric Strength	ASTM D149	25°C / 77°F - 1.4 mils After 24 hours in water	1400	volts/mil
Dissipation Factor	ASTM D150	25°C / 77°F – 1 kHz 100°C / 212°F – 1 kHz 150°C / 302°F – 1 kHz	0.01 0.01 0.02	
Dielectric Constant	ASTM D150	25°C / 77°F – 1 kHz 100°C / 212°F – 1 kHz 150°C / 302°F – 1 kHz	2.9 3.1 3.4	
Volume Resistivity	ASTM D257	25°C / 77°F	2.2 x 10 ¹⁶	ohm-cm



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Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Twisted Coil Bond Strength over MW 35	ASTM D2882	25°C / 77°F	53	pounds
		150°C / 302°F	38	pounds
Hardness	ASTM D2240	25°C / 77°F	D 82	

UL Recognized Insulation Systems (ELANTAS File E87039)

Thermal Class	System
Class 130	PDG 1, 2, 6, 12, 106, 107, 110, 111
Class 155	PDG 3, 9, 102, 108, 86-155-1
Class 180	PDG 14, H-1, 91-180-1, 86-180-5
Class 200	PDG 7, 10
Class 220	PDG 15
Class 240	PDG 16

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.