ELANTAS
Electrical Insulation

Technical Data Sheet

Electrical Insulation

Pedigree® 12-0-12

Solvent-Borne Polyester Impregnating Resin

ELANTAS PDG, Inc.

5200 North Second Street
St. Louis, MO 63147
USA
Tel +1 314 621-5700
Fax +1 314 436-1030
info.elantas.pdg@altana.com
www.elantas.com

1405 Buffalo Street
Olean, NY 14760
USA
Tel +1 716 372-9650
Fax +1 716 372-1594
info.elantas.pdg@altana.com
www.elantas.com

Pedigree® 12-0-12

Product Description

Pedigree® 12-0-12 is a single-component, solvent-borne, heat-cured impregnating resin.

Areas of Application

Impregnation of motor and transformer windings

Features and Benefits

- The industry standard for high temperature performance
- Low viscosity for excellent penetration
- Semi-flexible for noise suppression
- Excellent tank stability
- UL recognized insulation systems up to Class 220
- MIL-I-24092D QPL listed:
  Class 155 – Grade CB – Composition I

Application Methods

- Dip-and-Bake
- Roll-through

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

Keep containers tightly sealed to minimize evaporation

Mix product thoroughly before use

Health / Safety

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	Units
Viscosity	25°C / 77°F	200 - 290	cP
Non-Volatile Content	1½ g – 3 h – 135°C	48 – 53	%
Weight per Gallon	25°C / 77°F	7.6 – 7.9	pounds
Viscosity Reducer		ELAN-Plus™ BS-107 Reducer	
Flash Point	ASTM D93	24 75	°C °F

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Regulatory Information

Property	Test Method	Value	Units
Volatile Organic Content	ASTM D3960	3.9 [1]	pounds / gallon
RoHS Compliance	Pedigree® 12-0-12 complies with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 (RoHS 2.0) as amended 31 March 2015.		

[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 (0.5 grams - 1 hour - 110°C). Contact your ELANTAS PDG representative regarding alternate methods.

Application / Curing Schedule

See ELANTAS PDG Processing Guide *PG-113 – Dip Processing Solvent-Borne Impregnating Resins.*

Cure for 4 hours at 175°C / 347°F – **or** – 2 hours at 200°C / 392°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	2 mils – 25°C / 77°F	3100	volts/mil
Dielectric Strength	ASTM D149	2 mils – 25°C / 77°F After 24 hours in water	2400	volts/mil
Dissipation Factor	ASTM D150	1 kHz – 25°C / 77°F	0.03	
Surface Resistivity	ASTM D257	25°C / 77°F	2.6×10^{13}	ohms/sq.
Volume Resistivity	ASTM D257	25°C / 77°F	2.9×10^{13}	ohm-cm

Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Helical Coil Bond Strength over MW 35 Magnet Wire	ASTM D2519	25°C / 77°F 150°C / 302°F	28 3	pounds pound
Flexibility (Mandrel)	ASTM D115	2180 h @ 160°C	Pass	1/8 inch
	ASTM D115	168 h @ 180°C	Pass	1/8 inch
	ASTM D115	504 h @ 180°C	Pass	1/4 inch
	ASTM D115	1008 h @ 180°C	Pass	1/2 inch

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Underwriters Laboratories Recognition (ELANTAS File E75225)

Wire Construction	Helical Coil	Twisted Pair
NEMA MW16	Class 200	Class 220
NEMA MW26	Class 155	Class 180
NEMA MW28	Class 200	Class 130
NEMA MW35	Class 220	Class 200
NEMA MW76	Class 200	Class 155

UL Recognized Insulation Systems (ELANTAS File E87039)

Thermal Class	System
Class 130	PDG1, PDG 2, PDG 4A, PDG 4B, PDG 12, PDG 101, PDG 107
Class 155	PDG 9, PDG 102, PDG 108
Class 180	PDG H, PDG H-1, PDG 14, PDG 103, PDG 109
Class 200	PDG 7, PDG 10, PDG 104
Class 220	PDG 8, PDG 220, PDG 220 High Voltage