

**Technical Data Sheet**

**Secondary Insulation**

**Pedigree<sup>®</sup> 12-0-12**

**Single-Component Impregnating Resin**

## 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-24092 QPL listed

### 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 Material 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

## Pedigree® 12-0-12

### Application / Curing Schedule

Preheat to 121 – 135°C / 250 - 275°F unit temperature for one hour.

Allow unit to cool to 60 – 77°C / 140 – 170°F;

Dip unit into resin for 10 – 15 minutes or until bubbling stops

Drain unit for 10 – 15 minutes

Cure for 2 – 10 hours at 150 – 175°C / 302 – 347°F, depending on unit size

Cure schedule is based on time after unit reaches specified temperature

### Typical Mechanical Properties

**Specimen cured 2 hours at 150°C / 302°F, single dip**

Property	Conditions	Value	Units
Build		2.5	Mils
Helical Coil Bond Strength ASTM D2519 over MW 35	25°C / 77°F	20	pounds
	60°C / 140°F	8	pounds
	80°C / 176°F	3	pounds
	100°C / 212°F	2	pounds
	150°C / 302°F	1	pound
Flexibility – ASTM D115	After 168 h @ 160°C	Pass 1/8-in. mandrel	
	After 504 h @ 160°C	Pass 1/8-in. mandrel	
	After 1008 h @ 160°C	Pass 1/8-in. mandrel	
	After 2180 h @ 160°C	Pass 1/8-in. mandrel	
	After 168 h @ 180°C	Pass 1/8-in. mandrel	
	After 504 h @ 180°C	Pass 1/4-in. mandrel	
After 1008 h @ 180°C	Pass 1/2-in. mandrel		

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### Typical Electrical Properties

Property	Conditions	Value	Units
Dielectric Strength ASTM D149	2.5 mils – 25°C / 77°F	2400	volts/mil
Dielectric Strength ASTM D149	2.5 mils – 25°C / 77°F After 24 hours in water	1900	volts/mil
Dissipation Factor ASTM D150	1 kHz – 25°C / 77°F	0.008	
	1 kHz – 50°C / 122°F	0.02	
	1 kHz – 100°C / 212°F	0.03	
	1 kHz – 150°C / 257°F	0.03	
	1 kHz – 200°C / 392°F	0.14	
Surface Resistivity ASTM D257	25°C / 77°F	$1.6 \times 10^{11}$	ohms/sq.
Volume Resistivity ASTM D257	25°C / 77°F	$2.9 \times 10^{16}$	ohm-cm
	100°C / 212°F	$1.3 \times 10^{13}$	ohm-cm
	150°C / 257°F	$3.6 \times 10^{11}$	ohm-cm
	200°C / 392°F	$6.7 \times 10^{10}$	ohm-cm

### 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

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

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