



**Technical Data Sheet**

**Secondary Insulation**

**Pedigree<sup>®</sup> 2500-35**

**Waterborne 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



## Pedigree® 2500-35

### Product Description

Pedigree® 2500-35 is a single-component, water-borne, heat-cured impregnating resin.

### Areas of Application

Impregnation of motor and transformer windings

### Features and Benefits

- Water-based – formulated without hazardous air pollutants or SARA 313 reportable substances<sup>[1]</sup>
- Low VOC - less than one pound per gallon
- Low viscosity for excellent penetration
- UL recognized insulation systems up to Class 240

### Application Methods

Pedigree® 2500-35 is a concentrated resin.

It should be reduced with water for conventional dip-and bake application.

### 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 six (6) months from the date of shipment.

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

Mix product thoroughly before use.

Dip tank pH should be maintained between 7.5 and 8.5. See ELANTAS PDG technical bulletin *TI-4004 Water-Based Resin Maintenance* for additional information.

### 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 – 2000                    | cP       |
| Non-Volatile Content | 1½ g – 3 h – 135°C | 34.0 – 36.0                   | %        |
| Weight per Gallon    | 25°C / 77°F        | 8.7 – 9.1                     | pounds   |
| Viscosity Reducer    |                    | Potable tap water             |          |
| pH Adjuster          |                    | ELAN-Plus™ BS-308 pH Adjuster |          |
| Flash Point          | ASTM D93           | >94<br>>201                   | °C<br>°F |

[1] Contains no HAPs or SARA 313 substances above reportable thresholds. See MSDS for complete information.



**Pedigree® 2500-35**

**Application / Curing Schedule**

Preheat to 121 – 135°C / 250 - 275°F unit temperature for one hour. (recommended, but not mandatory)

Allow unit to cool to 54 – 65°C / 130 – 150°F.

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

Cure for 4 hours at 135°C / 275°F – or – 2 hours at 150°C / 302°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**

**Specimens cured 2 hours at 150°C / 302°F, double dip - Resin reduced to 30% N.V.**

| Property  | Conditions                   | Value   | Units            |
|---|------------------------------|---------|------------------|
| Build   |                              | 0.5     | mils             |
| Helical Coil Bond Strength<br>ASTM D2519 over MW 35 | 25°C / 77°F<br>150°C / 302°F | 24<br>3 | pounds<br>pounds |

**Typical Electrical Properties**

| Property                         | Conditions  | Value  | Units                      |
|----------------------------------|---|--|----------------------------|
| Dielectric Strength<br>ASTM D149 | 25°C / 77°F   | 3000   | volts/mil                  |
| Dielectric Strength<br>ASTM D149 | 25°C / 77°F<br>After 24 hours in water                                | 2900   | volts/mil                  |
| Dissipation Factor<br>ASTM D150  | 1 kHz – 25°C / 77°F<br>1 kHz – 100°C / 212°F<br>1 kHz – 150°C / 257°F | 0.001<br>0.03<br>0.39  |                            |
| Volume Resistivity<br>ASTM D150  | 25°C / 77°F<br>100°C / 212°F<br>150°C / 257°F                         | $1.2 \times 10^{16}$<br>$5.2 \times 10^9$<br>$3.7 \times 10^8$ | ohm-cm<br>ohm-cm<br>ohm-cm |
| Surface Resistivity<br>ASTM D257 | 25°C / 77°F   | $7.1 \times 10^{13}$   | ohms/sq.                   |



**Pedigree® 2500-35**

**Underwriters Laboratories Recognition (ELANTAS File E75225)**

| Wire Construction | Helical Coil | Twisted Pair |
|-------------------|--------------|--------------|
| NEMA MW16         | 180          | 240          |
| NEMA MW26         | 155          | 155          |
| NEMA MW28         | 105          | 130          |
| NEMA MW35         | 180          | 200          |
| NEMA MW76         | 180          | 155          |

**UL Recognized Insulation Systems (ELANTAS File E87039)**

| Thermal Class | System       |
|---------------|--------------|
| Class 130     | PDG 12       |
| Class 155     | PDG 9        |
| Class 180     | PDG 14       |
| Class 200     | PDG 7        |
| Class 220     | PDG 8, 220-1 |
| 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.