

# Pexidan® V/T-2

Crosslinked Polyethylene

Saco Polymers

## Message:

Low density moisture curable polyethylene compound for low voltage building wire, control cable and cable tray applications (UL styles SIS, XHH, XHHW, XHHW-2, RHH, RHW, and RHW-2 VW-1).

Pexidan® V/T-2 is a low density XLPE System curable by moisture and consists of a silane pre-grafted base compound A-3001 and a catalyst masterbatch CAT-045FR (Sioplas method). Mixed and extruded in the proper proportions (50/50), the two components result in a material that is curable by exposure to hot water. Pexidan® V/T is a RoHS-compliant system.

| General Information |   |  |  |
|---------------------|---|--|--|
| Features            | Low density<br>Crosslinkable                          |  |  |
| Uses                | Low voltage insulation<br>Wire and cable applications |  |  |
| RoHS Compliance     | RoHS compliance                                       |  |  |
| Forms               | Particle  |  |  |
| Processing Method   | Wire & Cable Extrusion<br>Extrusion                   |  |  |

| Physical  | Nominal Value | Unit              | Test Method     |
|---|---------------|-------------------|-----------------|
| Specific Gravity  | 1.32          | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)                   | 1.0           | g/10 min          | ASTM D1238      |
| Degree of Crosslinking                                      | 60            | %                 | ASTM D2765      |
| Deformation   | 5.0           | %                 | UL 1581         |
| Dielectric Breakdown  |               |                   | UL 1581         |
| --  | 36000         | V                 | UL 1581         |
| after glancing impact                                       | 11000         | V                 | UL 1581         |
| Insulation Resistance                                       |               |                   | UL 1581         |
| 15°C  | 10000         | Mohms/1000 ft     | UL 1581         |
| 90°C  | 6100          | Mohms/1000 ft     | UL 1581         |
| after 12 weeks : 90°C                                       | 3600          | Mohms/1000 ft     | UL 1581         |
| Crushing Test   | 585134        | g                 | UL 1581         |
| Hot Elongation - elongation under load (150°C) <sup>1</sup> | 45            | %                 | Internal method |
| Head Temperature  | 185           | °C                |                 |
| Screw cooling   | neutral       |                   |                 |

| Mechanical       | Nominal Value | Unit | Test Method |
|------------------|---------------|------|-------------|
| Tensile Strength |               |      |             |

|                              |               |      |             |
|------------------------------|---------------|------|-------------|
| Fracture <sup>2</sup>        | 15.2          | MPa  | UL 1581     |
| Fracture <sup>3</sup>        | 14.5          | MPa  | UL 1581     |
| Fracture <sup>4</sup>        | 16.5          | MPa  | UL 1581     |
| Tensile Elongation           |               |      |             |
| Fracture <sup>5</sup>        | 400           | %    | UL 1581     |
| Fracture <sup>6</sup>        | 380           | %    | UL 1581     |
| Electrical                   | Nominal Value | Unit | Test Method |
| Relative Permittivity (90°C) | 3.10          |      | UL 1581     |
| Flammability                 | Nominal Value | Unit | Test Method |
| Oxygen Index (4.00 mm)       | 27            | %    | ASTM D2863  |
| Additional Information       | Nominal Value | Unit | Test Method |

Curing can be done in the following ways:

by immersion in hot water at 70-90°C

by exposure to low pressure steam

In all cases curing time depends on wall thickness, temperature, relative humidity and quantity of wire on the reel. Typical values reported above (except MFR) are obtained from a 14 AWG wire with 30-mil wall thickness, cured in hot water (6 hours @ 95°C).

|                       |               |      |
|-----------------------|---------------|------|
| Extrusion             | Nominal Value | Unit |
| Cylinder Zone 1 Temp. | 154 - 171     | °C   |
| Cylinder Zone 2 Temp. | 154 - 171     | °C   |
| Cylinder Zone 3 Temp. | 154 - 171     | °C   |
| Cylinder Zone 4 Temp. | 154 - 171     | °C   |
| Die Temperature       | 185           | °C   |

#### NOTE

- |    |  |
|----|--|
| 1. | 15 minutes, 0.2 N/mm <sup>2</sup> load |
| 2. | After 60 day oil @ 75°C                |
| 3. | After 30 day gasoline @ 23°C           |
| 4. | After thermal ageing (7days @121°C)    |
| 5. | After 60 day oil @ 75°C                |
| 6. | After 30 day gasoline @ 23°C           |

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