



# D-Encapsulant

## Cable Filling Compound

### Description

The Vertellus® D-Encapsulant is a two-component, elastomeric polyurethane compound for use in fiber optic and copper cable filling applications. It has a low viscosity and extended pot life to form an effective water block, and excellent flexibility, electrical and long term stability properties. This product is especially applicable for environmental protection of electrical devices.

### Typical Properties

The data listed in this product literature are the typical results of the product for descriptive purposes. They are not intended for the establishment of product specifications.

This compound can be fully cured for use or test purposes at room temperature after one week. The cure can be accelerated at 60°C in 18 hours, or at 80°C in 6 hours.

---

### Processing Properties

---

#### **Viscosity** (at 25°C, ASTM D-2393)

Vorite®715-M1	130 cP.
Polycin®934-M4	315 cP.

#### **Specific Gravity** (ASTM D-1875)

Vorite®715-M1	1.008
Polycin®934-M4	0.894

#### **Mix Ratio** (Vorite®715-M1/Polycin®934-M4)

By weight	17/83
By volume	15/85

#### **Mixed Viscosity** (at 25°C) 300 cP. ASTM D-2393

#### **Gel Time** (at 25°C, 100g) 17-20 hours CC-410

---

---

### **Physical Properties**

---

<b>Hardness</b> (Shore OO) ASTM D-1484	55
<b>Peak Exotherm</b> (100g mass) ASTM D-2471	32°C
<b>Shrinkage on Curing</b> ASTM D-2566	0.5%
<b>Tensile Strength</b> ASTM D-412	25 psi
<b>Elongation</b> ASTM D-412	130%
<b>Tear Strength</b> ASTM D-624	5 pli
<b>Young's Modulus of Elasticity</b> ASTM D-638	33 psi
<b>Compression Modulus</b> ASTM D-695	22 psi
<b>Brittleness Temperature</b> ASTM D-746	< -50°C
<b>Thermal Conductivity</b> ASTM C-177	0.718 Btu.in/hr.ft <sup>2</sup> .°F
<b>Thermal Expansion</b> ASTM D-696 modified	5.4 x 10 <sup>-5</sup> cm/cm°C

---

### **Electrical Properties**

---

<b>Dielectric Constant</b> (1 KHz) ASTM D-150	3.3
<b>Dissipation Factor</b> (1 KHz) ASTM D-150	0.04
<b>Volume Resistivity</b> (ohm-cm) ASTM D-257	7 x 10 <sup>13</sup>
<b>Insulation Resistance</b> Telcordia MS17000	2 x 10 <sup>13</sup> ohms

---

... Continued on page 2

# D-Encapsulant

Technical Data Sheet - Page 2

---

## Stability Properties

---

### Moisture Absorption

168 hrs, 24°F water 0.1%

### Hydrolytic Stability (168 hrs, boiling water)

Weight change +0.5%

Hardness change (Shore OO) - 5

### Dry Heat Aging (500 hrs, 100°C)

Weight change -4.0%

Hardness change (Shore OO) 0

### Insulation Resistance 1.2 x 10<sup>10</sup> ohms

675 hrs, 35°C/95% RH

### Hydrogen Generation 0.37 µl/g

48 hrs, 176°F (GC/MS)

### Component Flash Point (ASTM D-3828)

Vorite®715-M1 > 200°C

Polycin®934-M4 > 218°C

### Component Pour Point (ASTM D-197)

Vorite®715-M1 -36°C

Polycin®934-M4 -34°C

---

---

## Performance Properties

---

### Corrosion of Copper non-corrosive

Telcordia MS-17000

### Fungus Resistance 0 growth

ASTM G-21

### Volumetric Expansion 0%

Telcordia TR-NWT-000354

### Water Sensitivity (Expansion) 0%

Telcordia TR-NWT-000354

### Polyethylene Stress-Cracking Passes

Telcordia MS17000

### Polycarbonate Stress-Cracking Passes

Telcordia TR-NWT-000354

---

Revised September 2015

### Vertellus Performance Materials Inc.

2110 West Gate City Boulevard  
Greensboro, NC 27403 USA

USA Tel: 800-227-2436

USA Fax: 336-854-4058

Web: [www.vertellus.com](http://www.vertellus.com)

Copyright © Vertellus Specialties Inc. 2006. All Rights Reserved.

For toxicity or regulatory information please consult the Material Safety Data Sheet.

*Information contained in this technical data sheet is believed to be accurate. Vertellus Specialties Inc. assumes no liability and makes no warranty or representation that the information is correct or complete and EXPRESSLY DISCLAIMS ALL REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Final determination of suitability of any material and issues of patent infringement is the sole responsibility of the user who alone knows the conditions of intended use. Our customers should ensure that any product incorporating a Vertellus ingredient is safe for its intended use pursuant to applicable law and that any necessary disclosures to consumers have been made.*