

Veradel® 3500

polyethersulfone

Veradel® polyethersulfone (PESU) is transparent and offers high heat deflection temperatures, excellent toughness and dimensional stability, and resistance to steam, boiling water, and mineral acids. Other desirable properties include thermal stability, creep resistance, and inherent flame resistance.

Veradel® 3600 is a very high melt flow grade suggested for compounding, especially of glass or carbon fiber reinforced compounds.

General

| | |
|-------------------|---|
| Material Status | <ul style="list-style-type: none"> Commercial: Active |
| Availability | <ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America |
| Features | <ul style="list-style-type: none"> Acid Resistant Chemical Resistant Creep Resistant Flame Retardant Good Adhesion Good Dimensional Stability Good Thermal Stability Good Toughness High Flow High Heat Resistance High Tensile Strength Hydrolysis Resistant Medium Molecular Weight Medium Rigidity |
| Uses | <ul style="list-style-type: none"> Compounding |
| Agency Ratings | <ul style="list-style-type: none"> NSF STD-61¹ |
| RoHS Compliance | <ul style="list-style-type: none"> RoHS Compliant |
| Appearance | <ul style="list-style-type: none"> Transparent - Slight Yellow |
| Forms | <ul style="list-style-type: none"> Pellets |
| Processing Method | <ul style="list-style-type: none"> Compounding Injection Molding |

| Physical | Typical Value | Unit | Test method |
|---|---------------|----------|-------------|
| Specific Gravity | 1.37 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (380°C/2.16 kg) | 58 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.60 | % | ASTM D955 |
| Water Absorption (24 hr) | 0.50 | % | ASTM D570 |
| Water Absorption - 30 days | 1.9 | % | ASTM D570 |

| Mechanical | Typical Value | Unit | Test method |
|----------------------------|---------------|------|-------------|
| Tensile Modulus | 2690 | MPa | ASTM D638 |
| Tensile Strength | 88.9 | MPa | ASTM D638 |
| Tensile Elongation (Yield) | 6.5 | % | ASTM D638 |
| Flexural Modulus | 2620 | MPa | ASTM D790 |
| Flexural Strength | 125 | MPa | ASTM D790 |

| Impact | Typical Value | Unit | Test method |
|---------------------|---------------|------|-------------|
| Notched Izod Impact | 53 | J/m | ASTM D256 |

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| Thermal | Typical Value | Unit | Test method |
|--|----------------------|-------------|--------------------|
| Deflection Temperature Under Load 1.8 MPa, Unannealed, Injection Molded | 200 | °C | ASTM D648 |
| CLTE - Flow | 5.2E-5 | cm/cm/°C | ASTM D696 |
| Electrical | Typical Value | Unit | Test method |
| Volume Resistivity | 1.7E+15 | ohms·cm | ASTM D257 |
| Dielectric Strength | 15 | kV/mm | ASTM D149 |
| Dielectric Constant | | | ASTM D150 |
| 60 Hz | 3.51 | | |
| 1 kHz | 3.50 | | |
| 1 MHz | 3.54 | | |
| Dissipation Factor | | | ASTM D150 |
| 60 Hz | 1.7E-3 | | |
| 1 kHz | 2.2E-3 | | |
| 1 MHz | 5.6E-3 | | |
| Flammability | Typical Value | Unit | Test method |
| Flame Rating ² (1.5 mm) | V-0 | | UL 94 |

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| Injection | Typical Value | Unit |
|-------------------------|---------------|------|
| Drying Temperature | 177 | °C |
| Drying Time | 2.5 | hr |
| Processing (Melt) Temp | 343 to 385 | °C |
| Mold Temperature | 149 to 163 | °C |
| Injection Rate | Fast | |
| Screw Compression Ratio | 2.2:1.0 | |

| Extrusion | Typical Value | Unit |
|-----------------------|---------------|------|
| Drying Temperature | 177 | °C |
| Drying Time | 2.5 | hr |
| Cylinder Zone 1 Temp. | 335 to 391 | °C |
| Cylinder Zone 2 Temp. | 335 to 391 | °C |
| Cylinder Zone 3 Temp. | 335 to 391 | °C |
| Cylinder Zone 4 Temp. | 335 to 391 | °C |
| Cylinder Zone 5 Temp. | 335 to 391 | °C |
| Adapter Temperature | 327 to 371 | °C |
| Melt Temperature | 343 to 391 | °C |
| Die Temperature | 327 to 371 | °C |

Notes

Typical properties: these are not to be construed as specifications.

¹ Tested at 82 °C (180 °F) (Commercial Hot)

² These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

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