Veradel® 3600RP

Polyethersulfone

Solvay Specialty Polymers

Message:

Veradel® 3600RP hydroxyl-functionalized polyethersulfone (r-PESU) is an amorphous, high-temperature sulfone polymer featuring reactive end groups to enhance solubility for dissolving or dispersing into solutions and to improve adhesion to substrates when used as a coating.

Veradel® 3600RP r-PESU offers excellent toughness and outstanding hydrolytic resistance. It resists attack from steam, boiling water and mineral acids. Cast films or coatings of r-PESU are transparent and have additional desirable properties, including long term thermal stability, excellent metal adhesion and formability and inherent flame resistance.

Veradel® r-PESU polymers are available in two molecular weight regimes. Veradel® 3000RP is a high molecular weight sulfone polymer with a relatively low level of functionality while Veradel® 3600RP has a lower molecular weight sulfone polymer (approximately half the molecular weight of the Veradel® 3000RP) with roughly 3-5 times higher level of functionality. The differences in molecular weight results in highly varied levels of viscosity, when measured under similar conditions.

Typical applications include high-temperature coating formulations and specialty adhesives.

All Veradel® r-PESU polymers are produced at Solvay's state-of-the-art, world-scale facility in Panoli, India under ISO 9001:2000 and ISO 14001:2004 certified quality management systems.

| General Information | |
|---------------------|-----------------------------|
| Features | Acid Resistant |
| | Flame Retardant |
| | Good Adhesion |
| | Good Chemical Resistance |
| | Good Creep Resistance |
| | Good Dimensional Stability |
| | Good Thermal Stability |
| | Good Toughness |
| | High Flow |
| | High Heat Resistance |
| | High Tensile Strength |
| | Hydrolysis Resistant |
| | Low Molecular Weight |
| | Medium Rigidity |
| | |
| Uses | Adhesives |
| | Binder |
| | Coating Applications |
| | |
| Agency Ratings | NSF 51 2 |
| RoHS Compliance | Contact Manufacturer |
| Appearance | Transparent - Slight Yellow |
| Forms | Granules |
| | Powder |
| | |
| Processing Method | Coating |

Spraying

| Physical | Nominal Value | Unit | Test Method |
|--|--|-------|-----------------|
| Solution Viscosity | | | Internal Method |
| 1 | 80 | mPa·s | |
| 2 | 560 | mPa·s | |
| Moisture Content - Measured at time of | | | |
| packing | 1.5 | % | Internal Method |
| OH End Groups - Titration | 170 | µeq/g | Internal Method |
| Particle Size - D50 Sieve measurement | 250 | μm | Internal Method |
| Residual Solvent - Gas Chromatography | 1.5 | % | Internal Method |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 2700 | MPa | ASTM D638 |
| Tensile Strength | 90.0 | MPa | ASTM D638 |
| Tensile Elongation (Yield) | 6.5 | % | ASTM D638 |
| Flexural Modulus | 2600 | MPa | ASTM D790 |
| Flexural Strength | 2.60 | MPa | ASTM D790 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | 53 | J/m | ASTM D256 |
| Thermal | Nominal Value | Unit | Test Method |
| Glass Transition Temperature | 220 | °C | DSC |
| NOTE | | | |
| 1. | 25% solution in DMAc at 40°C (measured at 35% solids) | | |
| 2. | 35% solution in DMAc at 40°C (measured at 35% solids) | | |

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