Veradel® 3000RP

polyethersulfone

Veradel® 3000RP hydroxyl-functionalized polyethersulfones (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® 3000RP 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

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Acid Resistant • Chemical Resistant • Creep Resistant • Flame Retardant • Food Contact Acceptable • Good Adhesion • Good Dimensional Stability • Good Thermal Stability	• Good Toughness • High Heat Resistance • High Molecular Weight • High Tensile Strength • Hydrolysis Resistant • Low Flow • Medium Rigidity
Uses	• Adhesives • Cast Film	• Coating Applications
Agency Ratings	• NSF STD-51	
RoHS Compliance	• Contact Manufacturer	
Appearance	• Transparent - Slight Yellow	
Forms	• Granules	• Powder
Processing Method	• Cast Film • Coating	• Solution Processing • Spraying

Physical	Typical Value	Unit	Test method
Solution Viscosity			Internal Method
-- [1]	700	mPa·s	
-- [2]	5000	mPa·s	
Moisture Content - Measured at time of packing	1.5	%	Internal Method
OH End Groups - Titration	50	µeq/g	Internal Method
Particle Size - D50 Sieve measurement	250	µm	Internal Method

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Physical	Typical Value	Unit	Test method
Residual Solvent - Gas Chromatography	1.5	%	Internal Method

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

Thermal	Typical Value	Unit	Test method
Glass Transition Temperature	220	°C	DSC

Notes

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

[1] 25% solution in DMAc at 40°C (measured at 25% solids)

[2] 35% solution in DMAc at 40°C (measured at 25% solids)

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