

# Virantage® VW-10700 RP, RFP, RSFP

Polyethersulfone  
Solvay Specialty Polymers

Message:

Virantage® VW-series functionalized polyethersulfones (r-PESU) are amorphous, high-temperature sulfone polymers featuring reactive end groups to enhance solubility and improve interfacial properties in epoxy thermosets. Their inherent toughness imparts damage tolerance to thermoset composites and excellent flexibility to coatings. Virantage® polymers also offer superior thermal and hydrolytic stability that delivers best-in-class hot-wet performance.

They are especially suitable for incorporation into advanced composite resin systems used to produce high-performance aerospace components and have been used successfully in a variety of thermosetting resin systems including epoxies, phenolics, and BMIs.

Virantage® VW-series polymers are available in a range of molecular weights: high (10200), medium (10300) and low (10700). A range of particle sizes are also available to meet formulators' specific needs.

All Virantage® 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	Amorphous		
	Good Thermal Stability		
	Good Toughness		
	High Heat Resistance		
	Hydrolytically Stable		
	Low Molecular Weight		
	Low Viscosity		
Uses	Aerospace Applications		
RoHS Compliance	Contact Manufacturer		
Forms	Pellets		
Processing Method	Coating		
	Compounding		
Physical	Nominal Value	Unit	Test Method
Solution Viscosity <sup>1</sup>	560	mPa · s	Internal Method
Average Molecular Weight <sup>2</sup>	21000	g/mol	Internal Method
Moisture - Measured at time of packaging <sup>3</sup>	1.5	%	Internal Method
OH End Groups - Measured by titration of end groups	210	µeq/g	Internal Method
Particle Size <sup>4</sup>			
VW-10700RFP	75.0	µm	
VW-10700RP	500	µm	
VW-10700RSFP	45.0	µm	
Residual Solvent - Measured by Gas Chromatography	0.15	%	Internal Method
Thermal	Nominal Value	Unit	Test Method

Glass Transition Temperature	216	°C	DSC
NOTE			
1.	35% solution in DMAc at 40°C		
2.	Gel Permeation Chromatography with polystyrene as standard		
3.	Virantage® r-PESU is hygroscopic and may absorb moisture in storage. Dry no higher than 130°C for a minimum of 3 hours if needed.		
4.	Typical Particle Size ~D90 Particle sizes by sieve measurement		

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