

Virantage® VW-10700 RP, RFP, RSFP polyethersulfone

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 Syensqo's state-of-the-art, world-scale facility in Panoli, India under ISO 9001:2000 and ISO 14001:2004 certified quality management systems.

Typical Particle Size ~D90

- VW-10700RFP 75.0 µm
- VW-10700RP 500 µm
- VW-10700RSFP 45.0 µm

General

Material Status	• Commercial: Active	
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe 	<ul style="list-style-type: none"> • Latin America • North America
Features	<ul style="list-style-type: none"> • Amorphous • Good Thermal Stability • Good Toughness • High Heat Resistance 	<ul style="list-style-type: none"> • Hydrolytically Stable • Low Molecular Weight • Low Viscosity
Uses	• Aerospace Applications	
RoHS Compliance	• Contact Manufacturer	
Forms	• Powder	
Processing Method	• Coating	• Compounding

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Physical	Typical Value	Unit	Test method
Solution Viscosity ¹	560	mPa·s	Internal Method
Average Molecular Weight ²	21000	g/mol	Internal Method
Moisture – Measured at time of packaging ³	1.5	%	Internal Method
OH End Groups – Measured by titration of end groups	210	µeq/g	Internal Method
Particle Size ⁴			
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	Typical Value	Unit	Test method
Glass Transition Temperature	216	°C	DSC

Notes

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

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

www.syensqo.com

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