Veradel® AG-330

polyethersulfone

Veradel® AG-330 is a 30% glass fiber reinforced grade of polyethersulfone (PESU). Adding glass fiber to polyethersulfone substantially increases the rigidity, tensile strength, creep resistance, dimensional stability and chemical resistance of the material, while maintaining most of its other basic characteristics. The combination of structural properties and cost effectiveness make this resin an attractive alternative to metals in many engineering applications.

Veradel® AG-330 PESU is a grayish material in its natural form and it can be readily colored.

This grade was formerly marketed as Radel® A PESU

- Black: Veradel® AG-330 BK 184
- Natural: Veradel® AG-330 NT

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight	
Features	• Acid Resistant • Chemical Resistant • Creep Resistant • Flame Retardant • Food Contact Acceptable • Good Adhesion • Good Dimensional Stability • Good Strength	• Good Thermal Stability • Good Toughness • High Heat Resistance • High Rigidity • High Tensile Strength • Hydrolysis Resistant • Medium Flow • Medium Molecular Weight
Uses	• Appliance Components • Appliances • Automotive Electronics • Batteries • Business Equipment • Electrical Parts • Electrical/Electronic Applications	• Food Service Applications • Industrial Applications • Metal Replacement • Microwave Cookware • Plumbing Parts • Valves/Valve Parts
Agency Ratings	• NSF STD-51 [1]	
RoHS Compliance	• RoHS Compliant	
Appearance	• Black • Colors Available	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Specific Gravity	1.58		ASTM D792
Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	4.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.30	%	ASTM D955
Water Absorption (24 hr)	0.40	%	ASTM D570

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus	8620	MPa	ASTM D638
Tensile Strength (Break)	130	MPa	ASTM D638
Tensile Elongation (Break)	1.9	%	ASTM D638
Flexural Modulus	8620	MPa	ASTM D790
Flexural Strength	179	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	75	J/m	ASTM D256

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	216	°C	
CLTE - Flow	3.1E-5	cm/cm/°C	ASTM D696

Electrical	Typical Value	Unit	Test method
Volume Resistivity	> 1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	4.11		
1 kHz	4.13		
1 MHz	4.17		
Dissipation Factor			ASTM D150
60 Hz	1.9E-3		
1 kHz	1.8E-3		
1 MHz	9.4E-3		

Flammability	Typical Value	Unit	Test method
Flame Rating [2] (0.79 mm)	V-0		UL 94

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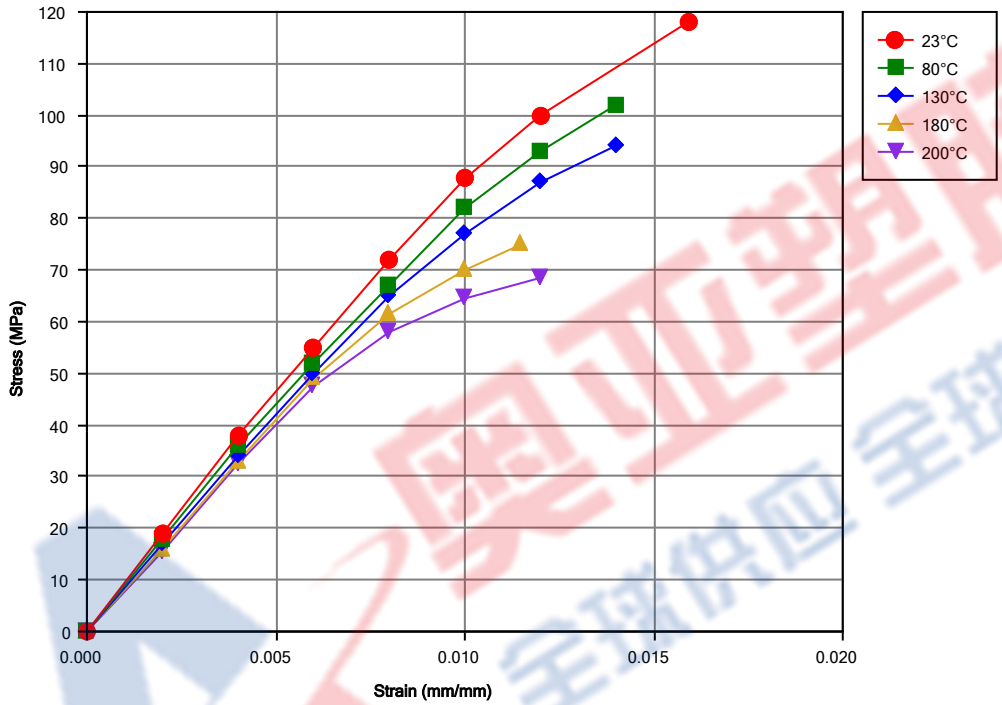
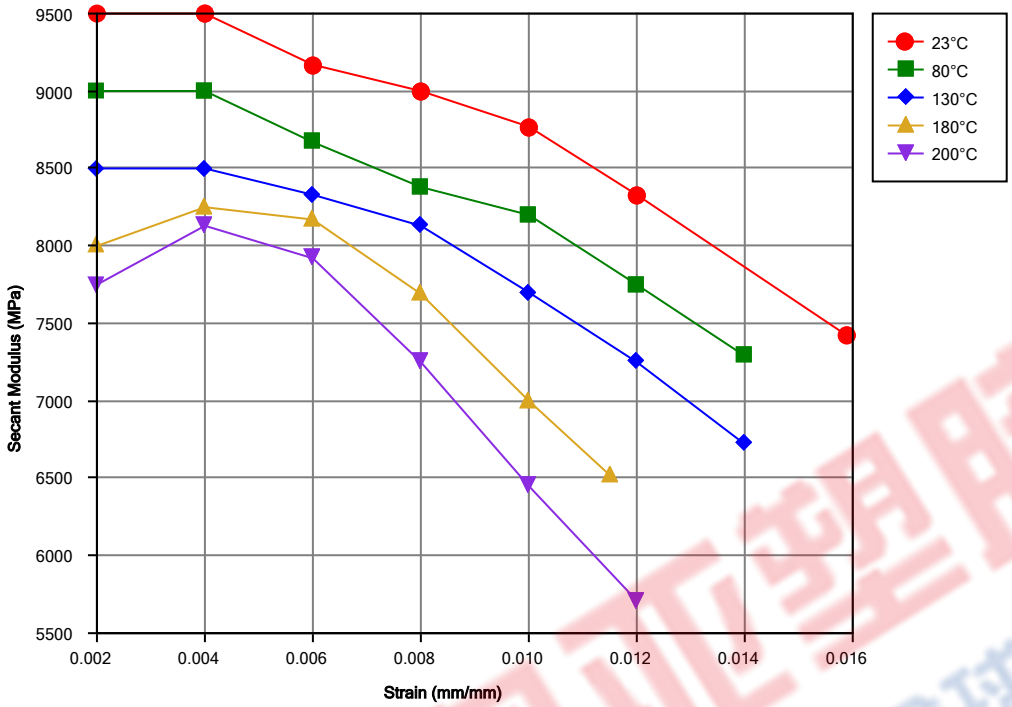
Injection	Typical Value	Unit
Drying Temperature	149 to 177	°C
Drying Time	2.5 to 4.0	hr
Processing (Melt) Temp	343 to 399	°C
Mold Temperature	149 to 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.0:1.0	

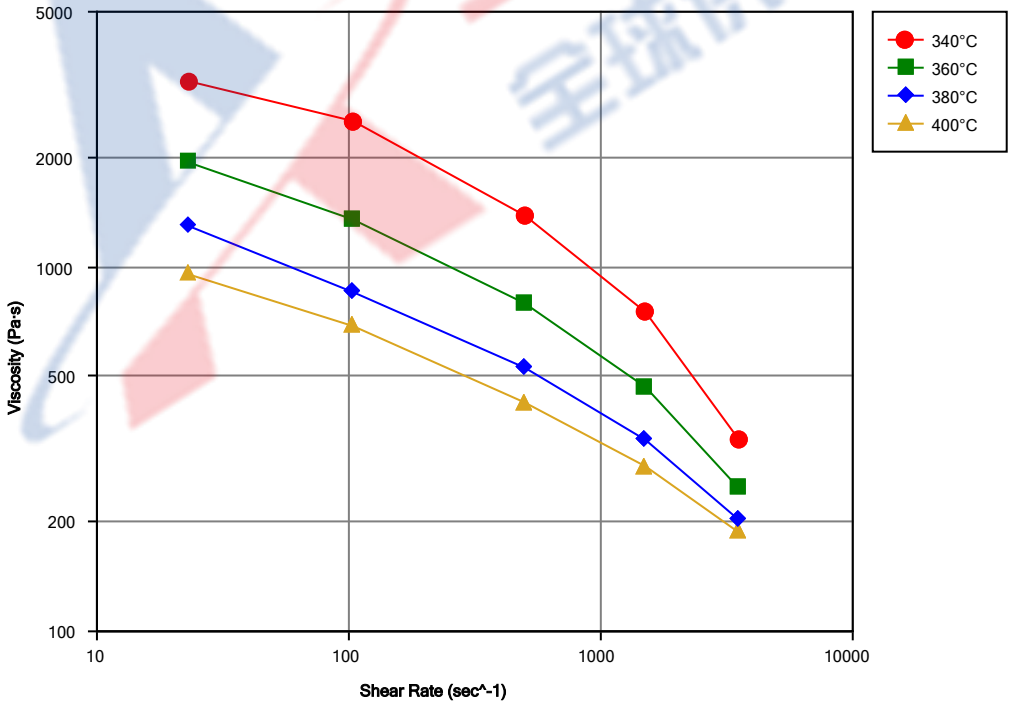
Isothermal Stress vs. Strain (ISO 11403-1)



Secant Modulus vs. Strain (ISO 11403-1)



Viscosity vs. Shear Rate (ISO 11403-2)



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Notes

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

[1] Only AG-330 NT is NSF STD-51 approved. Maximum Temperature of Use: 190°C (375°F)

[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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