

Veradel® AG-320

polyethersulfone

Veradel® AG-320 is a 20% 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.

This grade was formerly marketed as Radel® A PESU

- Natural: Veradel® AG-320 NT

General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
Automotive Specifications	<ul style="list-style-type: none"> • FORD WSK-M4D773-A2 Color: BK184 Black • FORD WSK-M4D773-A2 Color: NT Natural
Appearance	<ul style="list-style-type: none"> • Colors Available • Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

Physical

	Typical Value	Unit	Test method
Specific Gravity	1.51		ASTM D792
Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	6.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40	%	ASTM D955
Water Absorption (24 hr)	0.45	%	ASTM D570

Mechanical

	Typical Value	Unit	Test method
Tensile Modulus	5690	MPa	ASTM D638
Tensile Strength (Yield)	109	MPa	ASTM D638

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Mechanical	Typical Value	Unit	Test method
Tensile Elongation (Break)	3.2	%	ASTM D638
Flexural Modulus	6550	MPa	ASTM D790
Flexural Strength	162	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	59	J/m	ASTM D256

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed, 3.18 mm	214	°C	ASTM D648
CLTE - Flow (3.18 mm)	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	3.84		
1 kHz	3.84		
1 MHz	3.88		
Dissipation Factor			ASTM D150
60 Hz	1.5E-3		
1 kHz	1.8E-3		
1 MHz	8.1E-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	
Back Pressure	0.345 to 0.689	MPa
Screw Compression Ratio	2.0:1.0	

Notes

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

¹ 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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