Veradel® 3200

polyethersulfone

Veradel® 3200 polyethersulfone (PESU) is a low melt flow, transparent grade that offers high heat deflection temperatures, excellent toughness and dimensional stability, and resistance to steam, boiling water and mineral acids. Other desirable properties include thermal stability, creep resistance and inherent flame resistance.

Veradel® 3200 is FDA compliant and is therefore approved for direct food contact.

Three other grades are available: Veradel® 3300, a medium melt flow grade suggested for general purpose injection molding; Veradel® 3400, a high melt flow grade designed for easy molding of parts with thin walls or long flow lengths; and Veradel® 3600, a very high melt flow grade suggested for compounding, especially of glass or carbon fiber reinforced compounds.

This grade was formerly marketed as Gafone™ PESU

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 • General Purpose • Good Adhesion • Good Dimensional Stability	• Good Thermal Stability • Good Toughness • High Heat Resistance • High Tensile Strength • Hydrolysis Resistant • Medium Flow • Medium Molecular Weight • Medium Rigidity
Uses	• Adhesives • Coating Applications	• Compounding • Film
Agency Ratings	• FDA Food Contact, Unspecified Rating	• NSF STD-51
RoHS Compliance	• Contact Manufacturer	
Appearance	• Transparent - Slight Yellow	
Forms	• Powder	
Processing Method	• Compounding • Extrusion	• Injection Molding

Physical	Typical Value	Unit	Test method
Specific Gravity	1.37		ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	20	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.60	%	ASTM D955
Water Absorption (24 hr)	0.50	%	ASTM D570
Water Absorption - 30 days	1.9	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	2690	MPa	ASTM D638
Tensile Strength	88.9	MPa	ASTM D638
Tensile Elongation (Yield)	6.5	%	ASTM D638
Flexural Modulus	2620	MPa	ASTM D790
Flexural Strength	125	MPa	ASTM D790

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

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed	200	°C	
CLTE - Flow	5.2E-5	cm/cm/°C	ASTM D696

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.7E+15	ohms·cm	ASTM D257
Dielectric Strength	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.51		
1 kHz	3.50		
1 MHz	3.54		
Dissipation Factor			ASTM D150
60 Hz	1.7E-3		
1 kHz	2.2E-3		
1 MHz	5.6E-3		

Flammability	Typical Value	Unit	Test method
Flame Rating [1] (0.75 mm, ALL)	V-0		UL 94

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Injection	Typical Value	Unit
Drying Temperature	177	°C
Drying Time	2.5	hr
Processing (Melt) Temp	343 to 385	°C
Mold Temperature	149 to 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.0:1.0	

Extrusion	Typical Value	Unit
Drying Temperature	177	°C
Drying Time	2.5	hr
Cylinder Zone 1 Temp.	335 to 391	°C
Cylinder Zone 2 Temp.	335 to 391	°C
Cylinder Zone 3 Temp.	335 to 391	°C
Cylinder Zone 4 Temp.	335 to 391	°C
Cylinder Zone 5 Temp.	335 to 391	°C
Adapter Temperature	327 to 371	°C
Melt Temperature	343 to 391	°C
Die Temperature	327 to 371	°C

Notes

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

[1] These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa
SpecialtyPolymers.Americas@solvay.com | Americas
SpecialtyPolymers.Asia@solvay.com | Asia and Australia

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