Veradel® 3600
polyethersulfone

Veradel® 3600 is a very high melt flow general purpose amorphous PESU resin typically used for compounding glass and carbon fiber reinforced products. This transparent grade offers high heat deflection temperature, excellent toughness, dimensional stability and resistance to mineral acids. Other desirable properties include thermal stability, creep resistance and inherent flame resistance. Veradel® 3600 is FDA compliant and is approved for direct food contact. 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 • Good Adhesion • Good Dimensional Stability • Good Thermal Stability	• Good Toughness • High Flow • High Heat Resistance • High Tensile Strength • Hydrolysis Resistant • Low Molecular Weight • Medium Rigidity
Uses	• Compounding	
RoHS Compliance	• RoHS Compliant	
Appearance	• Transparent - Slight Yellow	
Forms	• Pellets	
Processing Method	• Compounding	• Injection Molding

Physical	Typical Value	Unit	Test method
Density / Specific Gravity			
--	1.37		ASTM D792
--	1.37	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	75	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	0.60	%	ASTM D955
Water Absorption [1] (24 hr)	0.50	%	ASTM D570
Water Absorption - 30 days [1]	1.9	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
--	2690	MPa	ASTM D638
--	2700	MPa	ISO 527-1

Mechanical	Typical Value	Unit	Test method
Tensile Strength			
--	88.9	MPa	ASTM D638
--	90.0	MPa	ISO 527-2
Tensile Elongation			
Yield	6.5	%	ASTM D638
Yield	6.6	%	ISO 527-2
Break	30	%	ISO 527-2
Flexural Modulus			
--	2620	MPa	ASTM D790
--	2750	MPa	ISO 178
Flexural Strength			
--	125	MPa	ASTM D790
--	130	MPa	ISO 178

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength	6.0	kJ/m²	ISO 179
Notched Izod Impact			
--	53	J/m	ASTM D256
--	5.6	kJ/m²	ISO 180

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, Injection Molded	200	°C	ASTM D648
1.8 MPa, Unannealed	203	°C	ISO 75-2/A
CLTE - Flow	5.2E-5	cm/cm/°C	ASTM D696 ISO 11359-2
RTI Elec (3.0 mm)	180	°C	UL 746B
RTI Imp (3.0 mm)	180	°C	UL 746B
RTI Str (3.0 mm)	190	°C	UL 746B

Electrical	Typical Value	Unit	Test method
Volume Resistivity			
--	1.7E+15	ohms·cm	ASTM D257
--	1.7E+13	ohms·m	IEC 62631-3-1
Dielectric Strength			
0.800 mm	31	kV/mm	ASTM D149 IEC 60243-1
3.00 mm	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.51		
1 kHz	3.50		
1 MHz	3.54		

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Electrical	Typical Value	Unit	Test method
Dissipation Factor			ASTM D150
60 Hz	1.7E-3		
1 kHz	2.2E-3		
1 MHz	5.6E-3		
Comparative Tracking Index	125	V	IEC 60112

Flammability	Typical Value	Unit	Test method
Flame Rating [2] (1.5 mm)	V-0		UL 94

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	2.2:1.0	

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] 3.2 mm thick 50 mm dia disk

[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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