



Fortron® 1140L4

Celanese Corporation - Polyphenylene Sulfide

Tuesday, November 5, 2019

General Information

Product Description

Fortron 1140L4 is a 40% glass-reinforced grade that is the strongest and toughest product available. It exhibits excellent heat and chemical resistance, good electrical properties and is inherently flame-retardant. The high hardness and rigidity at elevated temperatures allows for good load bearing performance. This product has good weldability due to the modest filler level. Applications made of this grade are electrical components (i.e. bobbins, lamp housings, brush holders) and various other components requiring strength and resistance to aggressive chemicals (i.e. automotive heaters, pumps, valves, fuel rails, microwave oven rings and distillation column packings).

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight		
Features	• Chemical Resistant • Flame Retardant • Good Electrical Properties • Good Heat Resistance	• Good Strength • High Hardness • High Stiffness • High Strength	• High Toughness • Weldable
Uses	• Appliance Components • Automotive Applications • Bobbins	• Electrical/Electronic Applications • Fuel Lines • Housings	• Pump Parts • Valves/Valve Parts
RoHS Compliance	• Contact Manufacturer		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.65	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.60	%	
Flow	0.30	%	
Water Absorption (Saturation, 73°F)	0.020	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2.13E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	28300	psi	ISO 527-2/1A/5
Tensile Strain (Break)	1.9	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	2.10E+6	psi	ISO 178
Flexural Stress	41300	psi	ISO 178
Compressive Modulus	2.18E+6	psi	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	4.8	ft·lb/in ²	
73°F	4.8	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	25	ft·lb/in ²	
73°F	25	ft·lb/in ²	
Notched Izod Impact Strength			ISO 180/1A
-22°F	4.8	ft·lb/in ²	
73°F	4.8	ft·lb/in ²	

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Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact Strength			ISO 180/1U
-22°F	16	ft-lb/in ²	
73°F	16	ft-lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	100		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	518	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	419	°F	ISO 75-2/C
Glass Transition Temperature ²	194	°F	ISO 11357-2
Melting Temperature ²	536	°F	ISO 11357-3
CLTE - Flow	1.4E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	2.3E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	6.6E+11	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms-cm	IEC 60093
Electric Strength	710	V/mil	IEC 60243-1
Relative Permittivity (1 MHz)	4.10		IEC 60250
Dissipation Factor (1 MHz)	2.0E-3		IEC 60250
Comparative Tracking Index	125	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.015 in	V-0		
0.06 in	V-0		
0.12 in	5VA		
Oxygen Index	47	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	
Specific Heat Capacity of Melt	0.359	Btu/lb/°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	266 to 284	°F
Drying Time	3.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	68 to 86	°F
Rear Temperature	554 to 572	°F
Middle Temperature	590 to 608	°F
Front Temperature	626 to 644	°F
Nozzle Temperature	590 to 626	°F
Processing (Melt) Temp	626 to 644	°F
Mold Temperature	284 to 320	°F
Injection Rate	Fast	
Back Pressure	< 435	psi

Injection Notes

Feeding zone temperature: 60 to 80°C
Zone4 temperature: 330 to 340°C
Hot runner temperature: 330 to 340°C

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Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min
