Fortron® ICE 504L

Polyphenylene Sulfide

Celanese Corporation

Message:

FORTRON ICE 504L is a 40% glass fiber reinforced material that belongs to our new generation of PPS. This new technology allows you to optimize your molding conditions with faster cycle times for complex shapes or process with low mold temperatures.

General Information			
UL YellowCard	E107854-101399078		
Filler / Reinforcement	Glass fiber reinforced material, 40% filler by weight		
Features	Fast molding cycle		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.65	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.40 - 0.60	%	ISO 294-4
Flow direction	0.20 - 0.60	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.020	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	100		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	14700	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	195	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	1.9	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	14500	MPa	ISO 178
Flexural Stress	285	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	10	kJ/m²	ISO 179/1eA
23°C	10	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	53	kJ/m²	ISO 179/1eU
23°C	53	kJ/m²	ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-30°C	10	kJ/m²	ISO 180/1A
23°C	10	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	34	kJ/m²	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
1.8 MPa, not annealed	270	°C	ISO 75-2/A
8.0 MPa, not annealed	215	°C	ISO 75-2/C

Glass Transition Temperature [1]	90.0	°C	ISO 11357-2
Melting Temperature [2]	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.6E-5	cm/cm/°C	ISO 11359-2
Lateral	4.2E-5	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength	28	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.60		IEC 60250
Dissipation Factor (1 MHz)	6.2E-3		IEC 60250
Comparative Tracking Index	125	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.380 mm	V-0		UL 94
1.50 mm	V-0		UL 94
Oxygen Index	47	%	ISO 4589-2
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Specific Heat	1500	J/kg/°C	Internal method
Injection	**Nominal Value**	**Unit**	
Drying Temperature	130 - 140	°C	
Drying Time	3.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	290 - 300	°C	
Middle Temperature	310 - 320	°C	
Front Temperature	330 - 340	°C	
Nozzle Temperature	310 - 330	°C	
Processing (Melt) Temp	330 - 340	°C	
Mold Temperature	90.0 - 160	°C	
Injection Pressure	50.0 - 100	MPa	
Injection Rate	Fast		
Holding Pressure	30.0 - 70.0	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Manifold Temperature: 330 to 340°CZone 4 Temperature: 330 to 340°CFeed Temperature: 60 to 80°C			
NOTE			
1.	10°C/min		
2.	10°C/min		

Recommended distributors for this material

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