

Generic PPS - Carbon Fiber

Polyphenylene Sulfide

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.36 - 1.57	g/cm ³	ASTM D792
23°C	1.40 - 1.54	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.040 - 0.20	%	ASTM D955
Transverse flow: 23°C	0.29 - 0.92	%	ASTM D955
23°C	0.12 - 0.41	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.015 - 0.020	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	100 - 124		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	9620 - 35200	MPa	ASTM D638
23°C	11100 - 45000	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	57.0 - 102	MPa	ASTM D638
Fracture, 23°C	157 - 160	MPa	ASTM D638
Fracture, 23°C	169 - 176	MPa	ISO 527-2
23°C	89.6 - 207	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	0.50 - 1.5	%	ASTM D638
Fracture, 23°C	0.50 - 1.7	%	ASTM D638
Fracture, 23°C	0.68 - 1.5	%	ISO 527-2
Flexural Modulus			
23°C	8790 - 31500	MPa	ASTM D790
23°C	12900 - 24700	MPa	ISO 178
Flexural Strength			
23°C	162 - 291	MPa	ASTM D790
23°C	150 - 284	MPa	ISO 178
Yield, 23°C	110 - 296	MPa	ASTM D790

Coefficient of Friction	0.14 - 0.47		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	3.2 - 6.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	15 - 25	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	42 - 55	J/m	ASTM D256
23°C	4.9 - 8.0	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	150 - 500	J/m	ASTM D256
23°C	15 - 31	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	260	°C	ASTM D648
0.45 MPa, not annealed	275 - 280	°C	ISO 75-2/B
1.8 MPa, not annealed	259 - 272	°C	ASTM D648
1.8 MPa, not annealed	259 - 270	°C	ISO 75-2/A
CLTE - Flow			
--	3.6E-6 - 2.1E-5	cm/cm/°C	ASTM D696
--	8.6E-6 - 2.3E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.0 - 2.5E+7	ohms	ASTM D257
Volume Resistivity (23°C)	1.0 - 1.4E+6	ohms·cm	ASTM D257
Injection	Nominal Value	Unit	
Drying Temperature	119 - 151	°C	
Drying Time	3.0 - 6.0	hr	
Suggested Max Moisture	0.040	%	
Rear Temperature	295 - 326	°C	
Middle Temperature	304 - 330	°C	
Front Temperature	313 - 339	°C	
Processing (Melt) Temp	318 - 331	°C	
Mold Temperature	119 - 159	°C	
Injection Pressure	85.3 - 86.4	MPa	
Back Pressure	0.258 - 0.620	MPa	
Screw Speed	45 - 100	rpm	
Clamp Tonnage	1.4 - 9.0	kN/cm ²	
Injection instructions			

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