

RTP 1399 X 127527 A

Polyphenylene Sulfide

RTP Company

Message:

Carbon Fiber - Stainless Steel Fiber - Electrically Conductive - EMI/RFI Shielding

General Information			
Filler / Reinforcement	Stainless steel fiber		
	Carbon fiber reinforced material		
Features	Conductivity		
	Electromagnetic shielding (EMI)		
	Radio frequency shielding (RFI)		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.64	g/cm ³	ASTM D792
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.30	%	ASTM D955
Moisture Content	0.040	%	
Static Decay		sec	FTMS 101C 4046.1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	12400	MPa	ASTM D638
Tensile Strength	93.1	MPa	ASTM D638
Tensile Elongation (Yield)	0.50 - 1.0	%	ASTM D638
Flexural Modulus	12400	MPa	ASTM D790
Flexural Strength	165	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm)	53	J/m	ASTM D256
Unnotched Izod Impact (3.20 mm)	190	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	260	°C	ASTM D648
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	< 1.0E+3	ohms	ASTM D257
--	< 1.0E+2	ohms	ESD STM11.11
Volume Resistivity	< 1.0	ohms · cm	ASTM D257
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.00 mm, ** Values per RTP Company testing.)	V-0		UL 94

Injection	Nominal Value	Unit
Drying Temperature	149	°C
Drying Time	6.0	hr
Processing (Melt) Temp	307 - 329	°C
Mold Temperature	135 - 177	°C
Injection Pressure	68.9 - 103	MPa

Injection instructions

Use a reverse barrel profile. Remove hopper magnets. Allow 4 - 5 shots to properly disperse the conductive fibers. The surface finish should have a silver streaking appearance, not clumps. Use a reverse barrel profile. To maximize fiber length, the following injection barrel, screw, and tip designs should be followed. L/D ratio 16/1 - 22/1, Compression ratio 2:1, Flight depth 0.200 in (5 mm) minimum, in feed section, Screw diameter 0.65 - 0.8 in. Remove hopper magnets.

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