

Fortron® 0320

Polyphenylene Sulfide

Celanese Corporation

Message:

0320 exhibits a high melt strength for extrusion processes. The material demonstrates excellent heat and chemical resistance. The intended use of this product is for extruding monofilament/fibers, rod and slab. Available standard in powder (0320B0), pellet (0320P0) and crystallized pellet (0320C0) form.

General Information			
Features	Good melt strength		
	Good chemical resistance		
	Heat resistance, high		
	Viscosity, High		
Uses	Bar		
	monofilament		
	Fiber		
	Compression plate		
RoHS Compliance	Contact manufacturer		
Forms	Powder		
	Particle		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.40	g/cm ³	ASTM D792
--	1.35	g/cm ³	ISO 1183
Molding Shrinkage			
Flow	1.0 - 1.2	%	ASTM D955
Transverse flow	0.80 - 1.0	%	ASTM D955
Vertical flow direction	1.5 - 1.8	%	ISO 294-4
Flow direction	1.2 - 1.5	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.020	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
Class m	93		ASTM D785
M scale	90		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3500	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	90.0	MPa	ISO 527-2/1A/5

Tensile Strain (Break)	8.0	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	4200	MPa	ISO 178
Flexural Stress (23°C)	145	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ISO 180/1A
-30°C	2.5	kJ/m ²	ISO 180/1A
23°C	2.6	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	82	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, annealed	204	°C	ASTM D648
1.8 MPa, not annealed	104	°C	ASTM D648
1.8 MPa, not annealed	115	°C	ISO 75-2/A
8.0 MPa, not annealed	95.0	°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	5.2E-5	cm/cm/°C	ISO 11359-2
Lateral	5.3E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			
--	1.0E+7	ohms·cm	ASTM D257
--	1.0E+11	ohms·cm	IEC 60093
Dielectric Strength			
-- ³	18	kV/mm	ASTM D149
--	18	kV/mm	IEC 60243-1
Dielectric Constant			
1 kHz	3.00		ASTM D150
1 MHz	3.00		ASTM D150
1 MHz	4.60		IEC 60250
Dissipation Factor			
1 kHz	1.0E-3		ASTM D150
1 MHz	9.0E-4		ASTM D150
1 MHz	1.1E-3		IEC 60250
Arc Resistance	124	sec	ASTM D495
Comparative Tracking Index	125	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.00 mm)	V-0		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Specific Heat Capacity of Melt	1830	J/kg/°C	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°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	300 - 310	°C
Front Temperature	310 - 320	°C
Nozzle Temperature	300 - 310	°C
Processing (Melt) Temp	310 - 320	°C
Mold Temperature	140 - 160	°C
Injection Pressure	40.0 - 80.0	MPa
Injection Rate	Fast	
Holding Pressure	30.0 - 60.0	MPa
Back Pressure	0.00 - 3.00	MPa

Injection instructions

Manifold Temperature: 310 to 320°C Zone 4 Temperature: 310 to 320°C Feed Temperature: 60 to 80°C

NOTE

1. 10°C/min
2. 10°C/min
3. Method A (short time)

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