

Generic PEEK

Polyetheretherketone

Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.29 - 1.37	g/cm³	ASTM D792
23°C	1.29 - 1.32	g/cm³	ISO 1183
Apparent Density	0.30	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	1.6 - 36	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (380°C/10.0 kg)	14.1 - 23.8	cm³/10min	ISO 1133
Spiral Flow	10.0 - 30.0	cm	
Molding Shrinkage			
Flow: 23°C	0.10 - 1.6	%	ASTM D955
Transverse flow: 23°C	1.2 - 1.9	%	ASTM D955
23°C	1.2 - 1.3	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.049 - 0.21	%	ASTM D570
23°C, 24 hr	0.061 - 0.50	%	ISO 62
Saturated, 23°C	0.30 - 0.50	%	ISO 62
Equilibrium, 23°C, 50% RH	0.049 - 0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	96 - 106		ASTM D785
Durometer Hardness (23°C)	85 - 88		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2610 - 4770	MPa	ASTM D638
23°C	3350 - 4700	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	74.1 - 113	MPa	ASTM D638
Yield, 23°C	72.1 - 113	MPa	ISO 527-2
Fracture, 23°C	37.6 - 102	MPa	ASTM D638
Fracture, 23°C	68.6 - 100	MPa	ISO 527-2
23°C	86.6 - 102	MPa	ASTM D638
Tensile Elongation			

Yield, 23°C	4.9 - 10	%	ASTM D638
Yield, 23°C	4.9 - 5.1	%	ISO 527-2
Fracture, 23°C	1.2 - 60	%	ASTM D638
Fracture, 23°C	1.5 - 41	%	ISO 527-2
Flexural Modulus			
23°C	2510 - 4660	MPa	ASTM D790
23°C	2500 - 4430	MPa	ISO 178
Flexural Strength			
23°C	91.2 - 179	MPa	ASTM D790
23°C	104 - 179	MPa	ISO 178
Compressive Strength			
23°C	116 - 155	MPa	ASTM D695
23°C	26.1 - 200	MPa	ISO 604
Shear Strength (23°C)	52.4 - 95.1	MPa	ASTM D732
Poisson's Ratio (23°C)	0.33 - 0.41		ASTM E132
Coefficient of Friction	0.080 - 0.53		ASTM D1894
Films	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	1600 - 2510	MPa	ISO 527-3
Tensile Stress (Break, 23°C)	110 - 130	MPa	ISO 527-3
Tensile Elongation (Break, 23°C)	150 - 200	%	ISO 527-3
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	3.9 - 8.2	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	23 - 92	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	50 - 98	J/m	ASTM D256
23°C	4.4 - 9.4	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	260 - 2200	J/m	ASTM D256
23°C	30 - 94	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	155 - 206	°C	ISO 75-2/B
1.8 MPa, not annealed	145 - 320	°C	ASTM D648
1.8 MPa, not annealed	149 - 160	°C	ISO 75-2/A
1.8 MPa, annealed	155 - 162	°C	ASTM D648
Continuous Use Temperature	248 - 252	°C	ASTM D794
Glass Transition Temperature			
--	143	°C	ISO 11357-2
--	143 - 150	°C	DSC
Vicat Softening Temperature	280 - 335	°C	ISO 306
Melting Temperature			
--	340 - 343	°C	ISO 11357-3

--	340 - 344	°C	DSC
--	340 - 345	°C	ASTM D3418
Linear thermal expansion coefficient			
Flow	4.5E-5 - 4.8E-5	cm/cm/°C	ASTM D696
Flow	4.3E-5 - 5.0E-5	cm/cm/°C	ASTM E831
Flow	3.0E-5 - 6.7E-5	cm/cm/°C	ISO 11359-2
Lateral	4.9E-5 - 1.5E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity			
23°C	0.24 - 0.31	W/m/K	ASTM C177
23°C	0.25 - 0.29	W/m/K	ISO 8302
RTI Elec	258 - 260	°C	UL 746
RTI Imp	179 - 260	°C	UL 746
RTI	240 - 260	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	1.0E+2 - 1.9E+17	ohms	ASTM D257
--	1.0E+3 - 1.3E+14	ohms	IEC 60093
Volume Resistivity			
23°C	2.0 - 1.9E+16	ohms·cm	ASTM D257
23°C	8.4E+14 - 1.0E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	7.5 - 21	kV/mm	ASTM D149
23°C	16 - 200	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	2.80 - 3.61		ASTM D150
23°C	3.10 - 3.20		IEC 60250
23°C	2.81		IEC 60250
Dissipation Factor			
23°C	0.0 - 0.013		ASTM D150
23°C	1.0E-3 - 5.0E-3		IEC 60250
Comparative Tracking Index	149 - 200	V	IEC 60112
Insulation Resistance (23°C)	9.8E+11 - 1.0E+12	ohms	IEC 60167
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	24 - 35	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity	90.0 - 507	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	120 - 152	°C	
Drying Time	3.0 - 7.0	hr	
Rear Temperature	354 - 366	°C	
Middle Temperature	385 - 386	°C	
Front Temperature	374 - 395	°C	

Nozzle Temperature	370 - 371	°C
Processing (Melt) Temp	373 - 391	°C
Mold Temperature	179 - 191	°C
Injection Pressure	101 - 104	MPa
Back Pressure	0.500 - 0.553	MPa
Screw Speed	55 - 80	rpm
Clamp Tonnage	5.5 - 9.0	kN/cm ²

Injection instructions

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Extrusion	Nominal Value	Unit
Drying Temperature	135	°C
Drying Time	3.0	hr

Extrusion instructions

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