Celapex® CL 500G

Celanese Corporation - Polyetheretherketone

Tuesday, November 5, 2019

General Information

Product Description

Celapex® 500G is an standard flow unreinforced polyether ether ketone (PEEK) for injection molding and extrusion. It has superior chemically resistant to aggressive environments. The typical applications of this product are extrusion stock shapes, and injection molded parts with higher impact, ductility, creep, and fatigue.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Chemical Resistant • Creep Resistant	• Ductile • Fatigue Resistant	• Good Impact Resistance
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (380°C/5.0 kg)	10	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.3	%	
Flow	1.0	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (Yield)	14500	psi	ISO 527-2/1A/50
Tensile Strain (Break)	45	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	595000	psi	ISO 178
Flexural Stress (73°F)	23900	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	3.3	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	No Break		ISO 179/1eU
Notched Izod Impact Strength (73°F)	3.6	ft·lb/in²	ISO 180/A
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (264 psi, Unannealed)	306	°F	ISO 75-2/A
Glass Transition Temperature [2]	289	°F	ISO 11357-2
Melting Temperature [2]	649	°F	ISO 11357-3
CLTE - Flow			ISO 11359-2
-- [3]	2.5E-5	in/in/°F	
-- [4]	6.7E-5	in/in/°F	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Electric Strength	580	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.00		
1 MHz	3.10		
Dissipation Factor (1 MHz)	4.0E-3		IEC 60250

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Electrical	Nominal Value	Unit	Test Method
Comparative Tracking Index [5]	150	V	IEC 60112

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	284 to 302	°F
Drying Time	4.0 to 8.0	hr
Suggested Max Moisture	0.030	%
Processing (Melt) Temp	734 to 770	°F
Mold Temperature	338 to 383	°F
Injection Rate	Moderate-Fast	
Back Pressure	< 290	psi

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 10°C/min

[3] below

[4] above

[5] 100 Drop Voltage