

CELAPEX® CL 500GL30 - PEEK

Description

Celapex® 500GL30 is an standard flow, 30% glass fiber reinforced 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, creep, and fatigue.

Physical properties	Value	Unit	Test Standard
Density	1500	kg/m ³	ISO 1183
Melt flow rate, MFR	4.5	g/10min	ISO 1133
MFR temperature	380	°C	ISO 1133
MFR load	5	kg	ISO 1133
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile stress at break, 5mm/min	170	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	3.4	%	ISO 527-2/1A
Flexural modulus, 23°C	11300	MPa	ISO 178
Flexural strength, 23°C	265	MPa	ISO 178
Charpy impact strength, 23°C	55	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	8	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	10	kJ/m ²	ISO 180/1A
Izod impact unnotched, 23°C	60	kJ/m ²	ISO 180/1U

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	343	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	143	°C	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	328	°C	ISO 75-1, -2
CLTE below Tg, parallel	0.18	E-4/°C	ISO 11359-2
CLTE above Tg, parallel	0.18	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1kHz	3.2	-	IEC 60250
Dissipation factor, 1MHz	40	E-4	IEC 60250
Volume resistivity	1E14	Ohm*m	IEC 60093
Electric strength	25	kV/mm	IEC 60243-1
CTI 100 drops value	150	-	IEC 60112

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.03	%	-
Drying time	4 - 8	h	-
Drying temperature	140 - 150	°C	-
Temperature	Value	Unit	Test Standard
Melt temperature	390 - 410	°C	-
Mold temperature	170 - 195	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	20	bar	-
Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-