Celanese
The chemistry inside innovation™

CELAPEX ® 500CA30 - PEEK

Description

Celapex® 500CA30 is an standard flow, 30% carbon fiber reinforced polyether ether ketone (PEEK) for injection molding and extrusion. It has excellent wear resistance, low coefficient of friction and 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	**1400**	kg/m³	ISO 1183
Melt flow rate, MFR	**2.3**	g/10min	ISO 1133
MFR temperature	**380**	°C	ISO 1133
MFR load	**5**	kg	ISO 1133
Molding shrinkage, parallel	**0.1**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.5**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile stress at break, 5mm/min	**225**	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	**3.5**	%	ISO 527-2/1A
Flexural modulus, 23°C	**23000**	MPa	ISO 178
Flexural strength, 23°C	**380**	MPa	ISO 178
Charpy impact strength, 23°C	**45**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**7**	kJ/m²	ISO 179/1eA
Izod impact notched, 23°C	**9**	kJ/m²	ISO 180/1A
Izod impact unnotched, 23°C	**45**	kJ/m²	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	**336**	°C	ISO 75-1, -2
CLTE below Tg, parallel	**0.05**	E-4/°C	ISO 11359-2
CLTE above Tg, parallel	**0.06**	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Volume resistivity	**1000**	Ohm*m	IEC 60093

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**	-	-

Characteristics

Product Categories

Carbon fiber reinforced