

## CELAPEX® 100G - PEEK

### Description

Celapex® 100G is a ultra high flow unreinforced polyether ether ketone (PEEK) for injection molding. It has food contact compliance for US (FDA) & EU. The typical applications of this product include complex geometry (thin wall, long flow length, high precision) injection molded parts.

Physical properties	Value	Unit	Test Standard
Density	1310	kg/m <sup>3</sup>	ISO 1183
Molding shrinkage, parallel	1.3	%	ISO 294-4, 2577
Molding shrinkage, normal	1.7	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	4100	MPa	ISO 527-2/1A
Tensile stress at break, 50mm/min	110	MPa	ISO 527-2/1A
Tensile strain at break, 50mm/min	4.4	%	ISO 527-2/1A
Flexural modulus, 23°C	4200	MPa	ISO 178
Flexural strength, 23°C	130	MPa	ISO 178
Charpy impact strength, 23°C	41	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	6	kJ/m <sup>2</sup>	ISO 179/1eA

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	153	°C	ISO 75-1, -2
CLTE below Tg, parallel	0.42	E-4/°C	ISO 11359-2
CLTE above Tg, parallel	0.75	E-4/°C	ISO 11359-2
CLTE below Tg, normal	0.58	E-4/°C	ISO 11359-2
CLTE above Tg, normal	1.45	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1MHz	2.7	-	IEC 60250
Dissipation factor, 1MHz	50	E-4	IEC 60250
Volume resistivity	1E14	Ohm*m	IEC 60093
Electric strength	26	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	3 - 4	h	-
Drying temperature	140 - 150	°C	-

Temperature	Value	Unit	Test Standard
Zone1 temperature	350 - 370	°C	-
Zone2 temperature	360 - 380	°C	-
Zone3 temperature	360 - 380	°C	-
Nozzle temperature	360 - 380	°C	-
Melt temperature	360 - 400	°C	-
Mold temperature	160 - 190	°C	-

Pressure	Value	Unit	Test Standard
Back pressure max.	20	bar	-

Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-

Screw Speed	Value	Unit	Test Standard
Screw speed diameter, 16mm	medium	RPM	-
Screw speed diameter, 25mm	medium	RPM	-
Screw speed diameter, 40mm	medium	RPM	-

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**Characteristics**

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**Special Characteristics**

High flow

**Delivery Form**

Pellets

**Processing**

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Injection molding