Celanese
The chemistry inside innovation™

THERMX® CG023

PCT

Thermx® CG023 is a 20% glass fiber reinforced polycyclohexylenedimethylene terephthalate for injection molding.

Note: Initial properties are from CAMPUS information published by Milan 3/2010

Product information

Resin Identification	PCT-GF20	ISO 1043
Part Marking Code	>PCT-GF20<	ISO 11469

Rheological properties

Melt volume-flow rate	30	cm^3/10min	ISO 1133
Temperature	300	°C	
Load	2.16	kg	
Viscosity number	85	cm^3/g	ISO 307, 1628
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	6400	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	100	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.3	%	ISO 527-1/-2
Flexural modulus	5800	MPa	ISO 178
Flexural strength	160	MPa	ISO 178
Tensile creep modulus, 1h	6000	MPa	ISO 899-1
Tensile creep modulus, 1000h	4600	MPa	ISO 899-1
Charpy impact strength, 23°C	35	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	30	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	7	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	7	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	6	kJ/m^2	ISO 180/1A
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	285	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	100	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	253	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	30	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	80	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.2	W/(m K)	ISO 22007-2
Specific heat capacity of melt	1470	J/(kg K)	ISO 22007-4

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Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10

Electrical properties

Volume resistivity	1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	41	kV/mm	IEC 60243-1

Physical/Other properties

Density	1380	kg/m³	ISO 1183
Density of melt	1140	kg/m³	

Injection

Ejection temperature	230	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Chemical resistant

Additional information

Injection molding

Preprocessing

Drying Recommended = Yes
Drying Temperature = 95°C
Drying Time, Dehumidified Dryer = 4-6h
Processing Moisture Content = <0.03 %

Processing

Melt Temperature Optimum = 300°C
Melt Temperature Range = 295-310°C
Mold Temperature Optimum = 100°C
Mold Temperature Range = 80-120°C

Processing Notes

Pre-Drying

Injection molding

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