

# THERMX<sup>®</sup> CG023

## PCT

Thermx<sup>®</sup> 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 <sup>3</sup> /10min	ISO 1133
Temperature	300 °C	
Load	2.16 kg	
Viscosity number	85 cm <sup>3</sup> /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 <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	30 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	7 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	7 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	6 kJ/m <sup>2</sup>	ISO 180/1A
Poisson's ratio	0.35 <sup>[C]</sup>	

[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/m <sup>3</sup>	ISO 1183
Density of melt	1140 kg/m <sup>3</sup>	

## Injection

Ejection temperature	230 °C
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## 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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