Celanese
The chemistry inside innovation™

THERMX® CG023

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

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

Rheological properties

Viscosity number	85	cm^3/g	ISO 307, 1157, 1628
Intrinsic viscosity	85		ISO 307, 1157, 1628
Moulding shrinkage range, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	6400	MPa	ISO 527-1/-2
Stress at break, 5mm/min	100	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.3	%	ISO 527-1/-2
Flexural Modulus	5800	MPa	ISO 178
Flexural Strength	155	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

Thermal properties

Melting temperature, 10°C/min	285	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	105	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	253	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	30	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	80	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.2	W/(m K)	Internal
Spec. heat capacity of melt	1470	J/(kg K)	Internal

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	UL 94
Thickness tested	1.5	mm	UL 94

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

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Other properties

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

Injection

Drying Temperature	≥95	°C	
Drying Time, Dehumidified Dryer	4 - 6	h	
Max. mould temperature	80 - 120	°C	
Ejection temperature	230	°C	Internal

Additional information

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

Processing Texts

Pre-drying	**Injection molding** **Pre-processing:** 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
Injection molding	Melt Temperature Optimum = 300°C Melt Temperature Range = 295-310°C Mold Temperature Optimum = 100°C Mold Temperature Range = 80-120°C
Injection molding Preprocessing	Drying Recommended = Yes Drying Temperature = 95°C Drying Time, Dehumidified Dryer = 4-6h Processing Moisture Content = <0.03 %

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