



Thermx® CG023

Celanese Corporation - Polycyclohexylenedimethylene Terephthalate

Tuesday, November 5, 2019

General Information

Product Description

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

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Features	• General Purpose
Uses	• General Purpose
RoHS Compliance	• Contact Manufacturer
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.38	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/2.16 kg)	30	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.80	%	
Flow	0.30	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	928000	psi	ISO 527-2/1A/1
Tensile Stress (Break)	14500	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.3	%	ISO 527-2/1A/5
Tensile Creep Modulus (1 hr)	870000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	667000	psi	ISO 899-1
Flexural Modulus (73°F)	841000	psi	ISO 178
Flexural Stress (73°F)	22500	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	3.3	ft·lb/in ²	
73°F	3.3	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	14	ft·lb/in ²	
73°F	17	ft·lb/in ²	
Notched Izod Impact Strength (73°F)	2.9	ft·lb/in ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	487	°F	ISO 75-2/A
Glass Transition Temperature ²	221	°F	ISO 11357-2
Melting Temperature ²	545	°F	ISO 11357-3
CLTE - Flow	1.7E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	4.4E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093

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Electrical	Nominal Value	Unit	Test Method
Electric Strength	1000	V/mil	IEC 60243-1
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	HB		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Density of Melt	71.17	lb/ft ³	Internal Method
Specific Heat Capacity of Melt	0.351	Btu/lb/°F	Internal Method
Thermal Conductivity of Melt	1.4	Btu·in/hr/ft ² /°F	Internal Method

Processing Information

Injection	Nominal Value	Unit	Test Method
Drying Temperature	203	°F	
Drying Time	4.0 to 6.0	hr	
Processing (Melt) Temp	563 to 590	°F	
Mold Temperature	176 to 248	°F	
Ejection Temperature	446	°F	Internal Method

Injection Notes

Melt Temperature Optimum: 300°C
Mold Temperature Optimum: 100°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min