CELANEX® 2300 GV1/30

PBT-GF30 Celanese

Product Texts

Chemical abbreviation according to ISO 1043-1: PBT Moulding compound ISO 7792- PBT, MGHR, 08-100N, GF30 Polybutylene terephthalate, 30 % glass fibre reinforced. Flammability UL 94 HB minimum thickness 1.2 mm. Recognition by Underwriters Laboratories, USA (UL)

Flammability @3.2mm nom. thickn.	HB	-
Flammability @1.6mm nom. thickn.	HB	-
Flammability at thickness h (1 mm)	HB	UL recognition (h)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**9**	cm³/10min	ISO 1133
Temperature	**250**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**0.3**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.1**	%	ISO 294-4, 2577
[C] Density of melt	**1320**	kg/m³	-
[C] Thermal conductivity of melt	**0.166**	W/(m K)	-
[C] Spec. heat capacity of melt	**1720**	J/(kg K)	-
[C] Ejection temperature	**220**	°C	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**10300**	MPa	ISO 527
[C] Stress at break	**150**	MPa	ISO 527
[C] Strain at break	**2.5**	%	ISO 527
[C] Charpy impact strength, +23°C	**60**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**60**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**9.5**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**9**	kJ/m²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**225**	°C	ISO 11357-1/-3
[C] Temp. of deflection under load, 1.80 MPa	**210**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**225**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**220**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**25**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**1.0**	mm	-
Yellow Card available	**yes**	-	-
[C] Oxygen index	**20**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.4**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**4.3**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**20**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**190**	E-4	IEC 62631-2-1

[C] Volume resistivity	**>1E13**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**33**	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.4**	%	Sim. to ISO 62
[C] Humidity absorption	**0.15**	%	Sim. to ISO 62
[C] Density	**1550**	kg/m³	ISO 1183

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**120 - 140**	°C	-
Pre-drying - Time	**2 - 4**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**260 - 270**	°C	-
Mold temperature	**75 - 85**	°C	-

Characteristics

Processing
Injection Molding

Special Characteristics
Heat stabilized or stable to heat

Delivery form
Pellets

Regional Availability
North America, Europe

Additives
Release agent

Other text information

Injection molding

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0,02%.
The drying should be done in a dry-air dryer (dew point < -30°C) with a temperature of 120 to 140 °C and a drying time of 2 to 4 hours.
In case of longer residence times in the dry-air dryer, the temperature should be reduced to 100°C.
The time between drying and processing should be kept as short as possible. The processing machine feed hopper should be closed during the processing operation.
Melt Temperature 260-270 °C
Mold Temperature *) 75-85 °C
Maximum Barrel Residence Time **) 5-10 min
Injection Speed fast
Peripheral screw speed max.0,3 m/sec
Back Pressure 10-30 bar
Injection Pressure 600-1000 bar
Holding Pressure 400-800 bar
Nozzle Design open design preferred

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided. For grades containing flame retardants, a maximum temperature of 265 °C should not be exceeded. Up to 25% clean and dry regrind may be used.

Celanese recommends only externally heated hot runner systems.

*) For moulded parts with especially high requirements to the surface quality or dimensional stability, a mold temperature of up to 110 °C can be advantageous.

**) If the cylinder temperatures are higher than the recommended maximum temperatures, the max. residence time in the barrel has

to be reduced.