CELANEX® 2002-2

PBT — Celanese

Product Texts

Celanex 2002-2 is a general purpose, unreinforced polybutylene terephthalate with a good balance of mechanical properties and processability. Celanex 2002-2 is a medium flow material that contains an internal lubricant.

Flammability at thickness h (0.71 mm)	HB	-

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**20**	cm³/10min	ISO 1133
Temperature	**250**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**1.8**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.7**	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2600**	MPa	ISO 527
[C] Yield stress	**60**	MPa	ISO 527
[C] Yield strain	**4**	%	ISO 527
[C] Nominal strain at break	**>50**	%	ISO 527
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**190**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**6**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**6**	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] Glass transition temperature, 10°C/min	**60**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**55**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**150**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**190**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**110**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**127**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**0.7**	mm	-
[C] Oxygen index	**22**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**3.5**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**14**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**220**	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	**23**	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.45**	%	Sim. to ISO 62
[C] Humidity absorption	**0.2**	%	Sim. to ISO 62

[C] Density	**1310**	kg/m³	ISO 1183

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**121**	°C	-
Pre-drying - Time	**4**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**235 - 260**	°C	-
Mold temperature	**65 - 93**	°C	-

Characteristics

Processing
Injection Molding

Delivery form
Pellets

Additives
Lubricants, Release agent

Applications
General Purpose

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa

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%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 250°F (121°C) for 4 hours.
Rear Temperature 450-470 (230-240) deg F (deg C)
Center Temperature 460-480 (235-250) deg F (deg C)
Front Temperature 470-500 (240-260) deg F (deg C)
Nozzle Temperature 480-500 (250-260) deg F (deg C)
Melt Temperature 465-500 (240-260) deg F (deg C)
Mold Temperature 165-200 (74-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

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, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.