

CELANEX® 2002USFDA - PBT

Description

Celanex 2002USFDA is an unreinforced polybutylene terephthalate with a good balance of mechanical properties and processability for use in FDA applications

Physical properties	Value	Unit	Test Standard
Density	1310	kg/m ³	ISO 1183
Melt flow rate, MFR	19	g/10min	ISO 1133
MFR temperature	250	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	1.8 - 2.0	%	ISO 294-4, 2577
Molding shrinkage, normal	1.8 - 2.0	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	2600	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	60	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	4	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	>50	%	ISO 527-2/1A
Flexural modulus, 23°C	2500	MPa	ISO 178
Flexural strength, 23°C	80	MPa	ISO 178
Charpy impact strength, 23°C	NB	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	6	kJ/m ²	ISO 179/1eA
Rockwell hardness (M-Scale)	78	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	55	°C	ISO 75-1, -2
DTUL at 0.45 MPa	150	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	1.1	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	1.4	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Volume resistivity	1E13	Ohm*m	IEC 60093
Surface resistivity	1E15	Ohm	IEC 60093

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.02	%	-
Drying time	4	h	-
Drying temperature	120 - 130	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 50	°C	-
Feeding zone temperature	230 - 240	°C	-
Zone1 temperature	230 - 240	°C	-
Zone2 temperature	235 - 250	°C	-
Zone3 temperature	235 - 250	°C	-
Zone4 temperature	240 - 260	°C	-
Nozzle temperature	250 - 260	°C	-
Melt temperature	235 - 260	°C	-
Mold temperature	65 - 93	°C	-
Hot runner temperature	250 - 260	°C	-
Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-

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Other text information

Longer pre-drying times/storage

For subsequent storage of the material in the dryer until processed (≤ 60 h) it is necessary to lower the temperature to 100° C.

Injection molding

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 460-500(235-260) deg F (deg C)
Mold Temperature 150-200(65-93) 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.

Characteristics

Product Categories

Unfilled

Regional Availability

Asia Pacific