Celanese
The chemistry inside innovation™

CELANEX® 3300-2USFDA - PBT

Description

Celanex 3300-2USFDA is a general purpose, 30% glass reinforced, polybutylene terephthalate that offers a superior combination of mechanical, electrical, and thermal properties for US FDA applications. This grade provides outstanding processability and good chemical resistance. Celanex 3300-2USFDA is a high flow material that contains an internal lubricant.

Physical properties	Value	Unit	Test Standard
Density	**1530**	kg/m³	ISO 1183
Melt volume rate, MVR	**17**	cm³/10min	ISO 1133
MVR temperature	**250**	°C	ISO 1133
MVR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**0.3 - 0.7**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7 - 1.1**	%	ISO 294-4, 2577
Water absorption, 23°C-sat	**0.4**	%	ISO 62
Humidity absorption, 23°C/50%RH	**0.2**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**9200**	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	**130**	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	**2.5**	%	ISO 527-2/1A
Flexural modulus, 23°C	**9700**	MPa	ISO 178
Flexural strength, 23°C	**210**	MPa	ISO 178
Charpy impact strength, 23°C	**46**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**45**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**8.5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**8.5**	kJ/m²	ISO 179/1eA
Izod impact notched, 23°C	**7.5**	kJ/m²	ISO 180/1A
Rockwell hardness (M-Scale)	**90**	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**225**	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	**60**	°C	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	**205**	°C	ISO 75-1, -2
DTUL at 0.45 MPa	**225**	°C	ISO 75-1, -2
DTUL at 8.0 MPa	**150**	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	**220**	°C	ISO 306
Coeff. of linear therm expansion, parallel	**0.25**	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	**1**	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	**20**	%	ISO 4589-1/-2
Flammability at thickness h	**HB**	class	UL 94
thickness tested (h)	**0.71**	mm	UL 94

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	**4.5**	-	IEC 60250
Relative permittivity, 1MHz	**4.1**	-	IEC 60250
Dissipation factor, 100Hz	**22**	E-4	IEC 60250
Dissipation factor, 1MHz	**160**	E-4	IEC 60250
Volume resistivity	**>1E13**	Ohm*m	IEC 60093
Surface resistivity	**>1E15**	Ohm	IEC 60093
Electric strength	**31**	kV/mm	IEC 60243-1
Comparative tracking index	**425**	-	IEC 60112

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	-

CELANEX® 3300-2USFDA - PBT

Temperature	Value	Unit	Test Standard
Hopper temperature	**20 - 50**	°C	-
Feeding zone temperature	**20 - 50**	°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**	-	-

Other text information

Pre-drying

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 <-40°F (-40°C) at 250°F (121°C) for 4 hours.

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.

Characteristics

Product Categories	Delivery Form
Glass reinforced	Pellets
Processing	**Additives**
Injection molding	Lubricants, Release agent