Celanese
The chemistry inside innovation™

CELANEX® 1401USFDA - PBT

Physical properties	Value	Unit	Test Standard
Density	**1310**	kg/m³	ISO 1183
Melt flow rate, MFR	**54**	g/10min	ISO 1133
MFR temperature	**250**	°C	ISO 1133
MFR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**1.7**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.6**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**2530**	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	**58**	MPa	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	**25**	%	ISO 527-2/1A
Charpy notched impact strength, 23°C	**3.1**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**2.9**	kJ/m²	ISO 179/1eA
Rockwell hardness (M-Scale)	**80**	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**224**	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	**55**	°C	ISO 75-1, -2
DTUL at 0.45 MPa	**128**	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	**1.1**	E-4/°C	ISO 11359-2

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	-
Pressure	**Value**	**Unit**	**Test Standard**
Back pressure max.	**3.5**	bar	-
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% prior to processing. Drying should be done in a dehumidifying hopper dryer capable of dewpoints < -40°F (-40°C). Typical drying conditions are 250°F (121°C) for 4 hours. For subsequent storage of material in the dryer until processed, drying temperature should be lowered to 80-100°C and material should not be kept in the dryer for more than 60 hours.

Injection molding

Injection speed, injection pressure and holding pressure should be optimized for individual article geometry. To avoid material degradation during processing, low back pressure and minimum screw speed should be used. Overheating of material should be avoided. Up to 25% clean and dry

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regrind may be used.

Characteristics

Special Characteristics	Processing
High flow	Injection molding
Product Categories	**Delivery Form**
Unfilled	Pellets