

**Product Texts**

Celanex 3100 is a general purpose, 7.5% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability. Celanex 3100 is a high flow material.

Flammability at thickness h (0.71 HB mm)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	<b>18</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>250</b>	°C	-
Load	<b>2.16</b>	kg	-
<sup>[C]</sup> Molding shrinkage, parallel	<b>0.8</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	<b>1.2</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	<b>1110</b>	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	<b>0.131</b>	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	<b>1970</b>	J/(kg K)	-
<sup>[C]</sup> Ejection temperature	<b>219</b>	°C	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	<b>3700</b>	MPa	ISO 527
<sup>[C]</sup> Stress at break	<b>78</b>	MPa	ISO 527
<sup>[C]</sup> Strain at break	<b>8</b>	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	<b>190</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	<b>6</b>	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	<b>5.5</b>	kJ/m <sup>2</sup>	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	<b>225</b>	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	<b>60</b>	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	<b>143</b>	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	<b>206</b>	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	<b>185</b>	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	<b>130</b>	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at thickness h	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>0.7</b>	mm	-
<sup>[C]</sup> Oxygen index	<b>22</b>	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	<b>4</b>	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	<b>3.6</b>	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	<b>13</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	<b>200</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	<b>1E11</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	<b>&gt;1E15</b>	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	<b>23</b>	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
<sup>[C]</sup> Water absorption	<b>0.6</b>	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	<b>0.2</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>1350</b>	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

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

**Characteristics**

**Processing**

Injection Molding

**Special Characteristics**

Heat stabilized or stable to heat

**Delivery form**

Pellets

**Applications**

General Purpose

**Additives**

Release agent

**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 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.