

**Product Texts**

Chemical abbreviation according to ISO 1043-1: PBT Moulding compound ISO 7792- PBT, MGHR, 08-030N Polybutylene terephthalate, easy flow, nucleated grade Flammability UL 94 HB Minimum thickness 1.0 mm. Recognition by Underwriters Laboratories, USA (UL)

Flammability @1.6mm nom. thickn.	HB	-
Flammability at thickness h (1 mm)	HB	UL recognition (h)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	<b>40</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>2.0</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	<b>1.9</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>0.133</b>	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	<b>1920</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>2700</b>	MPa	ISO 527
<sup>[C]</sup> Yield stress	<b>62</b>	MPa	ISO 527
<sup>[C]</sup> Yield strain	<b>4</b>	%	ISO 527
<sup>[C]</sup> Nominal strain at break	<b>15</b>	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	<b>135</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	<b>130</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	<b>5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	<b>4.5</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> Temp. of deflection under load, 1.80 MPa	<b>60</b>	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	<b>160</b>	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	<b>190</b>	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	<b>110</b>	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>1.5</b>	mm	-
<sup>[C]</sup> Burning Behav. at thickness h	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>1.0</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
<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>3.9</b>	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	<b>3.8</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>&gt;1E13</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	<b>&gt;1E15</b>	Ohm	IEC 62631-3-2

[C] Electric strength	<b>23</b>	kV/mm	IEC 60243-1
[C]: CAMPUS			

Other properties	Value	Unit	Test Standard
[C] Water absorption	<b>0.45</b>	%	Sim. to ISO 62
[C] Humidity absorption	<b>0.2</b>	%	Sim. to ISO 62
[C] Density	<b>1310</b>	kg/m <sup>3</sup>	ISO 1183
[C]: CAMPUS			

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	<b>120 - 140</b>	°C	-
Pre-drying - Time	<b>2 - 4</b>	h	-
Processing humidity	<b>≤0.02</b>	%	-
Melt temperature	<b>250 - 260</b>	°C	-
Mold temperature	<b>75 - 85</b>	°C	-

**Characteristics**

<b>Processing</b> Injection Molding	<b>Special Characteristics</b> Heat stabilized or stable to heat
<b>Delivery form</b> Pellets	<b>Features</b> Nucleated
<b>Additives</b> Release agent	<b>Regional Availability</b> Europe

**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%. The drying should be done in a dry-air dryer (dew point < -30°C) with a temperature of 120 to 140 °C and a drying time of 2 to 4 hours. In case of longer residence times in the dry-air dryer, the temperature should be reduced to 100°C. The time between drying and processing should be kept as short as possible. The processing machine feed hopper should be closed during the processing operation.

Melt Temperature 250-260 °C  
 Mold Temperature 75-85 °C  
 Maximum Barrel Residence Time \*) 5-10 min  
 Injection Speed fast  
 Peripheral screw speed max.0,3 m/sec  
 Back Pressure 10-30 bar  
 Injection Pressure 600-1000 bar  
 Holding Pressure 400-800 bar  
 Nozzle Design open design preferred

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. For grades containing flame retardants, a maximum temperature of 265 °C should not be exceeded.

Celanese recommends only externally heated hot runner systems.

\*) If the cylinder temperatures are higher than the recommended maximum temperatures, the max. residence time in the barrel has to be reduced.