

**Product Texts**

Celanex 7716 is a 35% glass/mineral reinforced, non exuding, flame retarded polybutylene terephthalate which has an excellent balance of mechanical properties and processability. Celanex 7716 is well suited for electrical applications where warp resistance or very flat surfaces are required.

Flammability at thickness h (0.9 V-0 mm)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	0.7	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	10800	MPa	ISO 527
<sup>[C]</sup> Stress at break	83	MPa	ISO 527
<sup>[C]</sup> Strain at break	1.6	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	22	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	21	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	5	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	5	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Shore D hardness	83	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	60	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	194	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	222	°C	ISO 75-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	31	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	46	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.9	mm	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	4.2	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	3.9	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	190	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	>1E15	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	24	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
<sup>[C]</sup> Humidity absorption	0.1	%	Sim. to ISO 62
<sup>[C]</sup> Density	1690	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	121	°C	-
Pre-drying - Time	4	h	-

Processing humidity	≤0.02	%	-
Melt temperature	235 - 255	°C	-
Mold temperature	65 - 93	°C	-

**Characteristics**

**Processing**

Injection Molding

**Features**

Low Warpage

**Delivery form**

Pellets

**Applications**

Electrical and Electronical

**Special Characteristics**

Flame retardant

**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 470-490(240-255) deg F (deg C)

Nozzle Temperature 480-490(250-255) deg F (deg C)

Melt Temperature 460-490(235-255) 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 50% clean and dry regrind may be used for the '16 series' flame retardant grades.