

**Product Texts**

Celanex 2004-2 is an unfilled polyester that has an excellent combination of flowability and toughness. A typical application for Celanex 2004-2 is electrical connectors containing latches. Celanex 2004-2 contains an internal lubricant.

Flammability at thickness h (1 HB mm)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	33	cm <sup>3</sup> /10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
<sup>[C]</sup> Molding shrinkage, parallel	1.9	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.8	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	2400	MPa	ISO 527
<sup>[C]</sup> Yield stress	54	MPa	ISO 527
<sup>[C]</sup> Yield strain	8	%	ISO 527
<sup>[C]</sup> Nominal strain at break	37	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	218	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	45	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	4.5	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	4.5	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Shore D hardness	81	-	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	54	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	166	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	175	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	1.0	mm	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	3.7	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	3.5	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	30	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	210	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

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
<sup>[C]</sup> Water absorption	0.45	%	Sim. to ISO 62
<sup>[C]</sup> Density	1300	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

<b>Processing Recommendation Injection Molding</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
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

**Delivery form**

Pellets

**Additives**

Lubricants

**Applications**

Electrical and Electronical

**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.