

# CELANEX® 2000-3

## CELANEX® PBT

Celanex 2000-3 is a general purpose, unreinforced PBT with a good balance of mechanical properties and processability. Celanex 2000-3 is a high flow material. Celanex 2000-3 contains an internal lubricant for improved mold release.

### Product information

Resin Identification	PBT	ISO 1043
Part Marking Code	>PBT<	ISO 11469

### Rheological properties

Melt mass-flow rate	70 g/10min	ISO 1133
Melt mass-flow rate, Temperature	250 °C	
Melt mass-flow rate, Load	2.16 kg	

### Typical mechanical properties

Tensile modulus	2700 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	60 MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4 %	ISO 527-1/-2
Tensile strain at break, 50mm/min	30 %	ISO 527-1/-2
Flexural modulus	2600 MPa	ISO 178
Flexural strength	85 MPa	ISO 178
Charpy impact strength, 23°C	100 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	4 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	3.2 kJ/m <sup>2</sup>	ISO 180/1A
Hardness, Rockwell, M-scale	78	ISO 2039-2
Poisson's ratio	0.38 <sup>[C]</sup>	

[C]: Calculated

### Thermal properties

Temperature of deflection under load, 1.8 MPa	55 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	155 °C	ISO 75-1/-2

### Electrical properties

Relative permittivity, 1MHz	3.2	IEC 62631-2-1
Dissipation factor, 1MHz	0 E-4	IEC 62631-2-1
Volume resistivity	1E15 Ohm.m	IEC 62631-3-1
Electric strength	15 kV/mm	IEC 60243-1

### Physical/Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Water absorption, 2mm	0.45 %	Sim. to ISO 62
Density	1310 kg/m <sup>3</sup>	ISO 1183

### Injection

Drying Recommended	yes
Drying Temperature	120 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	≤0.02 %

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Melt Temperature Optimum	250 °C
Min. melt temperature	240 °C
Max. melt temperature	260 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	130 °C

### Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	High Flow

### Additional information

Injection molding

### Preprocessing

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.

### Processing

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.