

# CELANEX® 5202

## CELANEX® PBT

Celanex 5202 is a 15% glass filled polyester blend that features improved surface gloss and has an excellent balance of mechanical properties, processability, and color stability under heat and UV exposure. A typical application for Celanex 5202 is oven handles.

### Product information

Resin Identification	(PBT+PET)-GF1 5	ISO 1043
Part Marking Code	>(PBT+PET)-GF15<	ISO 11469

### Rheological properties

Melt mass-flow rate	25 g/10min	ISO 1133
Melt mass-flow rate, Temperature	265 °C	
Melt mass-flow rate, Load	2.16 kg	
Moulding shrinkage range, parallel	0.1 - 0.6 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.7 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile modulus	6100 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	100 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 %	ISO 527-1/-2
Flexural modulus	5300 MPa	ISO 178
Flexural strength	150 MPa	ISO 178
Charpy impact strength, 23°C	15 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	17 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	4.7 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	4.5 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	4.4 kJ/m <sup>2</sup>	ISO 180/1A
Poisson's ratio	0.35 <sup>[C]</sup>	
Shore D hardness, 15s	83	ISO 48-4 / ISO 868

[C]: Calculated

### Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	50 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	180 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	215 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	42 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	73 E-6/K	ISO 11359-1/-2

### Flammability

Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	0.8 mm	IEC 60695-11-10

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### Electrical properties

Relative permittivity, 100Hz	2.7	IEC 62631-2-1
Relative permittivity, 1MHz	2.7	IEC 62631-2-1
Dissipation factor, 1MHz	140 E-4	IEC 62631-2-1
Volume resistivity	7E14 Ohm.m	IEC 62631-3-1
Surface resistivity	4E15 Ohm	IEC 62631-3-2
Electric strength	17 kV/mm	IEC 60243-1
Comparative tracking index	225	IEC 60112

### Physical/Other properties

Humidity absorption, 2mm	0.17 %	Sim. to ISO 62
Density	1440 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 %
Melt Temperature Optimum	265 °C
Min. melt temperature	255 °C
Max. melt temperature	275 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	90 °C
Max. mould temperature	130 °C
Ejection temperature	178 °C

### Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	High Gloss

### Additional information

Processing Notes

#### Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40 °F (-40 °C) at 250 °F (121 °C) for 4 hours.

#### Storage

For subsequent storage of the material in the dryer until processed (≤ 60 h) it is necessary to lower the temperature to 100° C.