

CELANEX® 5206HG

CELANEX® PBT

Celanex 5206HG is a 15% glass-filled polyester featuring super high surface gloss and high flow for long flow channels. A typical application is oven handles.

Product information

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

Rheological properties

Moulding shrinkage range, parallel	0.4 - 0.6 %	ISO 294-4, 2577
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Typical mechanical properties

Tensile modulus	6400 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	95 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.8 %	ISO 527-1/-2
Flexural modulus	6300 MPa	ISO 178
Flexural strength	140 MPa	ISO 178
Charpy notched impact strength, 23 °C	4.7 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23 °C	4.5 kJ/m ²	ISO 180/1A
Poisson's ratio	0.35 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10 °C/min	250 °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	220 °C	ISO 75-1/-2

Flammability

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

Physical/Other properties

Density	1450 kg/m ³	ISO 1183
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Injection

Drying Recommended	yes
Drying Temperature	135 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	≤0.01 %
Melt Temperature Optimum	290 °C
Min. melt temperature	270 °C
Max. melt temperature	300 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	130 °C
Min. mould temperature	120 °C
Max. mould temperature	140 °C

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Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	High Gloss, Specialty appearance

Additional information

Injection molding

Processing

Rear Temperature 480-500 (250-260) deg F (deg C)
Center Temperature 490-510 (255-265) deg F (deg C)
Front Temperature 500-540 (260-270) deg F (deg C)
Nozzle Temperature 510-520 (265-275) deg F (deg C)
Melt Temperature 520-570 (270-300) deg F (deg C)
Mold Temperature 250-275 (120-135) deg F (deg C)
Back Pressure 0-25 psi
Screw Speed 50-75 rpm
Injection Speed Medium/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. Up to 25% clean and dry grind may be used.

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, Impet resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40 °F (-40 °C) at 275 °F (135 °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.