

Product Texts

Polyethylene terephthalate, 45 % glass filled, high flowability, excellent gloss, high modulus, very high heat deflection temperature.

Flammability @1.6mm nom. HB -
 thickn.
 Flammability at thickness h (0.8 HB -
 mm)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	0.7	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	17000	MPa	ISO 527
^[C] Stress at break	200	MPa	ISO 527
^[C] Strain at break	1.75	%	ISO 527
^[C] Charpy impact strength, +23°C	35	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	31	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	12	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	13	kJ/m ²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	250	°C	ISO 11357-1/-3
^[C] Temp. of deflection under load, 1.80 MPa	228	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	252	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	255	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	15	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	100	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn. Thickness tested	HB 1.6	class mm	IEC 60695-11-10 -
^[C] Burning Behav. at thickness h Thickness tested	HB 0.8	class mm	IEC 60695-11-10 -
^[C] Oxygen index	26	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	5.2	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	4.5	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	30	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	165	E-4	IEC 62631-2-1
^[C] Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	1E14	Ohm	IEC 62631-3-2
^[C] Electric strength	35	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.4	%	Sim. to ISO 62
^[C] Humidity absorption	0.15	%	Sim. to ISO 62
^[C] Density	1740	kg/m ³	ISO 1183

[C]: CAMPUS

Material specific properties	Value	Unit	Test Standard
ISO Data			
^[C] Viscosity number	70	cm³/g	ISO 307, 1157, 1628
[C]: CAMPUS			

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120 - 140	°C	-
Pre-drying - Time	2 - 4	h	-
Processing humidity	≤0.01	%	-
Melt temperature	270 - 290	°C	-
Mold temperature	135 - 145	°C	-

Characteristics

Processing

Injection Molding

Special Characteristics

Heat stabilized or stable to heat

Delivery form

Pellets

Features

High Gloss

Additives

Release agent

Regional Availability

Europe

Other text information

Injection molding

To avoid hydrolytic degradation during processing, IMPET resins have to be dried to a moisture level equal to or less than 0,01%. The drying should be done in a dry-air dryer (dew point < -30°C) with a temperature of 120 to 140 °C and a drying time of 2 to 4 hours. In case of longer residence times in the dry-air dryer, the temperature should be reduced to 100°C.

The time between drying and processing should be kept as short as possible. The processing machine feed hopper should be closed during the processing operation.

Melt Temperature 270-290 °C

Mold Temperature 135-145 °C

Maximum Barrel Residence Time *) 5-10 min

Injection Speed fast

Peripheral screw speed max.0,3 m/sec

Back Pressure 10-20 bar

Injection Pressure 600-900 bar

Holding Pressure 300-500 bar

Nozzle Design open design preferred

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.

Ticona recommends only externally heated hot runner systems.

*) If the cylinder temperatures are higher than the recommended maximum temperatures, the max. residence time in the barrel has to be reduced.