Celanese
The chemistry inside innovation™

CELANEX® 6035GB20

20% glass bead filled; lower warpage PBT grade
Celanex 6035GB20 is a 20% glass bead filled PBT.

Product information

Part Marking Code	PBT-GB20		ISO 11469

Rheological properties

Melt mass-flow rate	15	g/10min	ISO 1133
Melt mass-flow rate, Temperature	250	°C	
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage range, parallel	1.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	1.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	3300	MPa	ISO 527-1/-2
Stress at break, 5mm/min	46	MPa	ISO 527-1/-2
Strain at break, 5mm/min	8.5	%	ISO 527-1/-2
Flexural Modulus	3300	MPa	ISO 178
Flexural Strength	80	MPa	ISO 178
Charpy impact strength, 23°C	22	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	19	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.7	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.8	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	3.5	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	15.3	kJ/m²	ISO 180/1U
Shore D hardness, 15s	80		ISO 48-4 / ISO 868

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	50	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	72	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	168	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	77	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	77	E-6/K	ISO 11359-1/-2

Electrical properties

Relative permittivity, 100Hz	3.7		IEC 62631-2-1
Relative permittivity, 1MHz	3.5		IEC 62631-2-1
Dissipation factor, 1MHz	170	E-4	IEC 62631-2-1
Volume resistivity	3E14	Ohm.m	IEC 62631-3-1
Surface resistivity	1E17	Ohm	IEC 62631-3-2
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index	PLC 2	PLC	UL 746A

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Other properties

Humidity absorption, 2mm	0.19	%	Sim. to ISO 62
Density	1460	kg/m³	ISO 1183

Injection

Max. mould temperature	65 - 93	°C

Additional information

Injection molding

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.

Processing Texts

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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.