Celanese
The chemistry inside innovation™

CELANEX® 3201

CELANEX® PBT

Celanex 3201 is a 15% glass reinforced general purpose thermoplastic polyester resin that offers a superior combination of mechanical, electrical, and thermal properties, together with outstanding processability, good chemical resistance, and toughness.

Product information

Resin Identification	PBT-GF15	ISO 1043
Part Marking Code	>PBT-GF15<	ISO 11469

Rheological properties

Melt mass-flow rate	19	g/10min	ISO 1133
Melt mass-flow rate, Temperature	250	°C	
Melt mass-flow rate, Load	2.16	kg	
Viscosity number	110	cm^3/g	ISO 307, 1628
Moulding shrinkage range, parallel	0.5 - 0.7	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	6000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	100	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3.5	%	ISO 527-1/-2
Flexural modulus	5600	MPa	ISO 178
Flexural strength	160	MPa	ISO 178
Charpy notched impact strength, 23°C	6.5	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	7	kJ/m^2	ISO 180/1A
Izod notched impact strength, -30°C	7.0	kJ/m^2	ISO 180/1A
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	195	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	218	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	220	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	35	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.85	mm	IEC 60695-11-10

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.5	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.07	%	Sim. to ISO 62
Density	1410	kg/m^3	ISO 1183

Celanese
The chemistry inside innovation™

CELANEX® 3201

CELANEX® PBT

Injection

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

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.

Processing Notes

Pre-Drying

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 <-40°F (-40°C) at 250°F

Celanese
The chemistry inside innovation™

CELANEX® 3201

CELANEX® PBT

(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.

Revised: 2025-05-16 Source: Celanese Materials Database