



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.

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Resin Identification Part Marking Code	PBT-GF15 >PBT-GF15<		ISO 1043 ISO 11469
r art warking code	>FB1-01 13<		130 11409
Rheological properties			
Melt mass-flow rate Melt mass-flow rate, Temperature Melt mass-flow rate, Load Viscosity number	250 2.16		ISO 1133 ISO 307, 1628
Moulding shrinkage range, parallel	0.5 - 0.7		ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus Tensile stress at break, 5mm/min Tensile strain at break, 5mm/min Flexural modulus Flexural strength Charpy notched impact strength, 23°C Izod notched impact strength, 23°C Izod notched impact strength, -30°C Poisson's ratio [C]: Calculated	3.5 5600 160 6.5 7	MPa %	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eA ISO 180/1A ISO 180/1A
Thermal properties			
Melting temperature, 10 ° C/min Glass transition temperature, 10 ° C/min Temperature of deflection under load, 1.8 MPa Temperature of deflection under load, 0.45 MPa Vicat softening temperature, 50 ° C/h 50N Coefficient of linear thermal expansion (CLTE), parallel Flammability	195 218 220	°C °C	ISO 11357-1/-3 ISO 11357-1/-3 ISO 75-1/-2 ISO 75-1/-2 ISO 306 ISO 11359-1/-2
Burning Behav. at thickness h	НВ	class	IEC 60695-11-10
Thickness tested	0.85		IEC 60695-11-10
Physical/Other properties			
Humidity absorption, 2mm Water absorption, 2mm Water absorption, Immersion 24h Density	0.2 0.5 0.07 1410	%	Sim. to ISO 62 Sim. to ISO 62 Sim. to ISO 62 ISO 1183

Printed: 2025-05-30 Page: 1 of 3

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





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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

Printed: 2025-05-30 Page: 2 of 3

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

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(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.

Printed: 2025-05-30 Page: 3 of 3

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

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