



CELANEX® 3126

CELANEX® PBT

Celanex 3126 is a non-exuding flame retarded, 10% fiberglass reinforced polybutylene terephthalate which has an excellent balance of mechanical properties and processability. It is well suited for electrical connector applications where its UL approved 50% regrind use capability allows maximum use of purchased product.

Product information

Resin Identification Part Marking Code	PBT-GF10 FR(17) >PBT-GF10 FR(17)<		ISO 1043 ISO 11469
Rheological properties			
Melt volume-flow rate Temperature Load	15 250 2.16		ISO 1133
Moulding shrinkage range, parallel Moulding shrinkage range, normal	0.9 - 1.4 1 - 1.2	%	ISO 294-4, 2577 ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus Tensile stress at break, 5mm/min Tensile strain at break, 5mm/min Charpy impact strength, 23°C Charpy impact strength, -30°C Charpy notched impact strength, 23°C Charpy notched impact strength, -30°C Poisson's ratio [C]: Calculated	85 3 24 24 5	MPa MPa % kJ/m² kJ/m² kJ/m² kJ/m²	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 179/1eU ISO 179/1eU ISO 179/1eA ISO 179/1eA
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, 8 MPa Vicat softening temperature, 50°C/h 50N Coefficient of linear thermal expansion (CLTE), parallel Flammability	195 56 205	°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 1.5mm nom. thickn. Thickness tested Burning Behav. at thickness h Thickness tested UL recognition Oxygen index	1.5		IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 4589-1/-2

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

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





CELANEX® 3126

CELANEX® PBT

Electrical properties

Relative permittivity, 100Hz	3.6		IEC 62631-2-1
Relative permittivity, 1MHz	3.5		IEC 62631-2-1
Dissipation factor, 100Hz	33	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	165	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	29	kV/mm	IEC 60243-1
Comparative tracking index	250		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Water absorption, 2mm	0.45 %	Sim. to ISO 62
Density	1530 kg/m ³	ISO 1183

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

Additives Release agent, Flame retardant

Special characteristics Flame retardant, High impact or impact modified, Heat stabilised or stable to heat

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%. 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.

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

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





CELANEX® 3126

CELANEX® PBT

Processing

Melt Temperature 260-270 °C
Mold Temperature *) 75-85 °C
Maximum Barrel Residence Time **) 5-10 min
Injection Speed fast
Peripheral screw speed max.0,3 m/sec
Back Pressure 10-30 bar
Injection Pressure 600-1000 bar
Holding Pressure 400-800 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. For grades containing flame retardants, a maximum temperature of 265 °C should not be exceeded.

Celanese recommends only externally heated hot runner systems.

- *) For moulded parts with especially high requirements to the surface quality or dimensional stability, a mold temperature of up to 110 °C can be advantageous.
- **) If the cylinder temperatures are higher than the recommended maximum temperatures, the max. residence time in the barrel has to be reduced.

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 $^{\circ}$ F (-40 $^{\circ}$ C) at 250 $^{\circ}$ F (121 $^{\circ}$ 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

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.