Celanese
The chemistry inside innovation™

CELANEX® 5202

CELANEX® PBT

Celanex 5202 is a 15% glass filled polyester blend that features improved surface gloss and has an excellent balance of mechanical properties, processability, and color stability under heat and UV exposure. A typical application for Celanex 5202 is oven handles.

Product information

Resin Identification	(PBT+PET)-GF15		ISO 1043
Part Marking Code	>(PBT+PET)-GF15<		ISO 11469

Rheological properties

Melt mass-flow rate	25	g/10min	ISO 1133
Melt mass-flow rate, Temperature	509	°F	
Melt mass-flow rate, Load	4.76	lb	
Molding shrinkage range, parallel	0.1 - 0.6	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.7	%	ISO 294-4, 2577

Typical mechanical properties

Shore D hardness, 15s	83		ISO 48-4 / ISO 868
Tensile modulus	885000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	14500	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5	%	ISO 527-1/-2
Flexural modulus	769000	psi	ISO 178
Flexural strength	21800	psi	ISO 178
Charpy impact strength, 23°C	7.14	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	8.09	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.24	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.14	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	2.09	ftlb/in²	ISO 180/1A

Thermal properties

Melting temperature, 10°C/min	482	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	122	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	356	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	419	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.23	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.406	E-4/°F	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.0315	in	IEC 60695-11-10

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Electrical properties

Relative permittivity, 100Hz	2.7		IEC 62631-2-1
Relative permittivity, 1MHz	2.7		IEC 62631-2-1
Dissipation factor, 1MHz	140	E-4	IEC 62631-2-1
Volume resistivity	7E14	Ohm.m	IEC 62631-3-1
Surface resistivity	4E15	Ohm	IEC 62631-3-2
Electric strength	432	kV/in	IEC 60243-1
Comparative tracking index	225		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.17	%	Sim. to ISO 62
Density	0.052	lb/in^3	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	509	°F
Min. melt temperature	491	°F
Max. melt temperature	527	°F
Max. screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	194	°F
Max. mold temperature	266	°F
Ejection temperature	352	°F

Characteristics

Processing	Injection Molding
Special characteristics	High Gloss

Additional information

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (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.

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

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