Celanese
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CELANEX® 6500

CELANEX® PBT

Celanex 6500 is a 30% glass/mineral polyester with improved surface finish and a good balance of mechanical properties and processability.

Product information

Resin Identification	(PBT+PET)-(GF+MD)30	ISO 1043
Part Marking Code	>(PBT+PET)-(GF+MD)30<	ISO 11469

Rheological properties

Melt mass-flow rate	22	g/10min	ISO 1133
Melt mass-flow rate, Temperature	265	°C	
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage range, parallel	0 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.5 - 0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	9700	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	125	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.2	%	ISO 527-1/-2
Flexural modulus	9500	MPa	ISO 178
Flexural strength	180	MPa	ISO 178
Charpy impact strength, 23°C	30	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	30	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	7.1	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6.4	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	5.3	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	31	kJ/m²	ISO 180/1U
Hardness, Rockwell, M-scale	89		ISO 2039-2
Poisson's ratio	0.34[C]		
Shore D hardness, 15s	85		ISO 48-4 / ISO 868

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	223	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	54	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	202	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	223	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	28	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	85	E-6/K	ISO 11359-1/-2

Electrical properties

Relative permittivity, 100Hz	3.5		IEC 62631-2-1
Relative permittivity, 1MHz	3.8		IEC 62631-2-1
Dissipation factor, 1MHz	400	E-4	IEC 62631-2-1
Volume resistivity	2E14	Ohm.m	IEC 62631-3-1
Surface resistivity	3E16	Ohm	IEC 62631-3-2
Electric strength	22	kV/mm	IEC 60243-1

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Comparative tracking index	325		IEC 60112
Arc Resistance	124	s	UL 746B

Physical/Other properties

Humidity absorption, 2mm	0.19	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	1550	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	120	°C
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	265	°C
Min. melt temperature	255	°C
Max. melt temperature	275	°C
Screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	90	°C
Max. mould temperature	130	°C
Ejection temperature	189	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	High Gloss, Low Warpage

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 minimum 4 hours.

Processing

Rear Temperature 450-480 (230-250) deg F (deg C)
Center Temperature 460-490(235-255) deg F (deg C)
Front Temperature 470-500 (240-260) deg F (deg C)
Nozzle Temperature 480-510 (250-265) deg F (deg C)
Melt Temperature 460-510 (235-265) 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

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Processing Notes

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.

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 (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.

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Ford	WSB-M4D921-A	
General Motors	GMW16873P-PBT+PET-M5GF25	
Stellantis	MS.50103 / PBT-PET.GM30.9500F.5I	CPN3763 100% COLOR MATCH , CPN3764
Stellantis - Chrysler	MS.50103 / CPN-3763	100% Color Match
Stellantis - Chrysler	MS.50103 / CPN-3764	Canod

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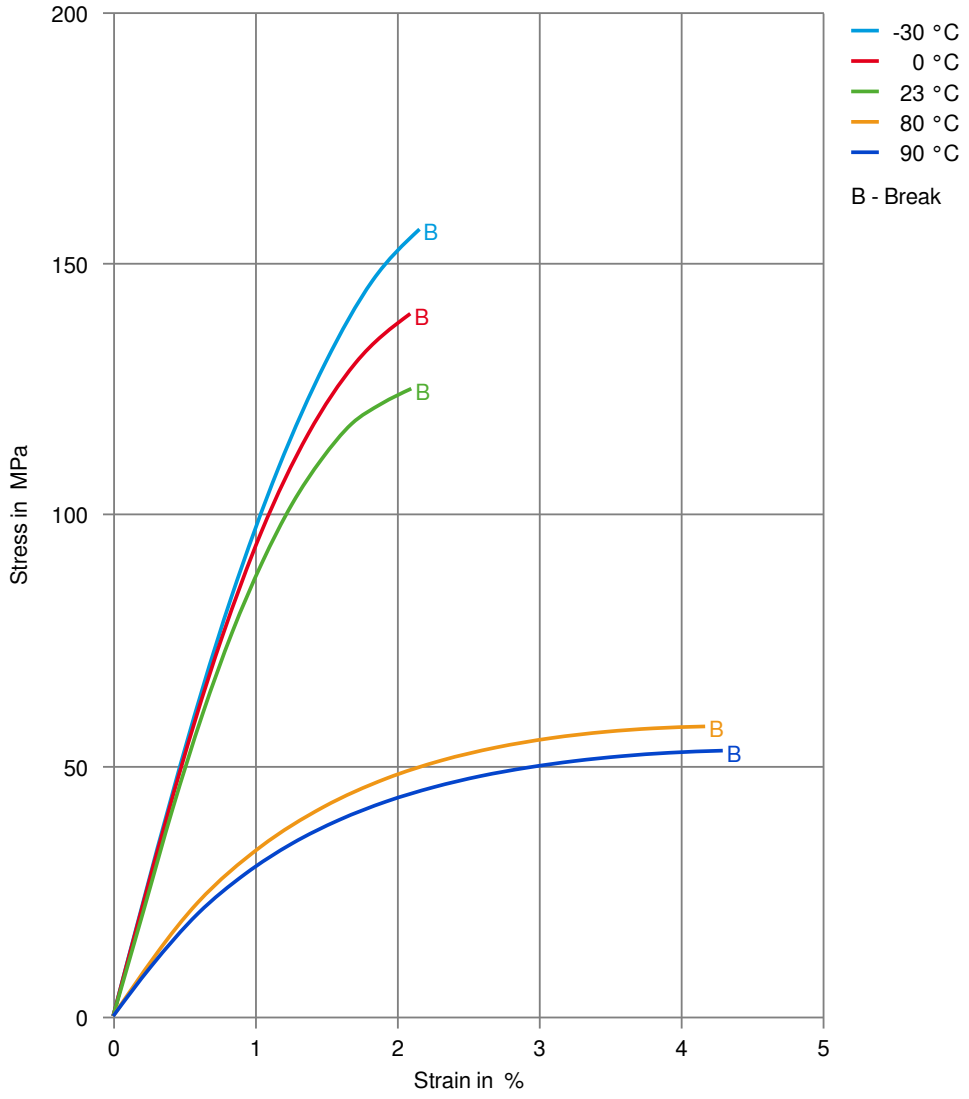
Stress-strain



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Secant modulus-strain