Celanese
The chemistry inside innovation™

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	509	°F	
Melt mass-flow rate, Load	4.76	lb	
Molding shrinkage range, parallel	0 - 0.5	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.5 - 0.8	%	ISO 294-4, 2577

Typical mechanical properties

Shore D hardness, 15s	85		ISO 48-4 / ISO 868
Tensile modulus	1.41E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.2	%	ISO 527-1/-2
Flexural modulus	1.38E6	psi	ISO 178
Flexural strength	26100	psi	ISO 178
Charpy impact strength, 23°C	14.3	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	14.3	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	3.38	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	3.04	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	2.52	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	14.7	ftlb/in²	ISO 180/1U
Hardness, Rockwell, M-scale	89		ISO 2039-2

Thermal properties

Melting temperature, 10°C/min	433	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	129	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	396	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	433	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.16	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.472	E-4/°F	ISO 11359-1/-2

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	2.17	in/min	ISO 3795 (FMVSS 302)

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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	559	kV/in	IEC 60243-1
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	0.056	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	372	°F

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

Characteristics

Processing	Injection Molding
Special characteristics	High Gloss, Low Warpage

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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

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 (121°C) for 4 hours.

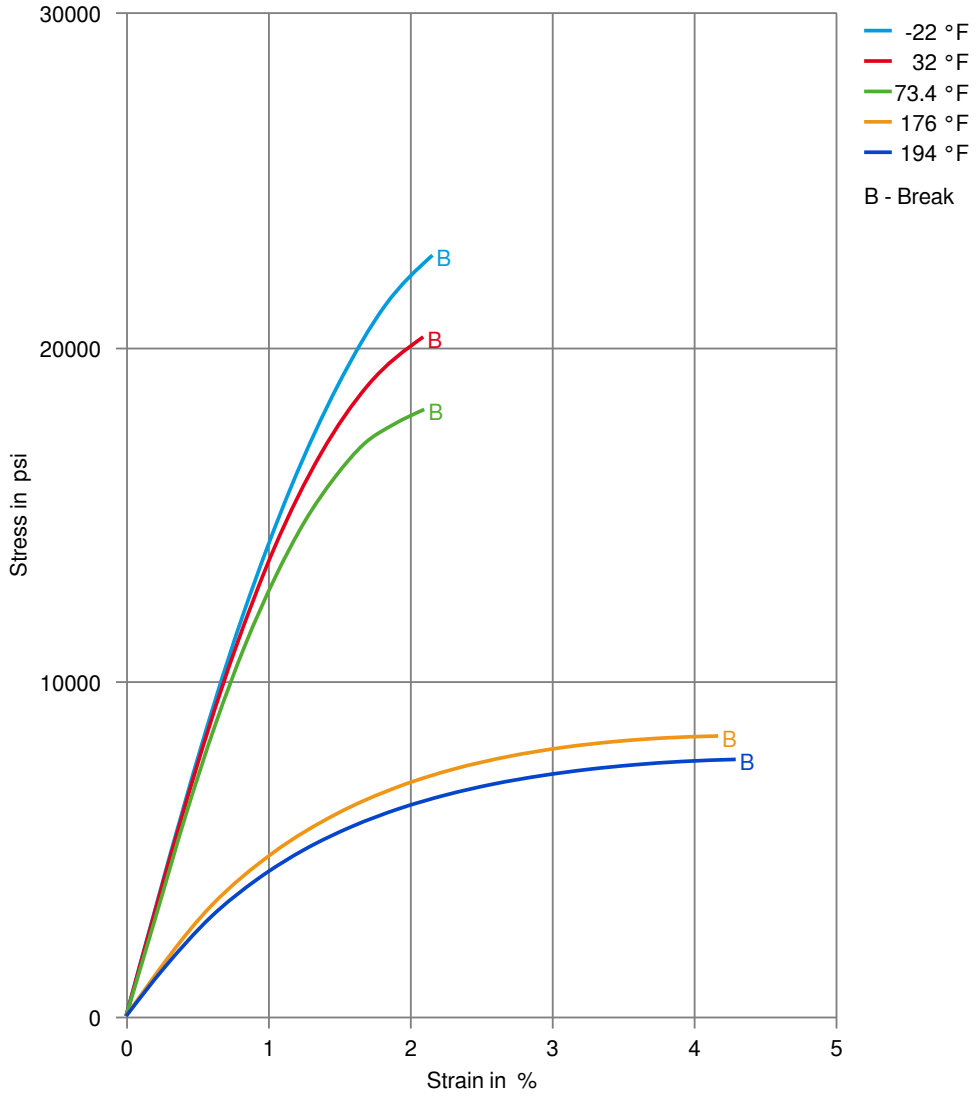
Storage

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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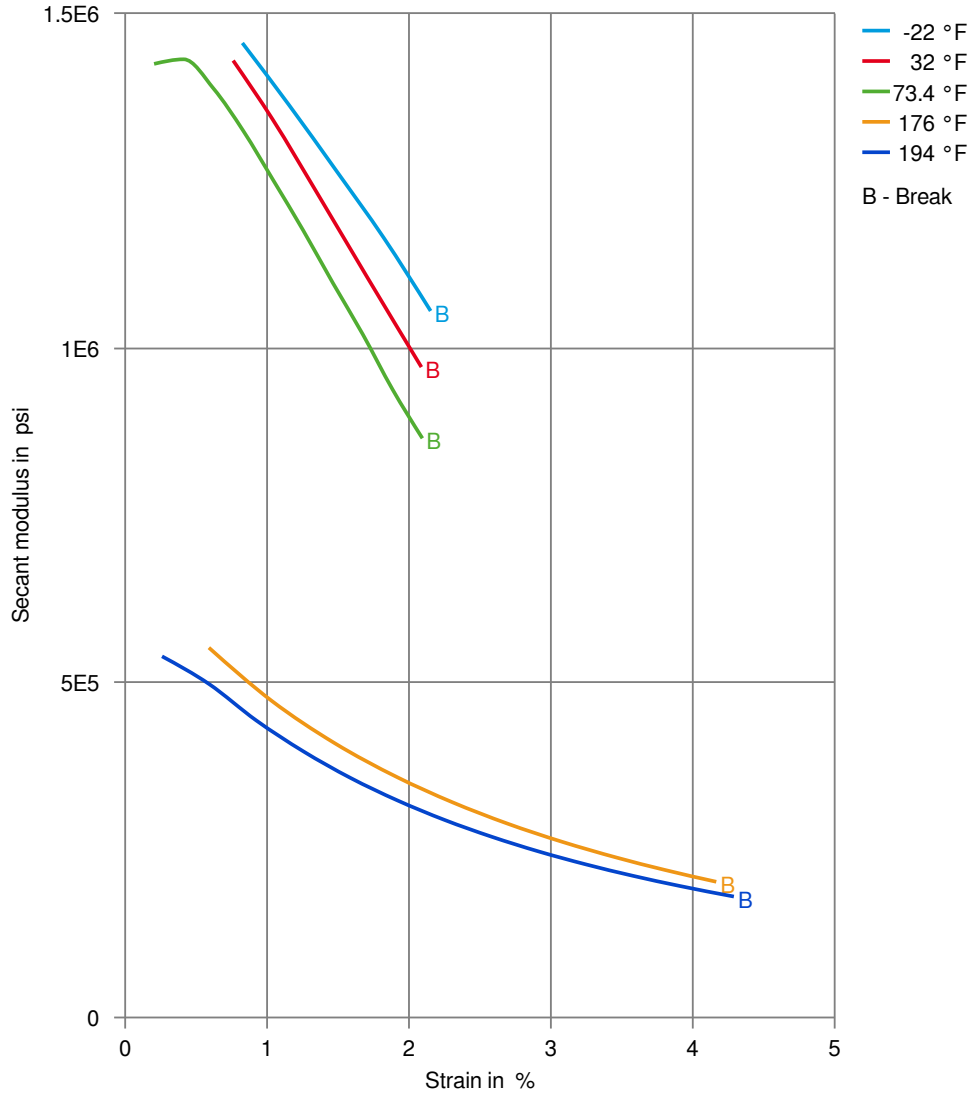
Stress-strain



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Secant modulus-strain



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