CELANEX® 401AC

CELANEX® PBT

Celanex 401AC is an unreinforced polybutylene terephthalate designed for automotive connector applications. Celanex 401AC exhibits improved heat aging property retention over standard unreinforced grades.

Product information

Resin Identification	PBT-I		ISO 1043
Part Marking Code	>PBT-I<		ISO 11469

Rheological properties

Melt mass-flow rate	40	g/10min	ISO 1133
Melt mass-flow rate, Temperature	482	°F	
Melt mass-flow rate, Load	4.76	lb	
Molding shrinkage range, parallel	1.8 - 2	%	ISO 294-4, 2577
Molding shrinkage range, normal	1.7 - 1.9	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	342000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8000	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	10	%	ISO 527-1/-2
Nominal strain at break	>50	%	ISO 527-1/-2
Flexural modulus	334000	psi	ISO 178
Flexural strength	10000	psi	ISO 178
Charpy impact strength, -30 °C	1.38	ftlb/in²	ISO 179/1eU
Izod notched impact strength, 23 °C	2.19	ftlb/in²	ISO 180/1A
Hardness, Rockwell, M-scale	81		ISO 2039-2
Poisson's ratio	0.476		

Thermal properties

Temperature of deflection under load, 1.8 MPa	129	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	279	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.55[1]	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.55[1]	E-4/°F	ISO 11359-1/-2

[1]: Temperature range: 18 °C to 28 °C

Physical/Other properties

Water absorption, Immersion 24h	0.08	%	Sim. to ISO 62
Density	0.0469	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	482	°F
Min. melt temperature	464	°F
Max. melt temperature	500	°F

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Max. screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	266	°F

Automotive

OEM	ADDITIONAL INFORMATION
General Motors	Black; Special Part Approval, Please See Your CE Account Representative
General Motors	Natural; Special Part Approval, Please See Your CE Account Representative

Characteristics

Processing	Injection Molding
Special characteristics	High impact or impact modified

Additional information

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.

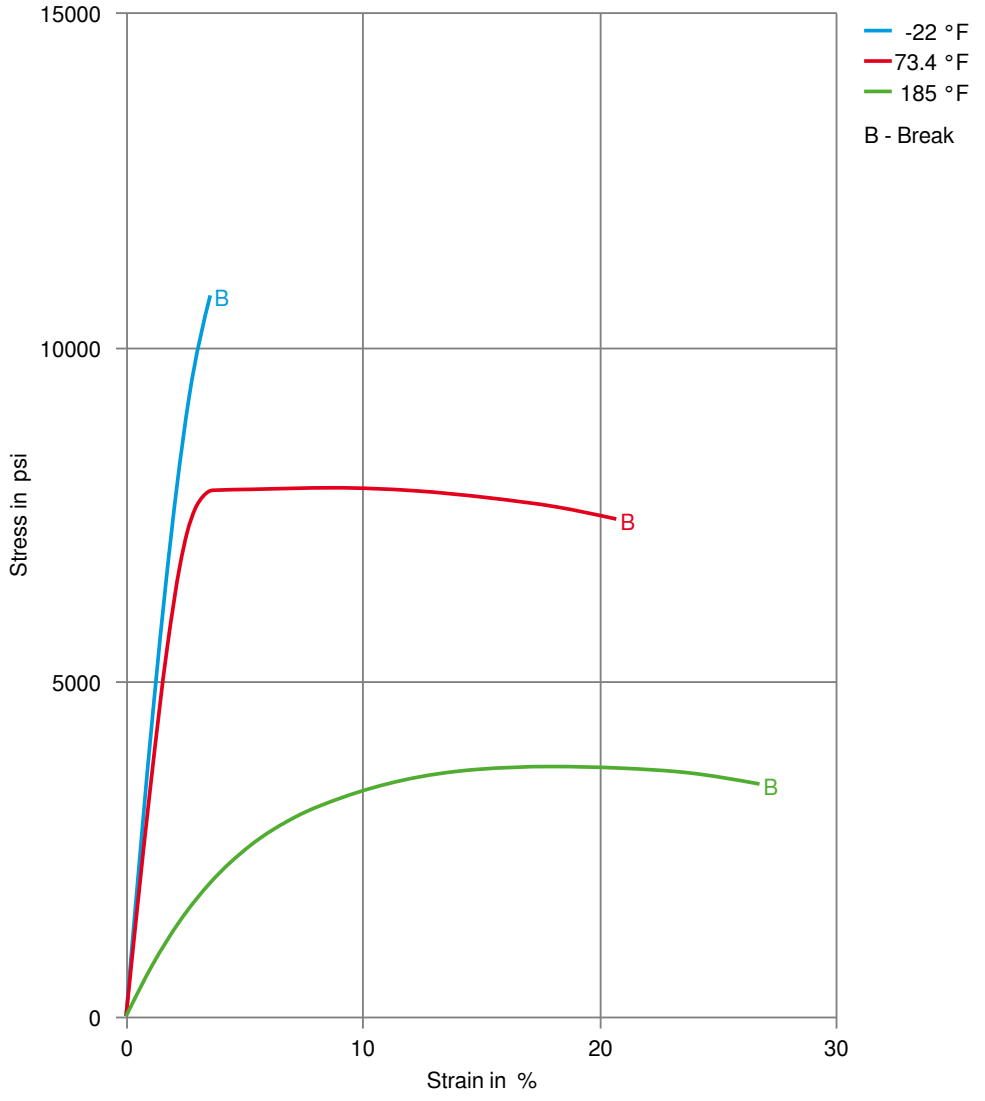
Storage

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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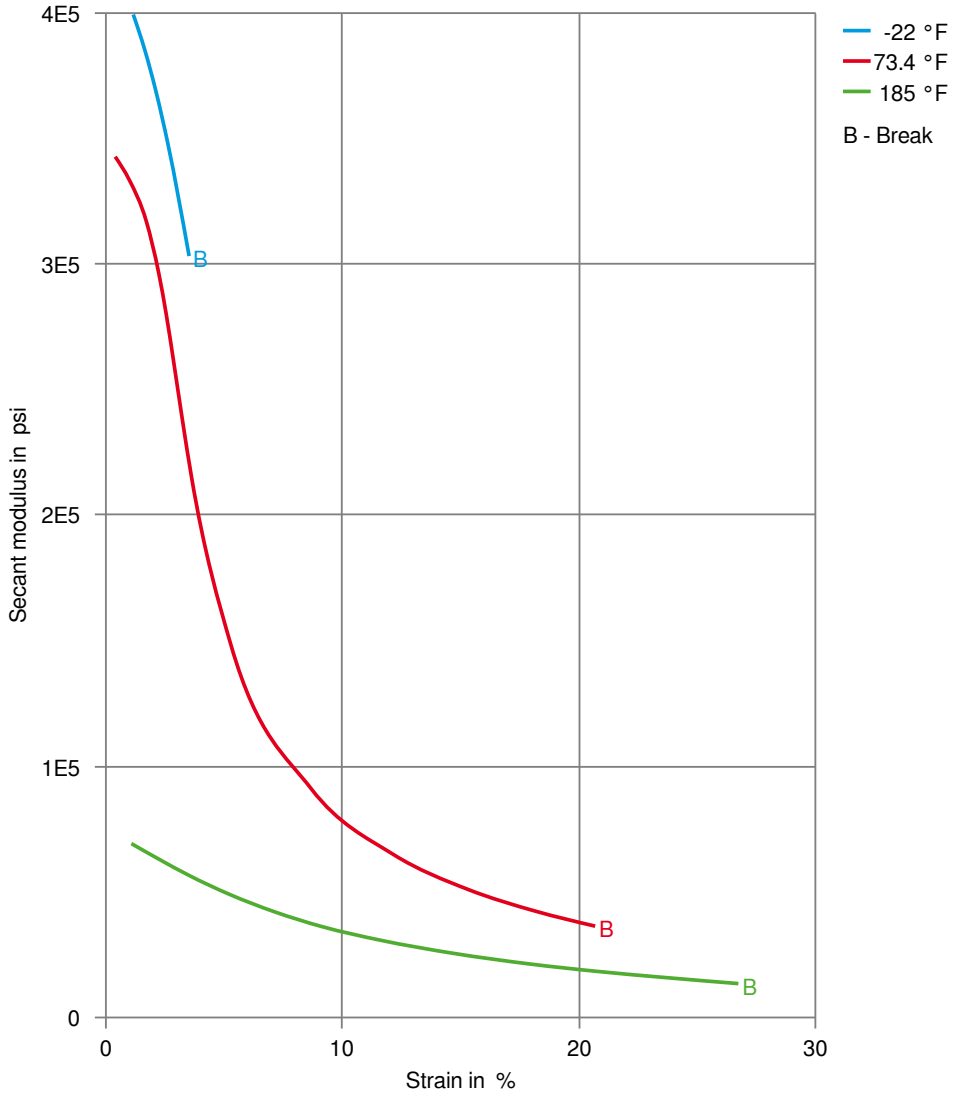
Stress-strain



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Secant modulus-strain



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