

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	250 °C	
Melt mass-flow rate, Load	2.16 kg	
Moulding shrinkage range, parallel	1.8 - 2 %	ISO 294-4, 2577
Moulding shrinkage range, normal	1.7 - 1.9 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2360 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	55 MPa	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	2300 MPa	ISO 178
Flexural strength	69 MPa	ISO 178
Charpy impact strength, -30°C	2.9 kJ/m ²	ISO 179/1eU
Izod notched impact strength, 23°C	4.6 kJ/m ²	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	54 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	137 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	99 ^[1] E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	99 ^[1] E-6/K	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	1300 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

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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
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.

Automotive

OEM
General Motors

General Motors

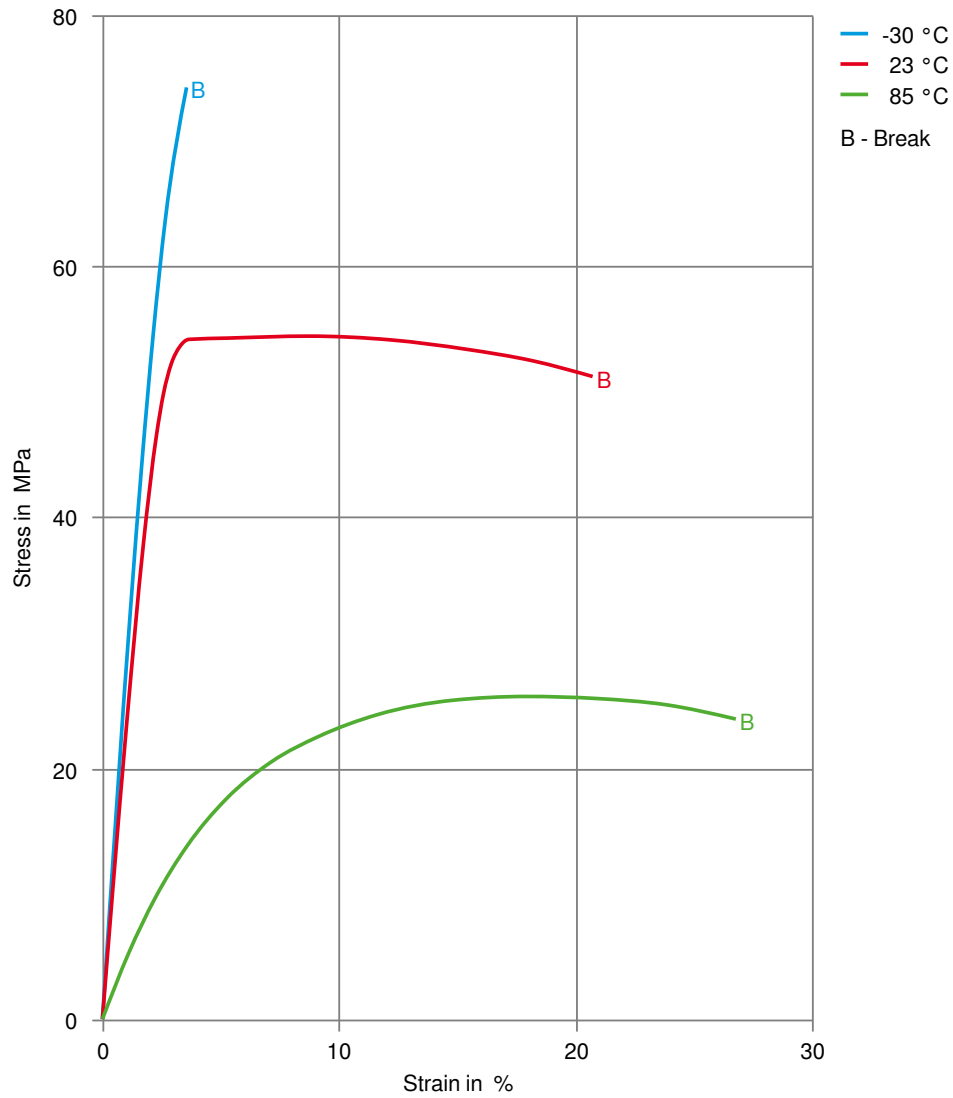
ADDITIONAL INFORMATION
Black; Special Part Approval, Please See Your
CE Account Representative

Natural; Special Part Approval, Please See
Your CE Account Representative

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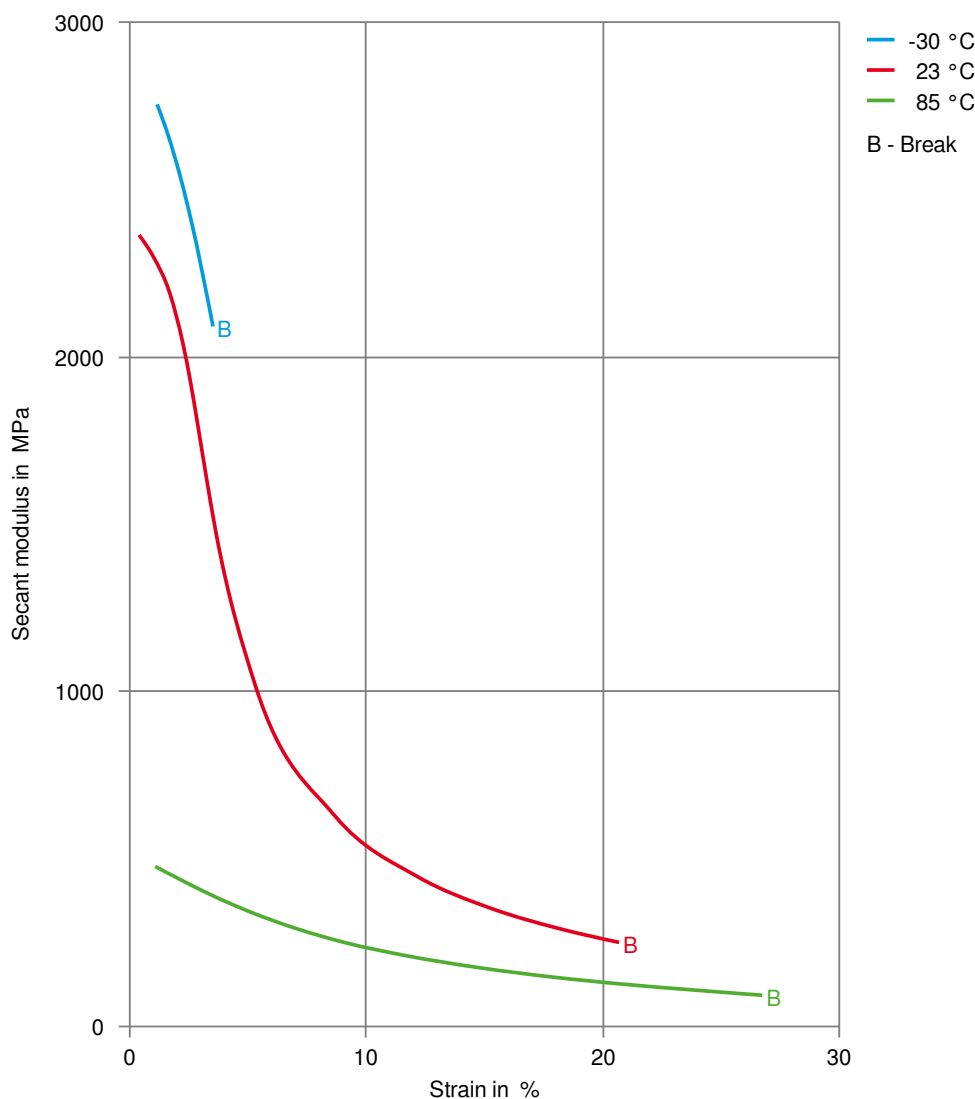
Stress-strain



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Secant modulus-strain



Printed: 2025-05-30

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

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