

CELANEX® 401AC

unfilled toughened connector grade

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

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 - 2.0 %	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
Yield stress, 50mm/min	55 MPa	ISO 527-1/-2
Yield strain, 50mm/min	10 %	ISO 527-1/-2
Nominal strain at break	>35 %	ISO 527-1/-2
Strain at break, 50mm/min	>35 %	ISO 527-1/-2
Flexural Modulus	2300 MPa	ISO 178
Flexural Strength	69 MPa	ISO 178
Charpy impact strength, -30°C	2.9 kJ/m²	ISO 179/1eU
Izod notched impact strength, 23°C	4.6 kJ/m²	ISO 180/1A
Hardness, Rockwell, M-scale	81	ISO 2039-2
Poisson's ratio	0.476	

Thermal properties

Temp. of deflection under load, 1.8 MPa	54 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	137 °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	99 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	99 E-6/K	ISO 11359-1/-2

Other properties

Density	1300 kg/m³	ISO 1183
---------	------------	----------

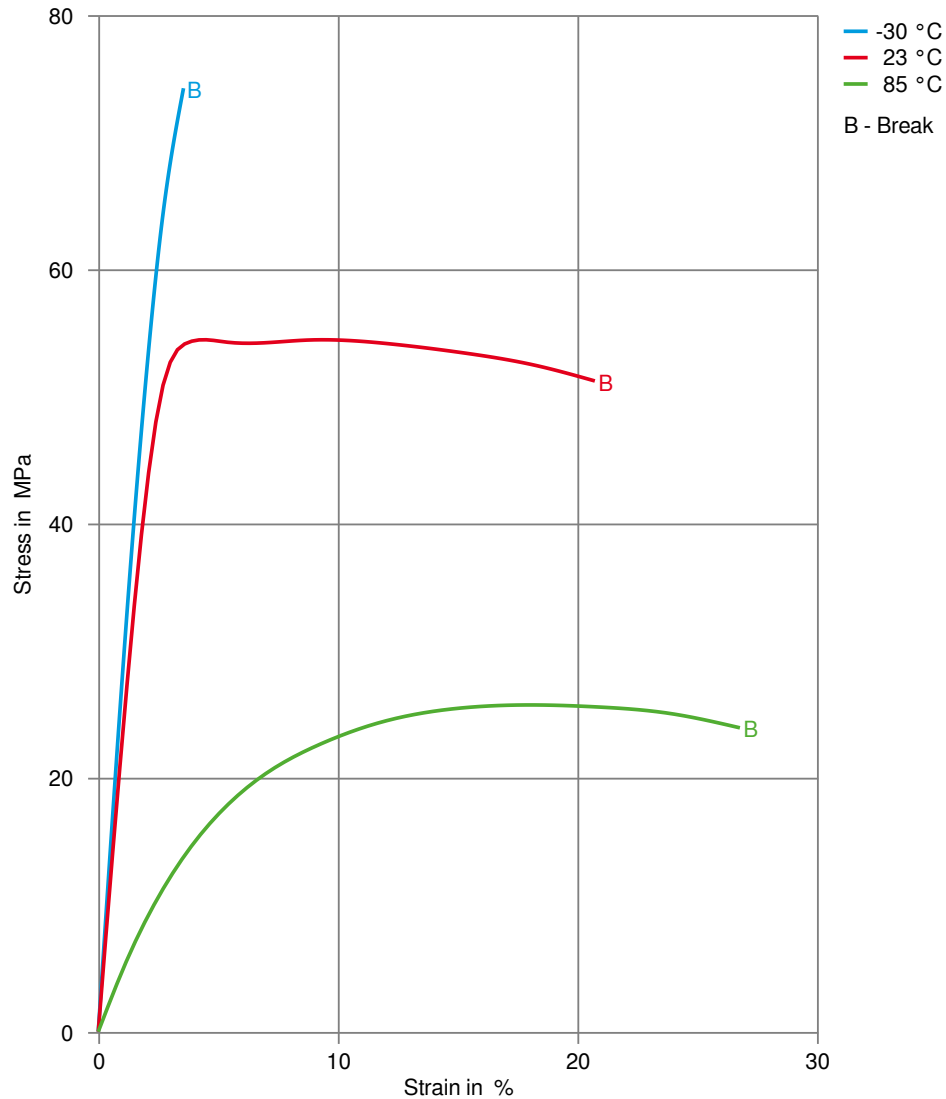
Injection

Drying Temperature	120 - 130 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	0.02 %
Max. mould temperature	65 - 96 °C
Injection speed	medium-fast



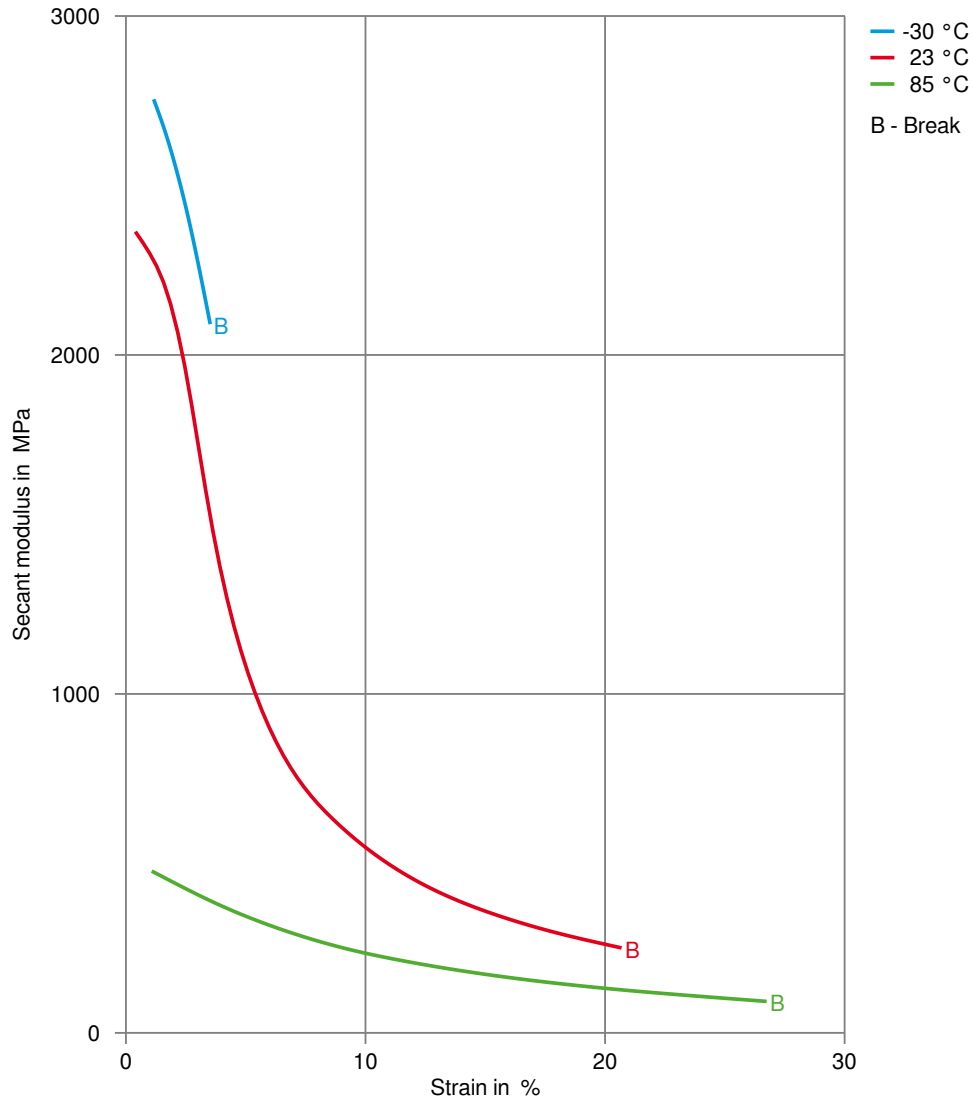
CELANEX® 401AC

Stress-strain



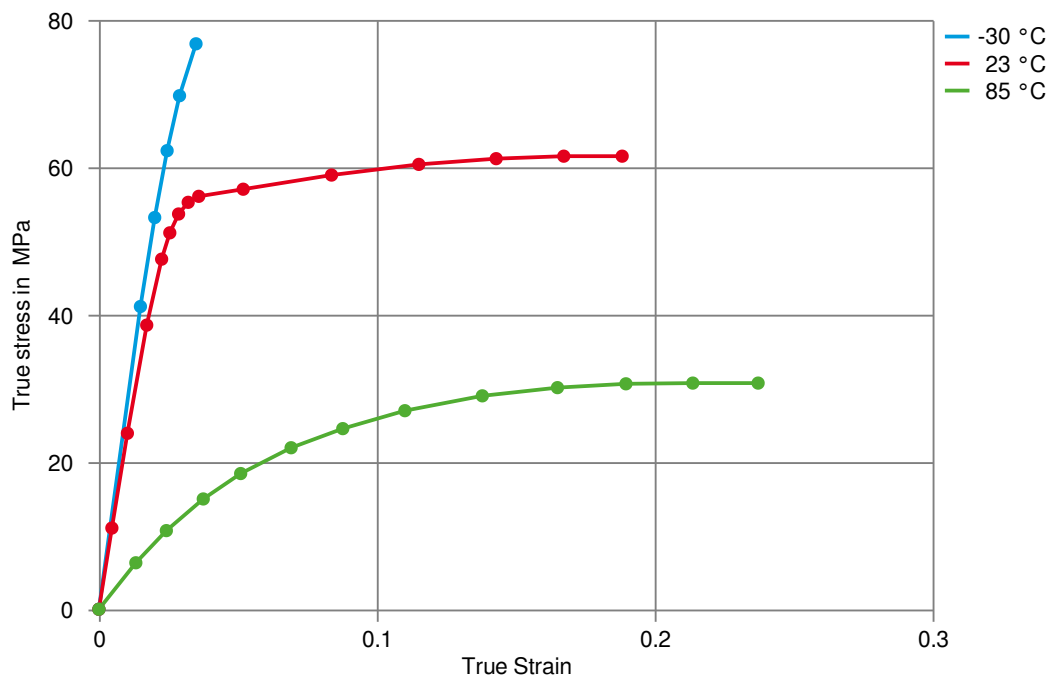
CELANEX® 401AC

Secant modulus-strain



CELANEX® 401AC

True stress-strain



CELANEX® 401AC

Processing Texts

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 $< -40^{\circ}\text{F}$ (-40°C) at 250°F (121°C) for 4 hours.

Longer pre-drying times/storage

For subsequent storage of the material in the dryer until processed (≤ 60 h) it is necessary to lower the temperature to 100°C .

