

CELANEX® XFR 4840

Halogen-free, flame retardant, unreinforced grade

Celanex XFR 4840 is an unreinforced, flame retardant PBT grade featuring a halogen and antimony free flame retardant system. It is UL certified to be V-0 at 0.8 mm in all colors. Our proprietary flame retardant system enables a combination of excellent mechanical properties, flame retardant efficiency and processability. The product is WEEE and RoHS compliant.

Product information

Part Marking Code	> PBT FR(40) <	ISO 11469
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Rheological properties

Melt volume-flow rate	10 cm ³ /10min	ISO 1133
Temperature	250 °C	
Load	2.16 kg	
Moulding shrinkage range, parallel	1.8 - 2.2 %	ISO 294-4, 2577
Moulding shrinkage range, normal	1.6 - 1.8 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	3250 MPa	ISO 527-1/-2
Yield stress, 50mm/min	50 MPa	ISO 527-1/-2
Stress at break, 50mm/min	45 MPa	ISO 527-1/-2
Strain at break, 50mm/min	11.5 %	ISO 527-1/-2
Charpy impact strength, 23°C	32 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	3 kJ/m ²	ISO 179/1eA
Ball indentation hardness, H 358/30	160 MPa	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	225 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	70 °C	ISO 75-1/-2

Flammability

Burning Behav. at thickness h	V-0 class	UL 94
Thickness tested	0.80 mm	UL 94

Electrical properties

Comparative tracking index	PLC 0 PLC	UL 746A
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Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Density	1340 kg/m ³	ISO 1183



CELANEX® XFR 4840

Injection

Melt Temperature Optimum

260 °C

Internal

Characteristics

Additives

Flame retardant

Additional information

Injection molding

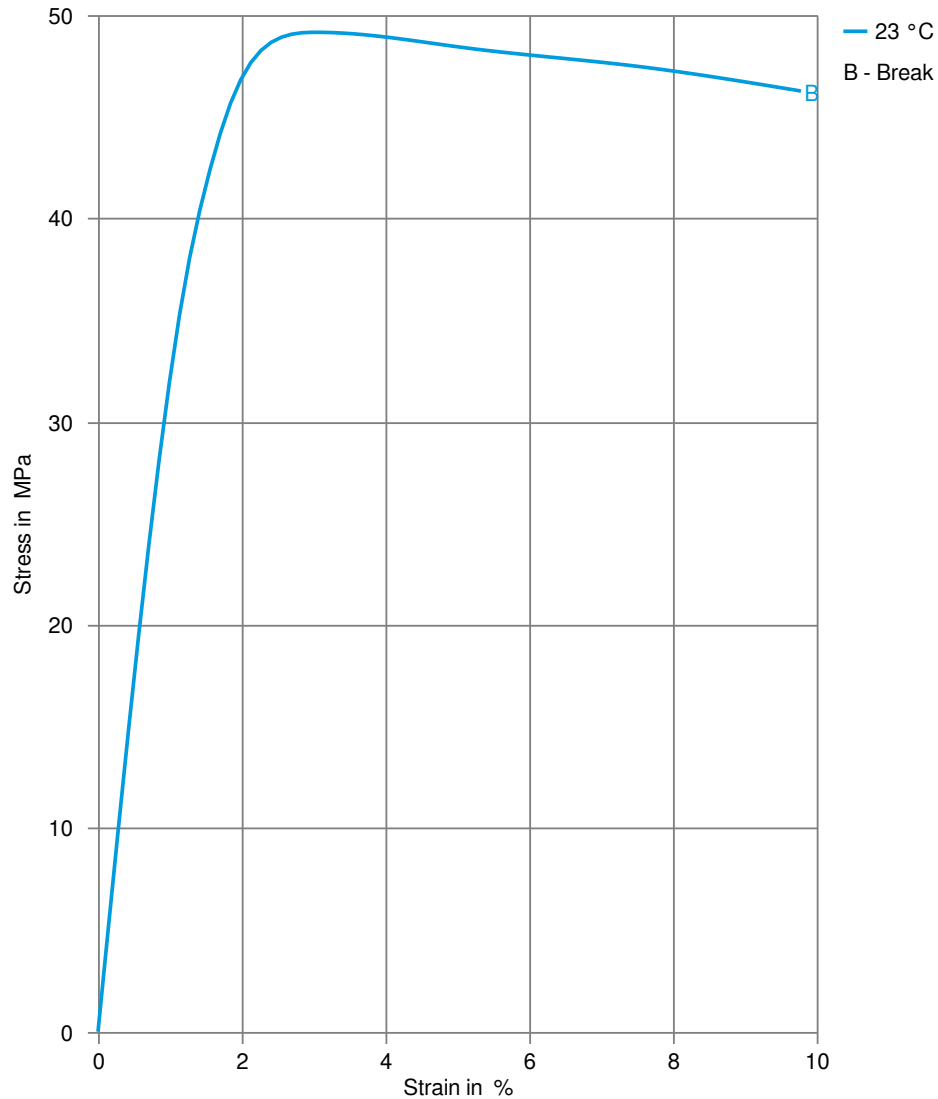
Rear Temperature 450-470 (230-240) deg F (°C)
Center Temperature 460-480 (235-250) deg F (°C)
Front Temperature 470-490 (240-255) deg F (°C)
Nozzle Temperature 480-490 (250-255) deg F (°C)
Melt Temperature 460-490 (235-255) deg F (°C)
Mold Temperature 150-200 (65-93) deg F (°C)
Back Pressure 0-50 psi
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 for the XFR series' halogen-free flame retardant grades.



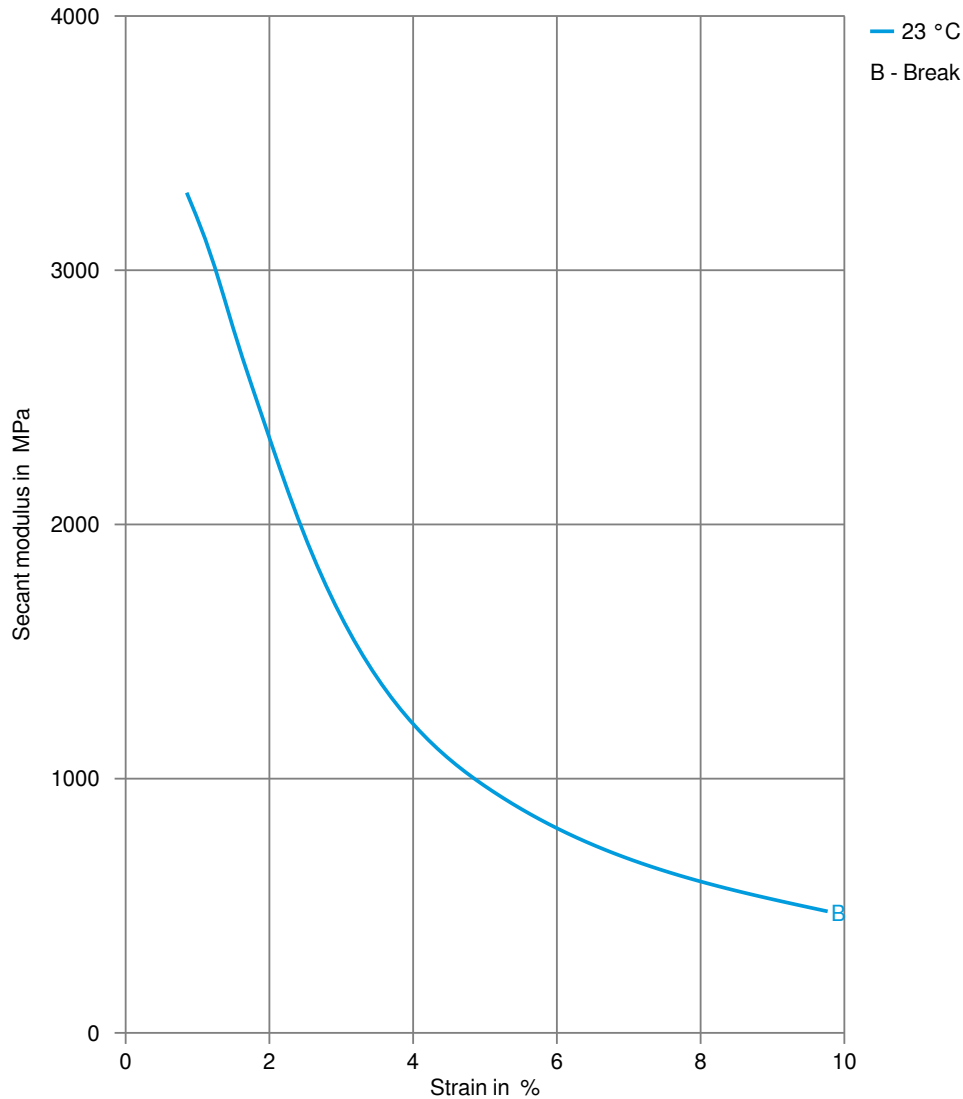
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Stress-strain



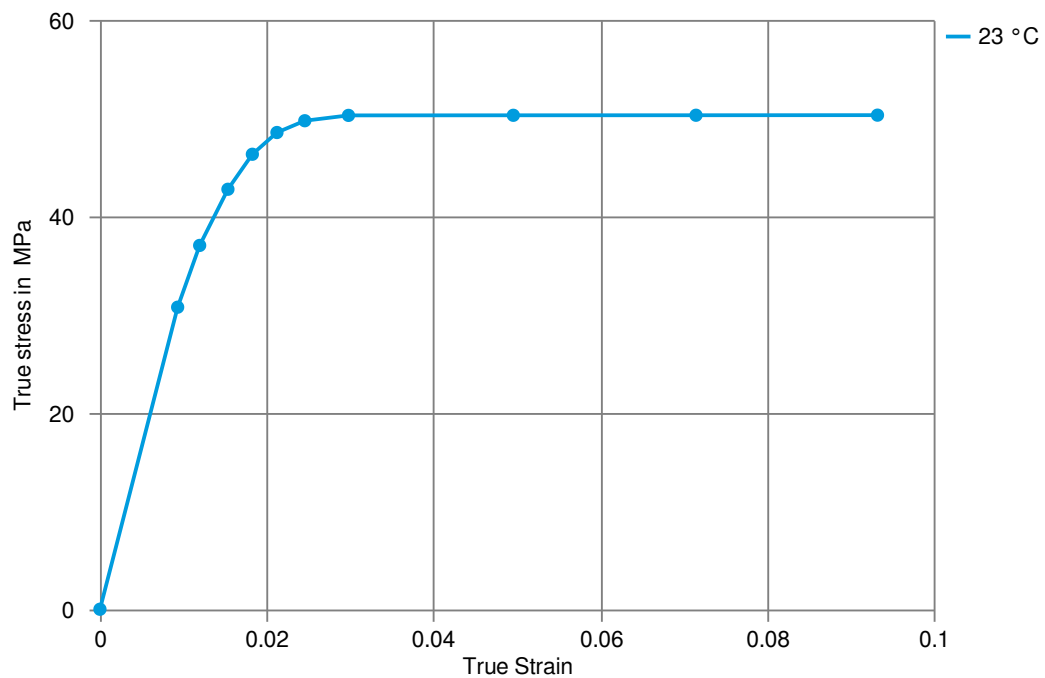
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Secant modulus-strain



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True stress-strain



CELANEX® XFR 4840

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°F (-40°C) at 250-285°F (120 - 140°C) for 4 - 6 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.

Injection molding

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Other Approvals

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OEM	Specification	Additional Information
Li Auto	Q/LiA5310038	2021 (V2)

