

CELSTRAN® PA66-GF50-20 AD3007

CELSTRAN® Long Fibre

Material code according to ISO 1043-1: PA66

Heat stabilized Nylon 66 reinforced by 50 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 11 mm long.

Parts molded of CELSTRAN have outstanding mechanical properties such as high strength and stiffness combined with high heat deflection. The notched impact strength is increased at elevated and low temperatures due to the fiber skeleton built in the parts. The long fiber reinforcement reduces creep significantly.

The very isotropic shrinkage in the molded parts minimizes the warpage.

Complex parts can be manufactured with high reproducibility by injection molding.

Can be used for substituting die cast metal with the advantage of Weight reduction, no corrosion problems, no post treatment.

Product information

Resin Identification	PA66-LGF50	ISO 1043
Part Marking Code	>PA66-LGF50<	ISO 11469

Rheological properties

	dry/cond.		
Viscosity number	132 / *	cm ³ /g	ISO 307, 1628

Typical mechanical properties

	dry/cond.		
Tensile modulus	16400 / 1300	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	275 / 198	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.3 / 2.3	%	ISO 527-1/-2
Flexural modulus	14400 / 11500	MPa	ISO 178
Flexural strength	430 / 310	MPa	ISO 178
Flexural strain at failure	3 / 2.5	%	ISO 178
Charpy impact strength, 23°C	120 / 107	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	95 / 62	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	57 / 48	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	52 / 42	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.33 / 0.33 ^[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	258 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	242 / *	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	17 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	62 / *	E-6/K	ISO 11359-1/-2

Physical/Other properties

	dry/cond.		
Density	1560 / -	kg/m ³	ISO 1183

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Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.2 %
Melt Temperature Optimum	295 °C
Min. melt temperature	285 °C
Max. melt temperature	305 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	70 °C
Max. mould temperature	120 °C
Hold pressure range	50 - 100 MPa
Back pressure	3 MPa

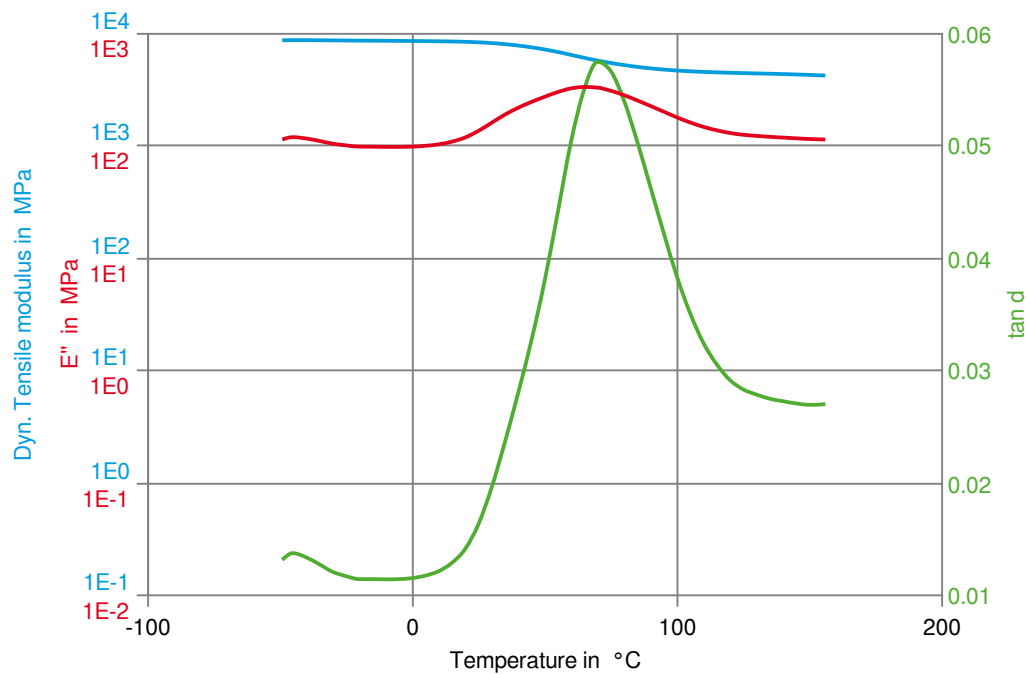
Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Heat stabilised or stable to heat

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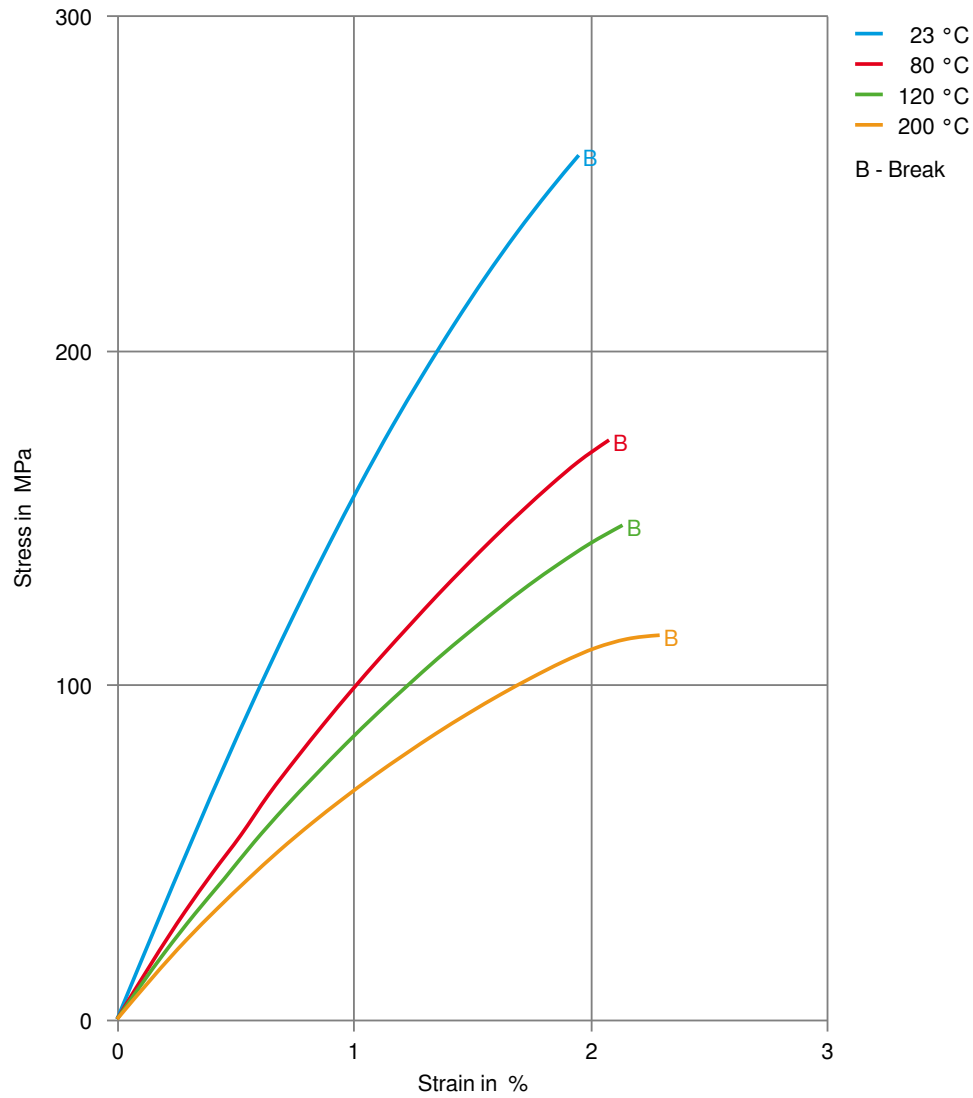
Dynamic Tensile modulus-temperature (dry)



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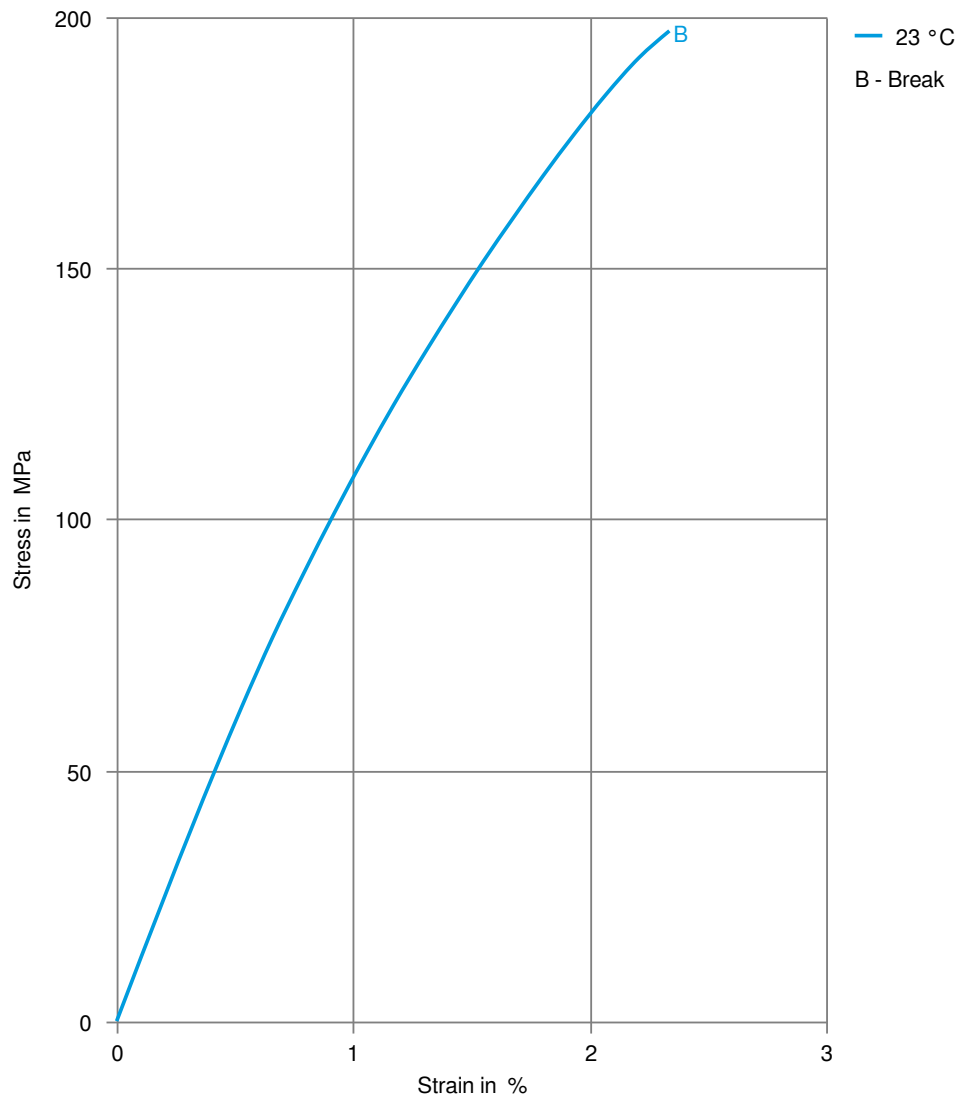
Stress-strain (dry)



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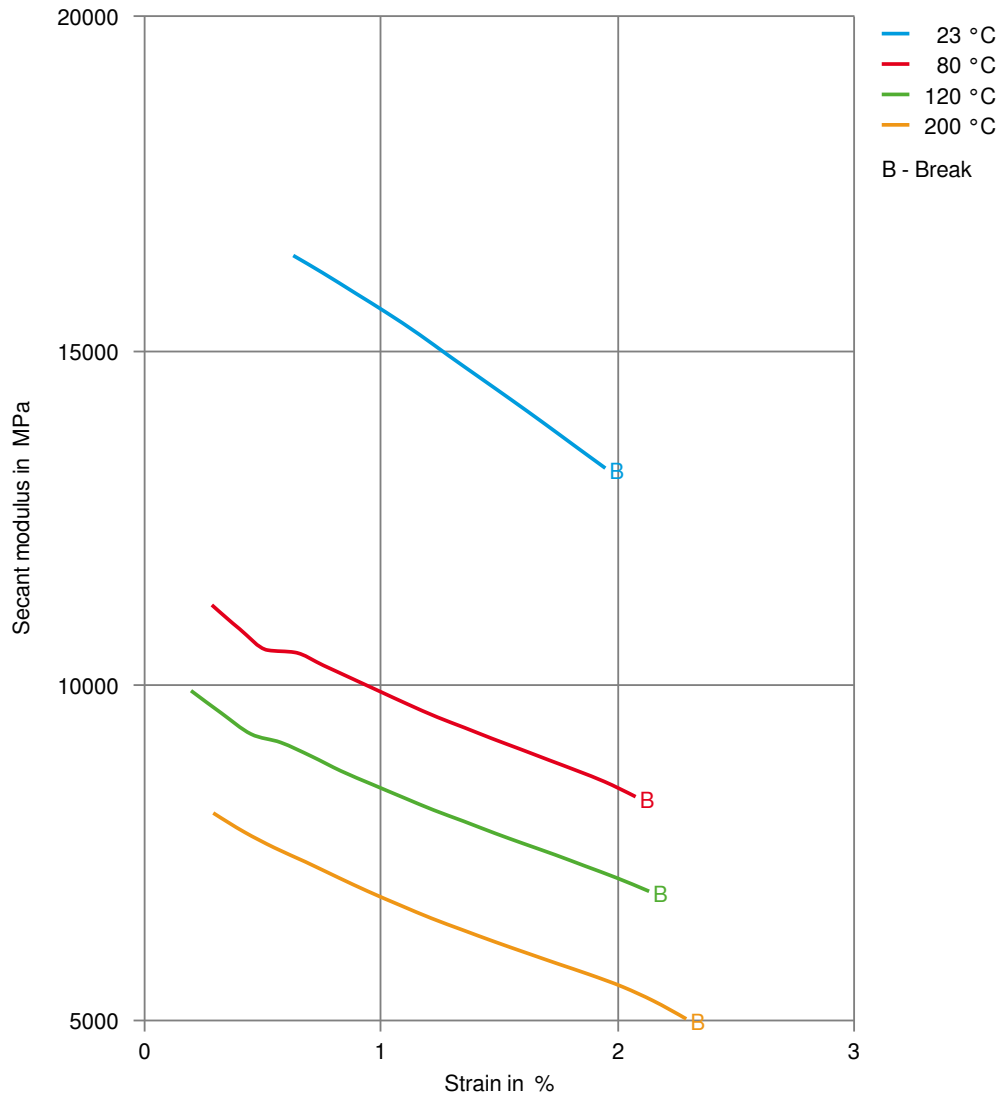
Stress-strain (cond.)



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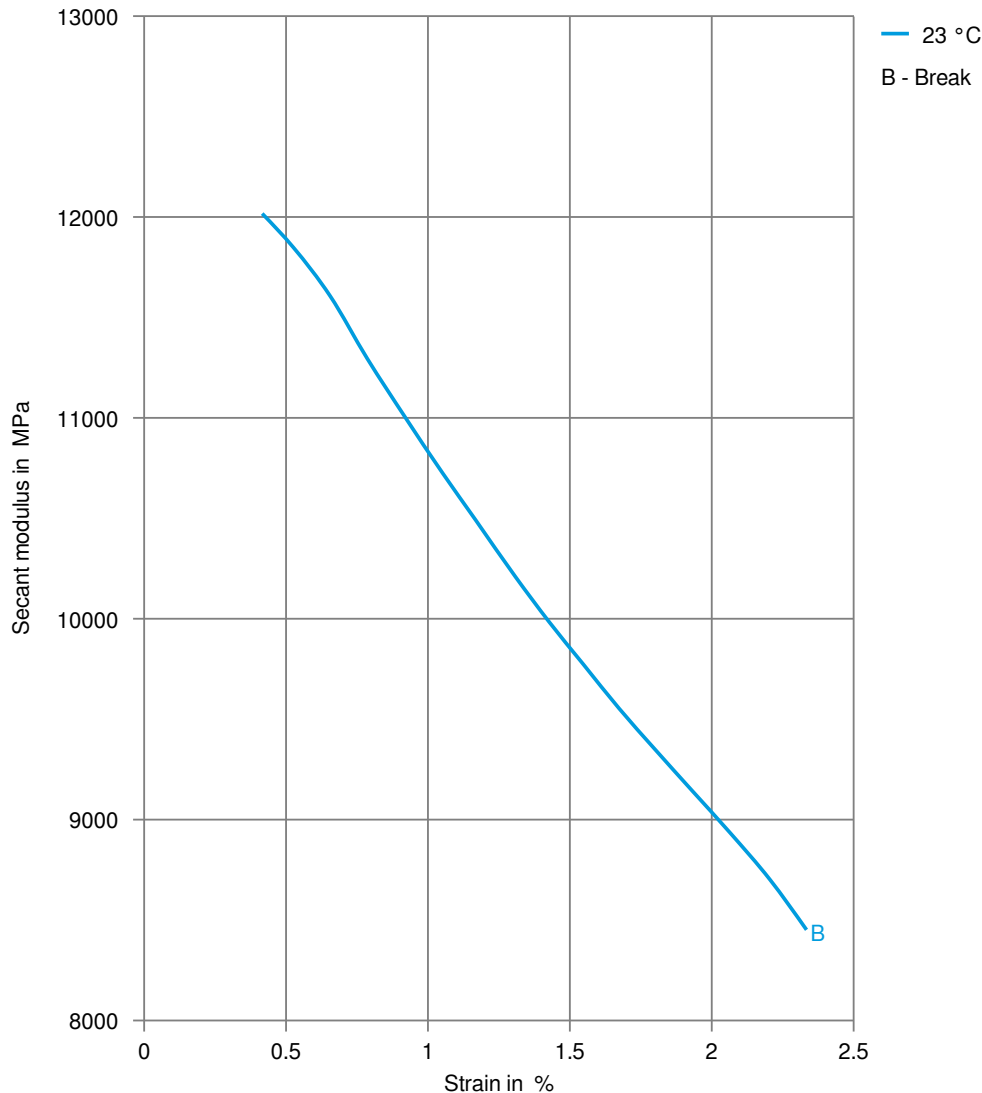
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



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