

FRIANYL® B3 GF30 V0 BK 9005

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Designed for Electrical applications requiring self-extinguishing properties combined with good mechanical performances, this grade meets the most stringent safety requirements for insulating materials.

Product information

Resin Identification	PA6-GF30FR(40)	ISO 1043
Part Marking Code	>PA6-GF30FR(40)<	ISO 11469
Continuous Service Temperature	120 °C	IEC 60216-1

Rheological properties

	dry/cond.		
Viscosity number	145 / *	cm ³ /g	ISO 307, 1628
Moulding shrinkage range, parallel	0.3 - 0.6	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.6 - 0.9	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	10500 / 7000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	140 / 95	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / 5.5	%	ISO 527-1/-2
Charpy impact strength, 23 °C	55 / 55 ^[C]	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30 °C	42 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23 °C	10 / 13	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30 °C	7 / -	kJ/m ²	ISO 179/1eA
Ball indentation hardness, H 961/30	205 / -	MPa	ISO 2039-1
Poisson's ratio	0.34 / 0.35 ^[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	225 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	210 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220 / *	°C	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Flammability Index, 0.75mm	960 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960 / -	°C	IEC 60695-2-12
FMVSS Class	SE		ISO 3795 (FMVSS 302)
Railway classification	R22 / R24		EN 45545-2
Railway classification rating	HL3 / HL3		EN 45545-2

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Electrical properties

	dry/cond.		
Volume resistivity	1E13/-	Ohm.m	IEC 62631-3-1

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.5/*	%	Sim. to ISO 62
Water absorption, 2mm	4/*	%	Sim. to ISO 62
Density	1410/-	kg/m ³	ISO 1183

Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.1 %
Melt Temperature Optimum	250 °C
Min. melt temperature	240 °C
Max. melt temperature	260 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	90 °C
Ejection temperature	173 °C

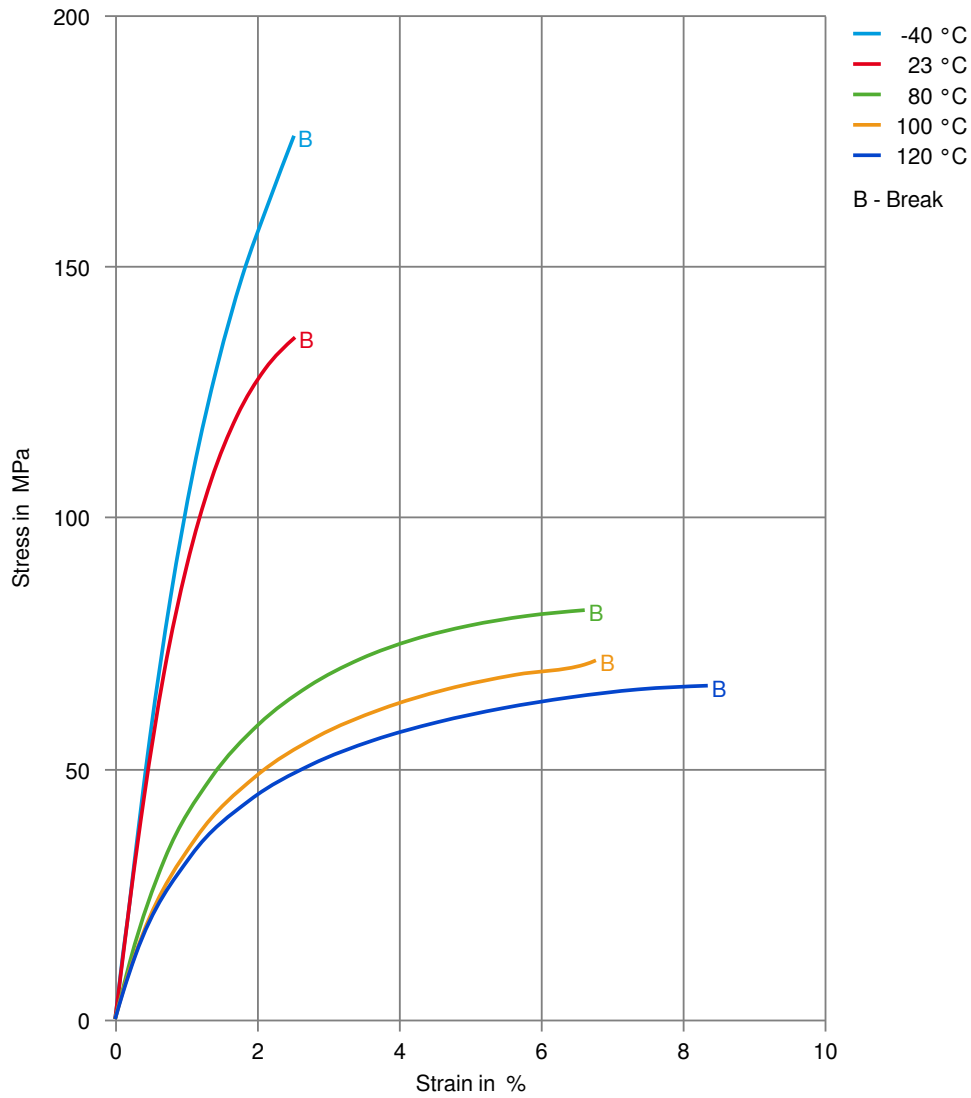
Characteristics

Processing	Injection Moulding
Delivery form	Granules
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant, Heat stabilised or stable to heat

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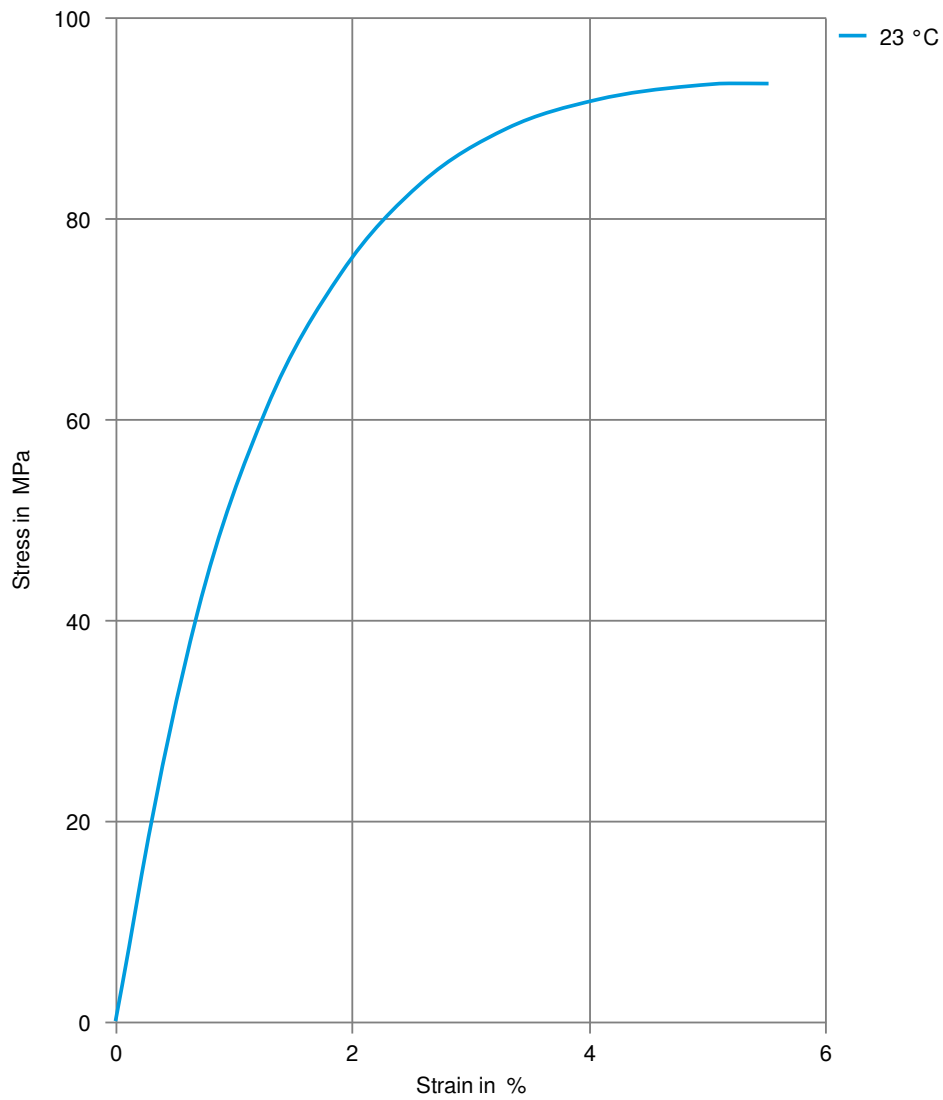
Stress-strain (dry)



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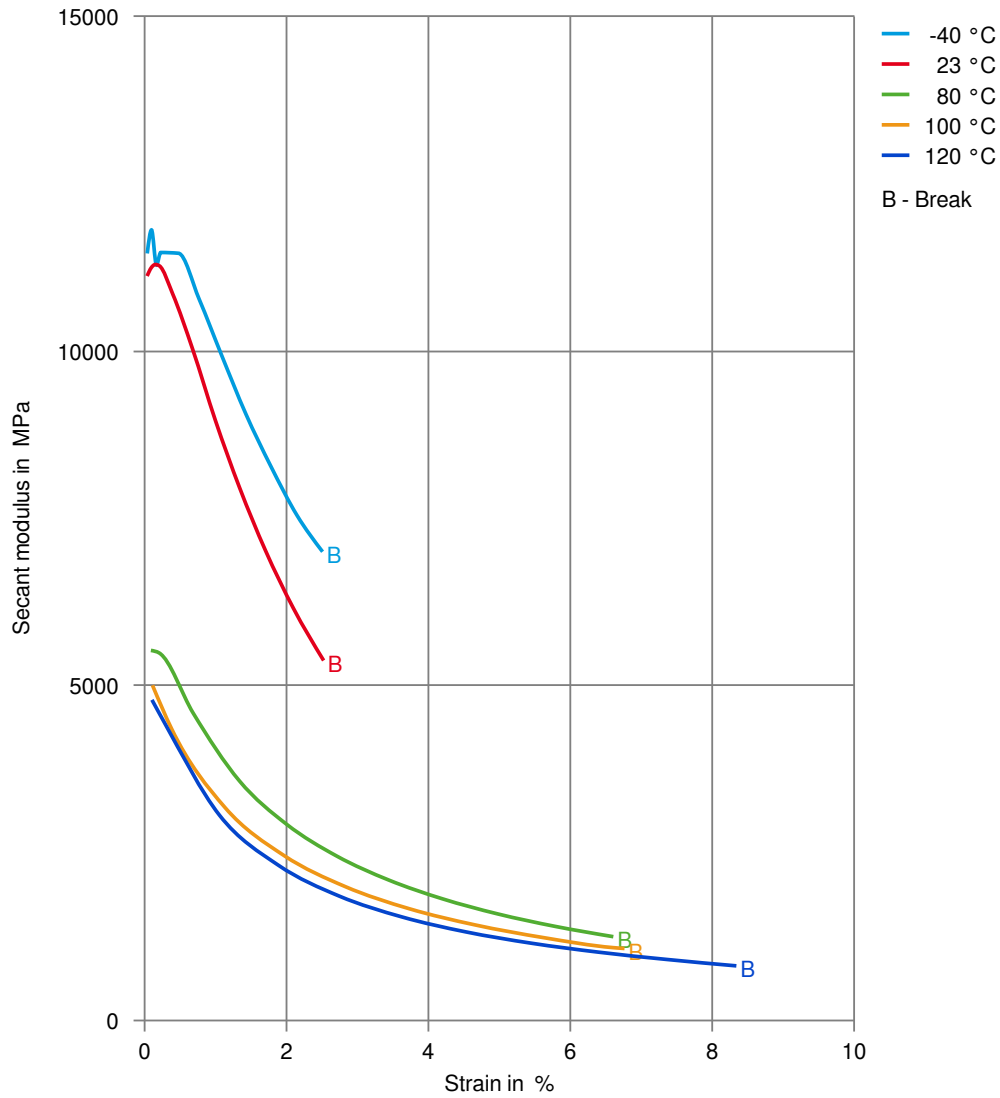
Stress-strain (cond.)



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Secant modulus-strain (dry)



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Secant modulus-strain (cond.)

