

# FRIANYL® A3 GF25 V0 BK 9005

## FRIANYL®

*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	(PA66+PA6)-GF25 FR(40)	ISO 1043
Part Marking Code	>(PA66+PA6)-GF25 FR(40)<	ISO 11469
Continuous Service Temperature	130 °C	IEC 60216-1

### Rheological properties

	dry/cond.		
Melt volume-flow rate	65/*	cm <sup>3</sup> /10min	ISO 1133
Temperature	275/*	°C	
Load	5/*	kg	
Viscosity number	130/*	cm <sup>3</sup> /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	9400 / 6200	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	130 / 90	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 / 6	%	ISO 527-1/-2
Flexural modulus	9000 / 6100 <sup>[DS]</sup>	MPa	ISO 178
Flexural strength	210 / 160 <sup>[DS]</sup>	MPa	ISO 178
Flexural strain at failure	2.8 / -	%	ISO 178
Charpy impact strength, 23 °C	55 / >60	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23 °C	8 / 13	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30 °C	7 / -	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -40 °C	7 / -	kJ/m <sup>2</sup>	ISO 179/1eA
Ball indentation hardness, H 961/30	205 / -	MPa	ISO 2039-1
Poisson's ratio	0.34 / 0.35 <sup>[C]</sup>		

[DS]: Derived from similar grade

[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	210 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220 / *	°C	ISO 75-1/-2
Ball pressure test	175 / -	°C	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	16.7 <sup>[1]</sup> / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	137 <sup>[1]</sup> / *	E-6/K	ISO 11359-1/-2

[1]: Temperature range: 55 °C to 160 °C

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### 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
Glow Wire Ignition Temperature, 0.75mm	775 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	800 / -	°C	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)

### Electrical properties

	dry/cond.		
Volume resistivity	1E14 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	45 / -	kV/mm	IEC 60243-1

### Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.5 / *	%	Sim. to ISO 62
Water absorption, 2mm	5.2 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m³	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	285 °C
Min. melt temperature	270 °C
Max. melt temperature	300 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	100 °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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### Automotive

#### OEM

Renault

Renault

Renault

Renault

#### ADDITIONAL INFORMATION

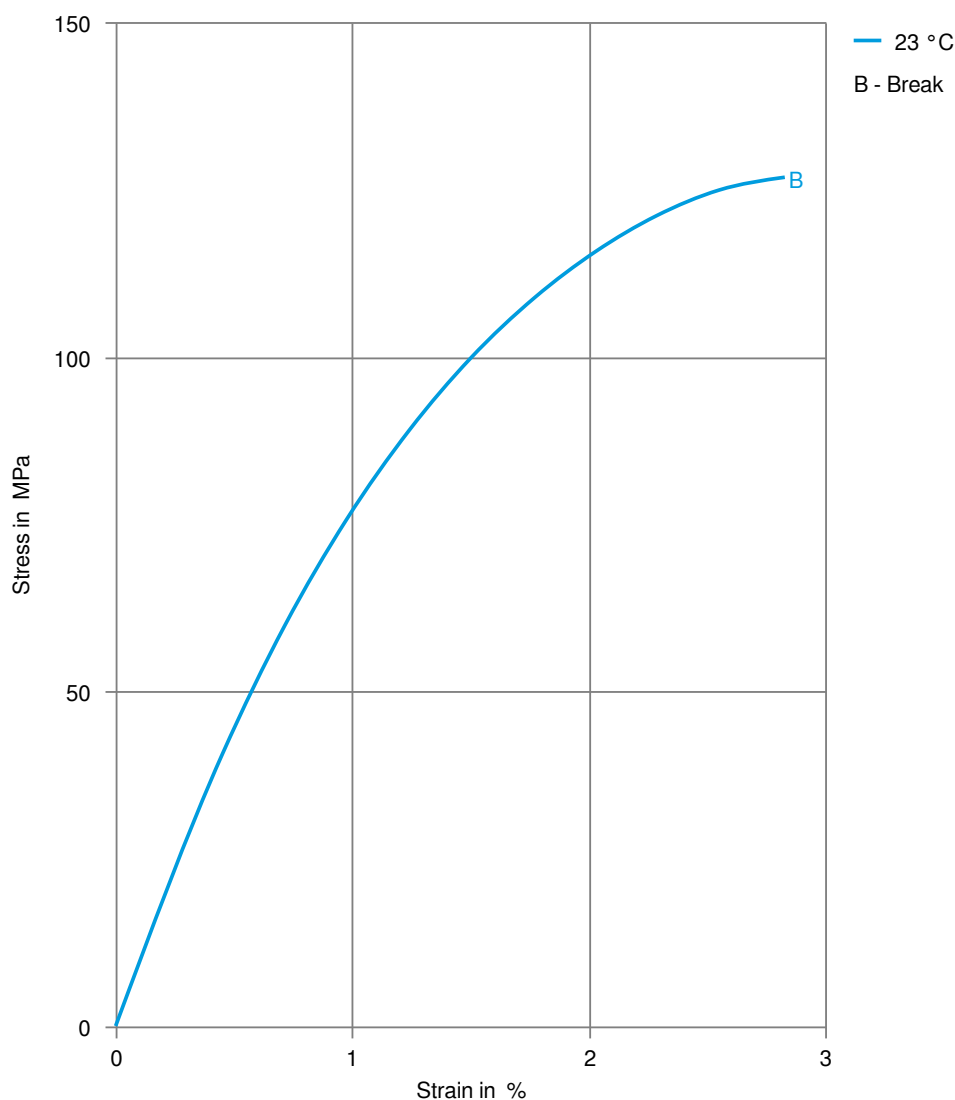
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UB22b, No Spec, Special Part Approval, See Your CE Account Manager.

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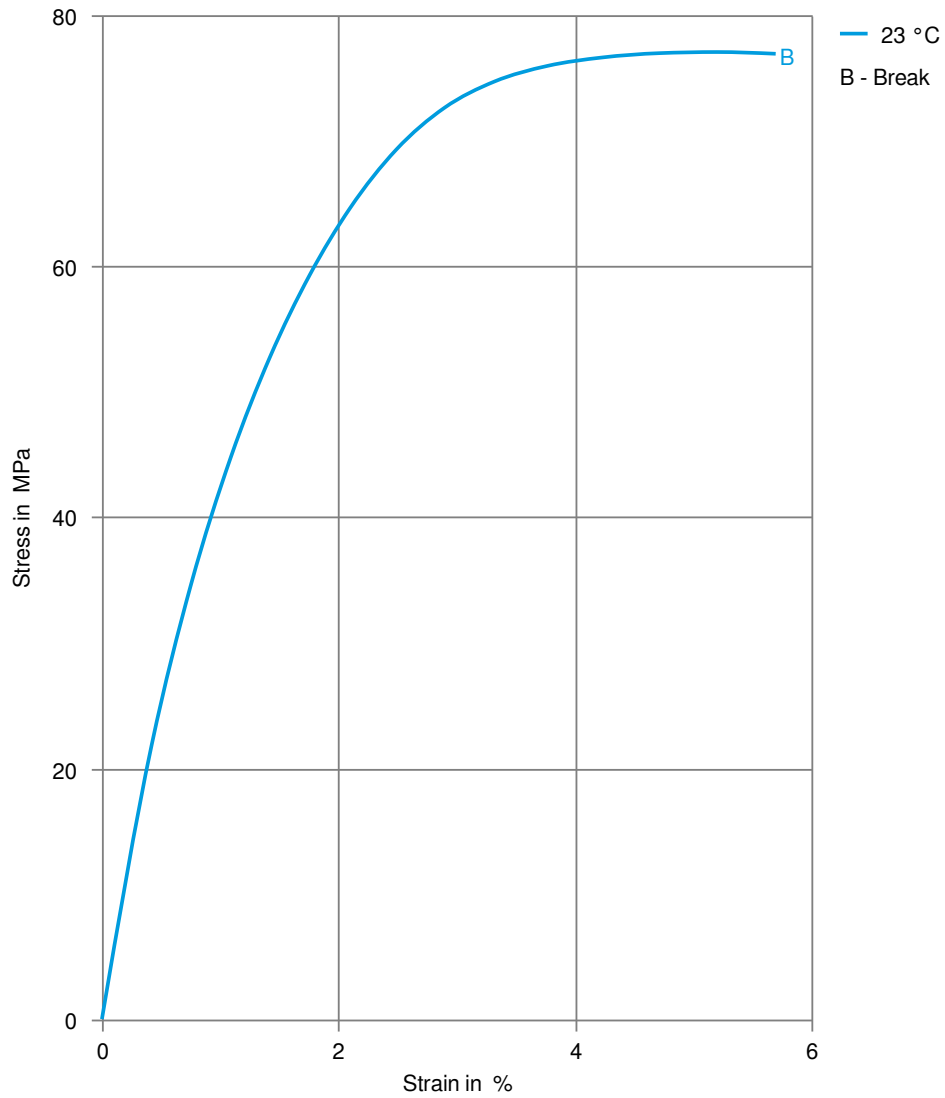
### Stress-strain (dry)



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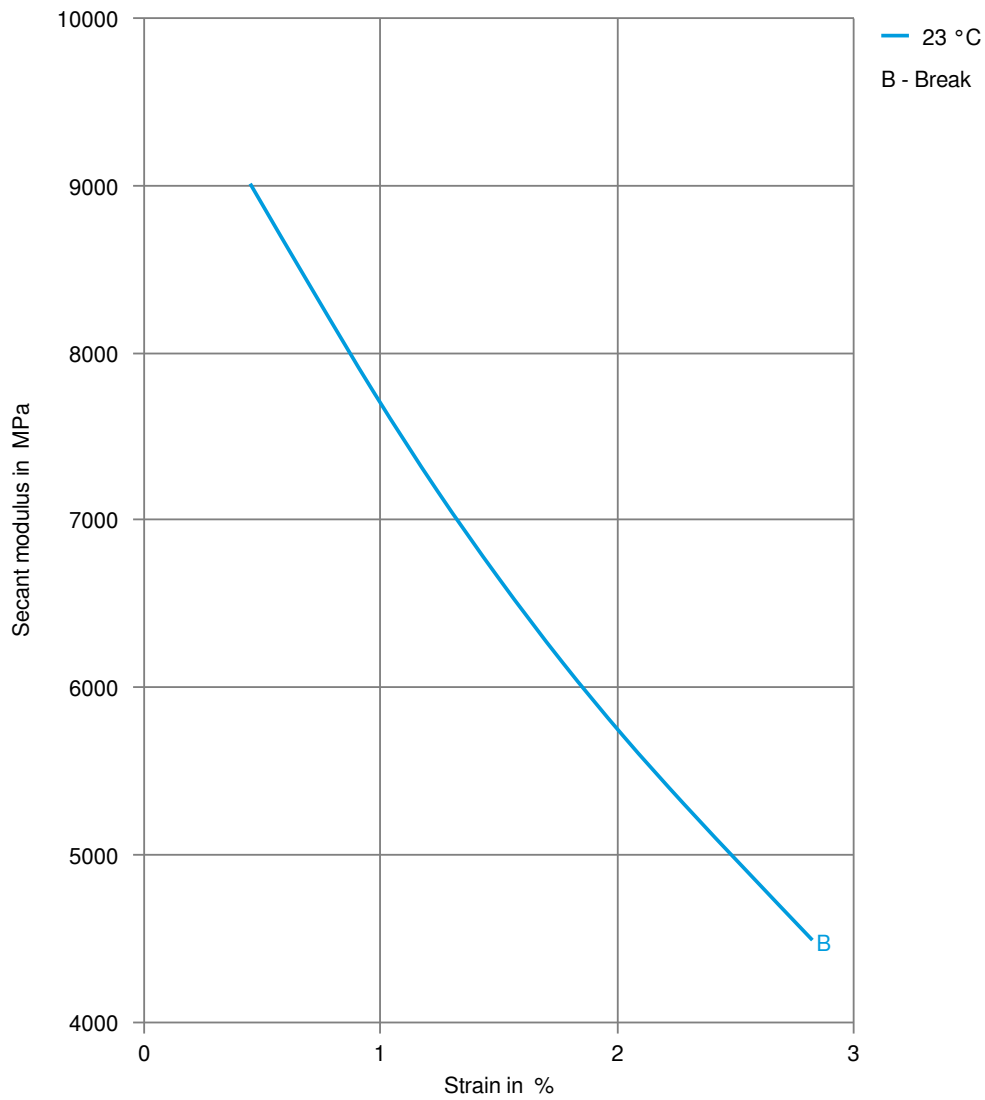
## Stress-strain (cond.)



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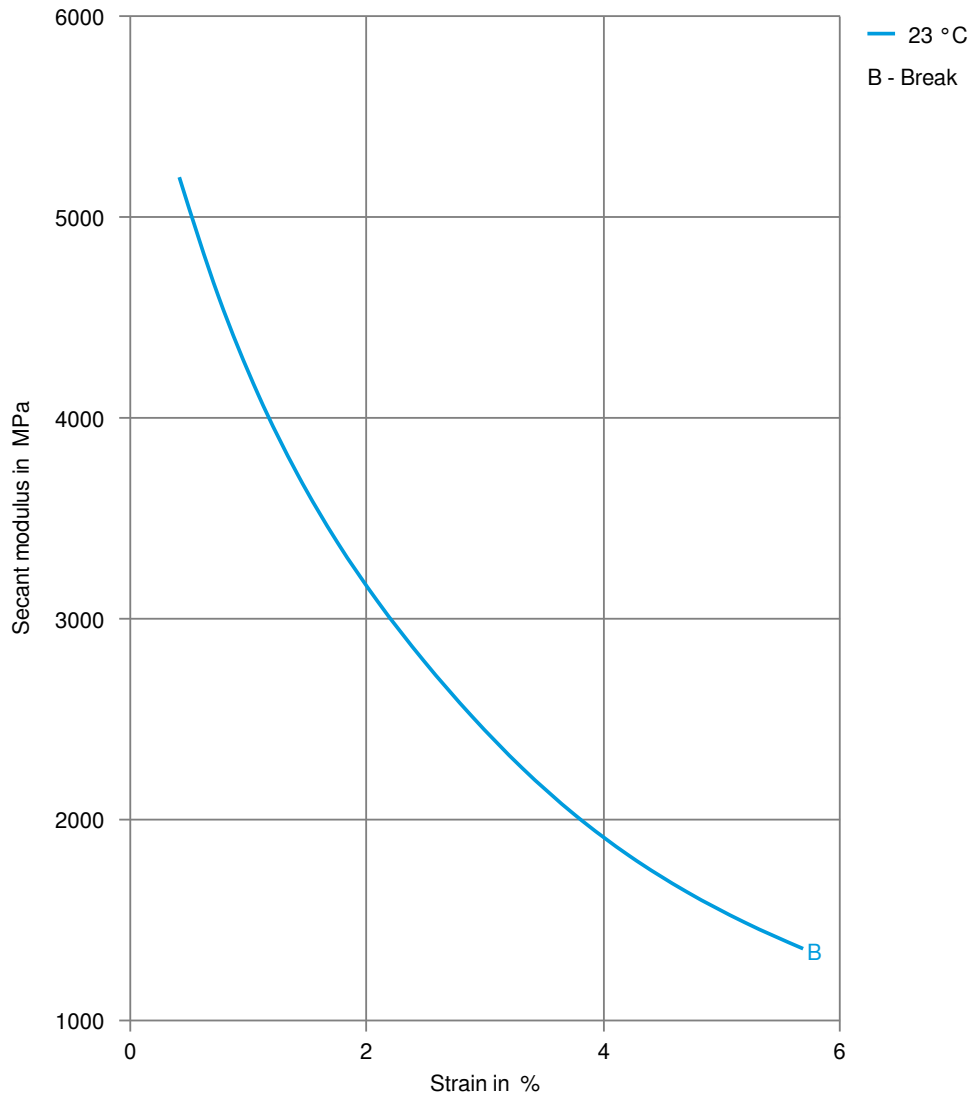
## Secant modulus-strain (dry)



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### Secant modulus-strain (cond.)



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