Celanese
The chemistry inside innovation™

FRIANYL® B3 GF25 V0

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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-GF25 FR(40)	ISO 1043
Part Marking Code	>PA6-GF25 FR(40)<	ISO 11469

Rheological properties

	dry/cond.		
Melt volume-flow rate	8 / *	cm^3/10min	ISO 1133
Temperature	230 / *	°C	
Load	5 / *	kg	
Viscosity number	140 / *	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	8800 / 5700	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	120 / 85	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / 7.5	%	ISO 527-1/-2
Flexural modulus	8500 / -	MPa	ISO 178
Flexural strength	200 / -	MPa	ISO 178
Charpy impact strength, 23°C	>60 / >60	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	10 / 14	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	7 / 9	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 961/30	210 / -	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	190 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	210 / *	°C	ISO 75-1/-2
Ball pressure test	175 / -	°C	IEC 60695-10-2
RTI, electrical, 0.75mm	120	°C	UL 746B
RTI, electrical, 1.5mm	120	°C	UL 746B
RTI, electrical, 3.0mm	120	°C	UL 746B
RTI, impact, 0.75mm	100	°C	UL 746B
RTI, impact, 1.5mm	100	°C	UL 746B
RTI, impact, 3.0mm	105	°C	UL 746B
RTI, strength, 0.75mm	125	°C	UL 746B
RTI, strength, 1.5mm	125 / *	°C	UL 746B
RTI, strength, 3.0mm	130	°C	UL 746B

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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	0.8 / *	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, 2.0mm	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, 1.5mm	800 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	800 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	800 / -	°C	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)
Hot Wire Ignition, 0.75mm	PLC 0 / *	s	UL 746A
Hot Wire Ignition, 1.5mm	PLC 0 / *	s	UL 746A
Hot Wire Ignition, 3mm	PLC 0 / *	s	UL 746A

Electrical properties

	dry/cond.		
Volume resistivity	1E12 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	49 / -	kV/mm	IEC 60243-1
Comparative tracking index, 100 drops	600		IEC 60112
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 / *	class	UL 746A

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.5 / *	%	Sim. to ISO 62
Water absorption, 2mm	5.2 / *	%	Sim. to ISO 62
Density	1340 / -	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	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

Characteristics

Processing	Injection Moulding
Delivery form	Granules
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant

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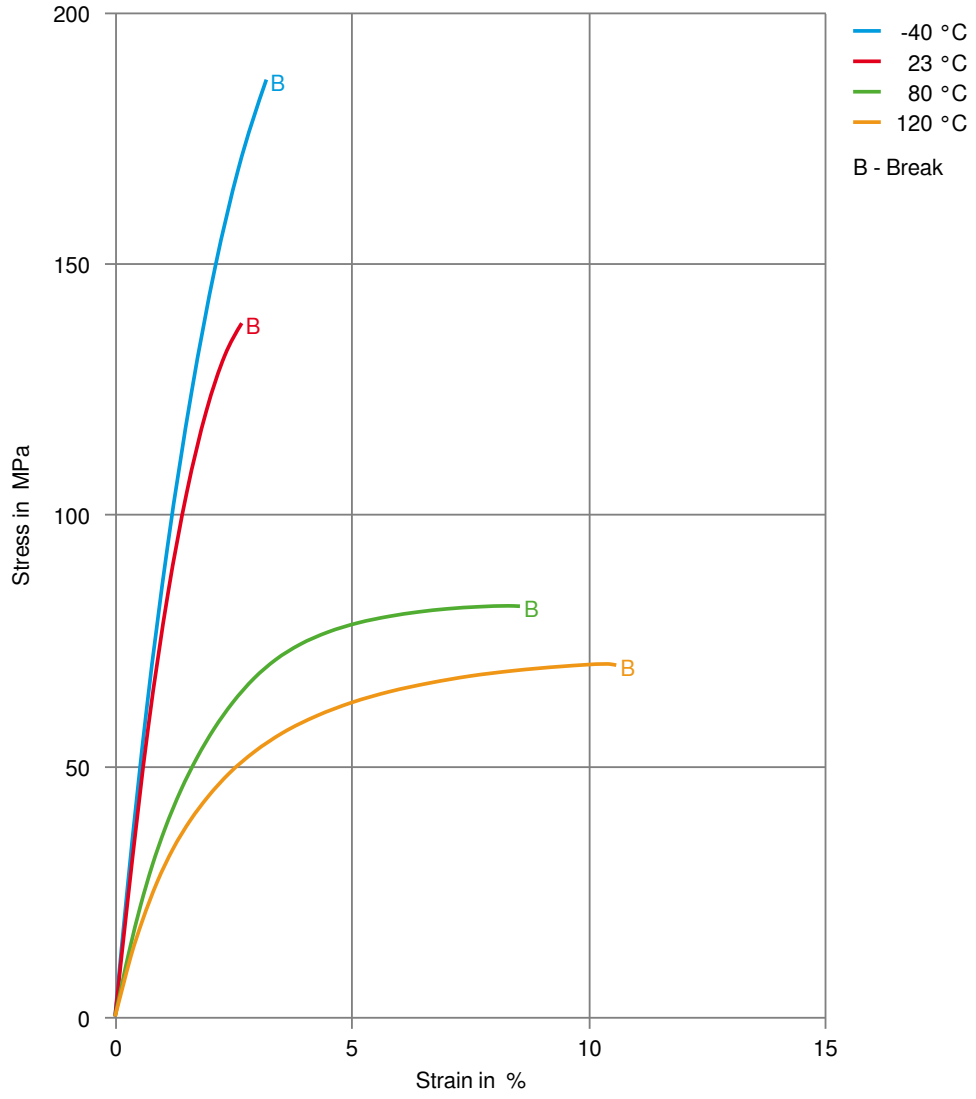
Special characteristics	Flame retardant, Heat stabilised or stable to heat

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Stellantis	B62 0300 / 61/221E/214M/C4	01378_20_00618
VW Group	VW 50134	*Best Fitting Grade To PA6-6-A, Not Officially Approved

Stress-strain (dry)



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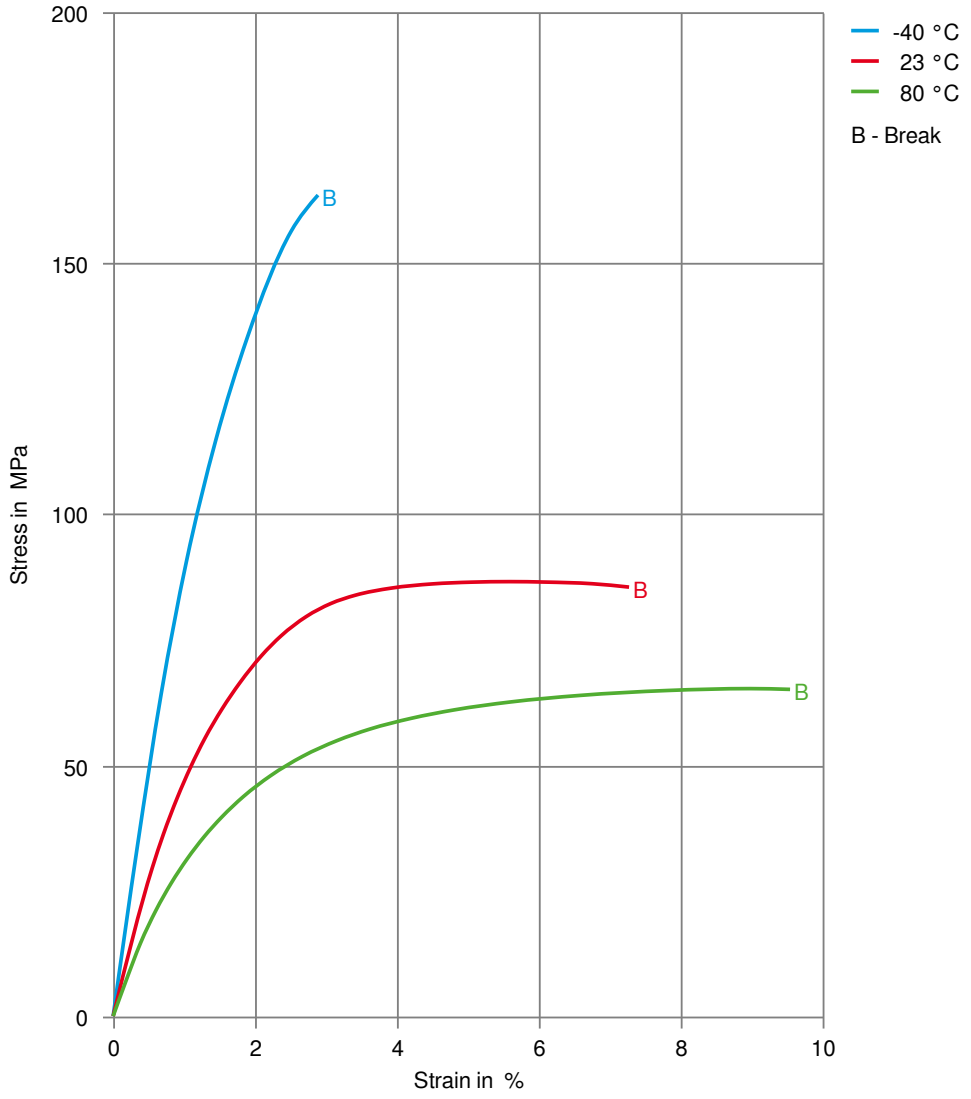
Stress-strain (cond.)



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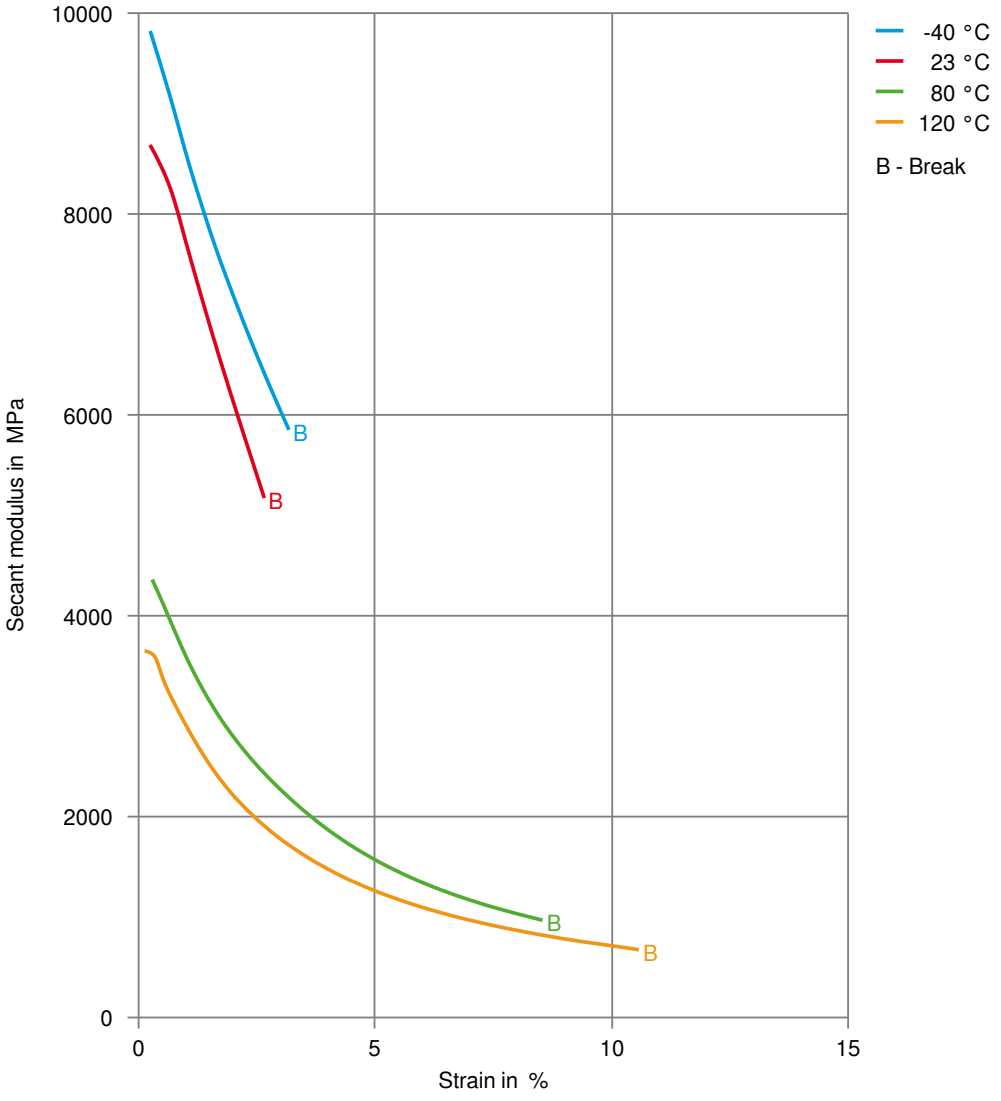
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)