FRIANYL® A3 GF25 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	(PA66+PA6)-GF25 FR(40)	ISO 1043
Part Marking Code	>(PA66+PA6)-GF25 FR(40)<	ISO 11469
Continuous Service Temperature	266 °F	IEC 60216-1

Rheological properties

	dry/cond.		
Melt volume-flow rate	65 / *	cm^3/10min	ISO 1133
Temperature	527 / *	°F	
Load	11 / *	lb	
Viscosity number	3600 / *	in^3/lb	ISO 307, 1628
Molding shrinkage range, parallel	0.3 - 0.6	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.6 - 0.9	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	1.36E6 / 899000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18900 / 13100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 / 6	%	ISO 527-1/-2
Flexural modulus	1.31E6 /	psi	ISO 178
	[DS]		
Flexural strength	30500 / 2 3200[DS]	psi	ISO 178
Flexural strain at failure	2.8 / -	%	ISO 178
Charpy impact strength, 23 °C	26.2 / >60	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23 °C	3.81 / 6.18	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30 °C	3.33 / -	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -40 °C	3.33 / -	$ftlb/in^2$	ISO 179/1eA
Ball indentation hardness, H 961/30	29700 / -	psi	ISO 2039-1

[DS]: Derived from similar grade

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	500 / *	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	428 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	446 / *	°F	ISO 75-1/-2
Ball pressure test	347 / -	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.09[1] / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.761[1] / *	E-4/°F	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	0.0157 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Flammability Index, 0.75mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1430 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1470 / -	°F	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	1140 / -	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.5 / *	%	Sim. to ISO 62
Water absorption, 2mm	5.2 / *	%	Sim. to ISO 62
Density	0.0495 / -	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	176	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	545	°F
Min. melt temperature	518	°F
Max. melt temperature	572	°F
Max. screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	212	°F

Automotive

OEM	ADDITIONAL INFORMATION
Renault	UB22a, BB/YG, No Spec, Special Part Approval, See Your CE Account Manager.
Renault	UB22b, No Spec, Special Part Approval, See Your CE Account Manager.
Renault	UB22c, No Spec, Special Part Approval, See Your CE Account Manager.
Renault	UB22d, No Spec, Special Part Approval, See Your CE Account Manager.

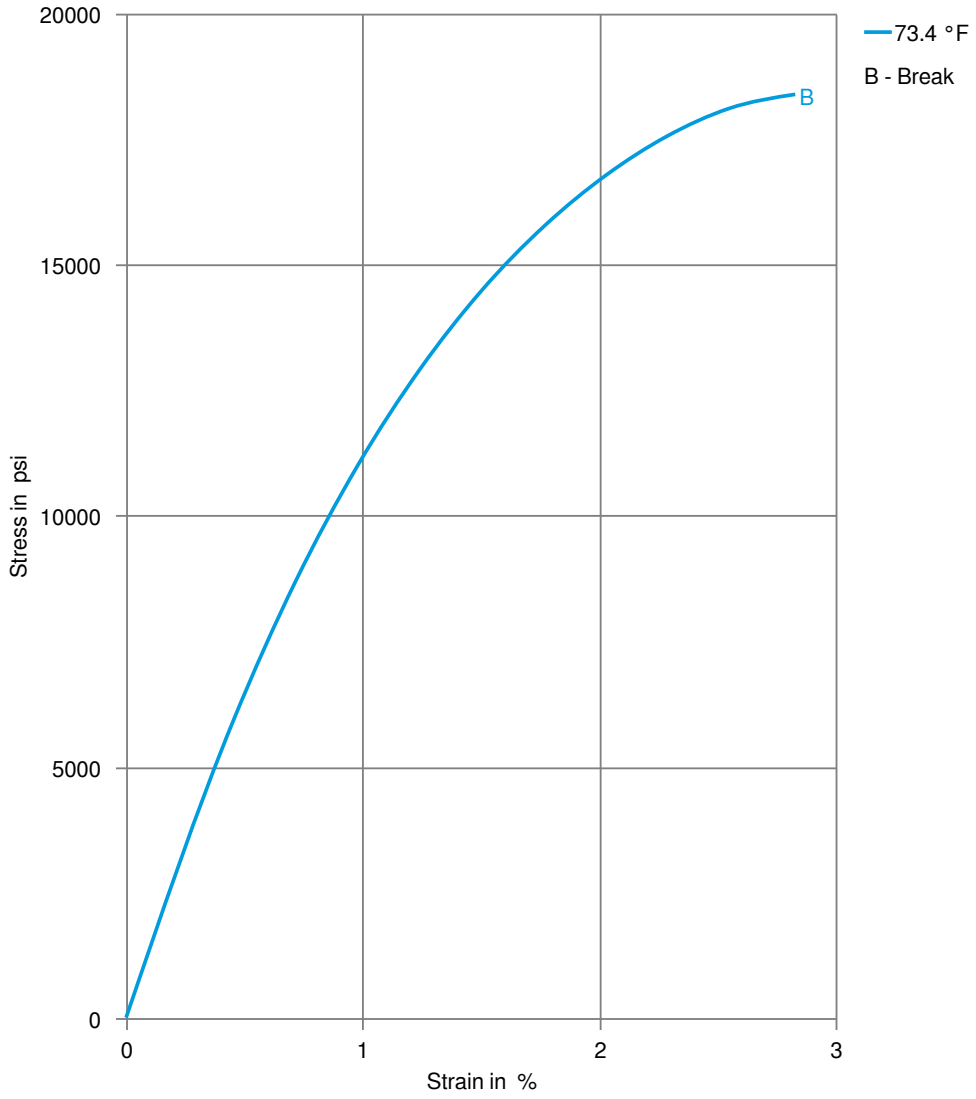
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Characteristics

Processing	Injection Molding
Additives	Flame retardant, Non-halogenated/Red phosphorus free flame retardant
Special characteristics	Flame retardant, Heat stabilized or stable to heat

Stress-strain (dry)

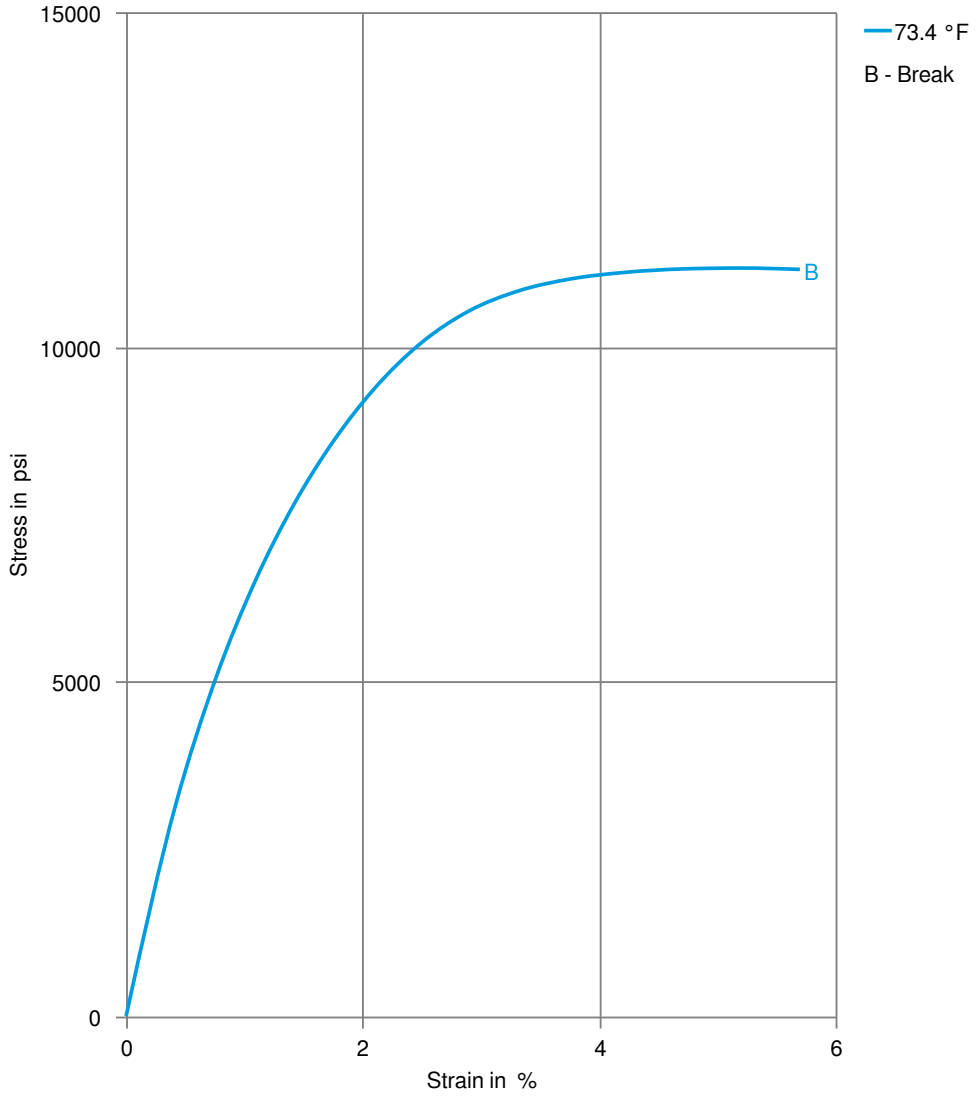


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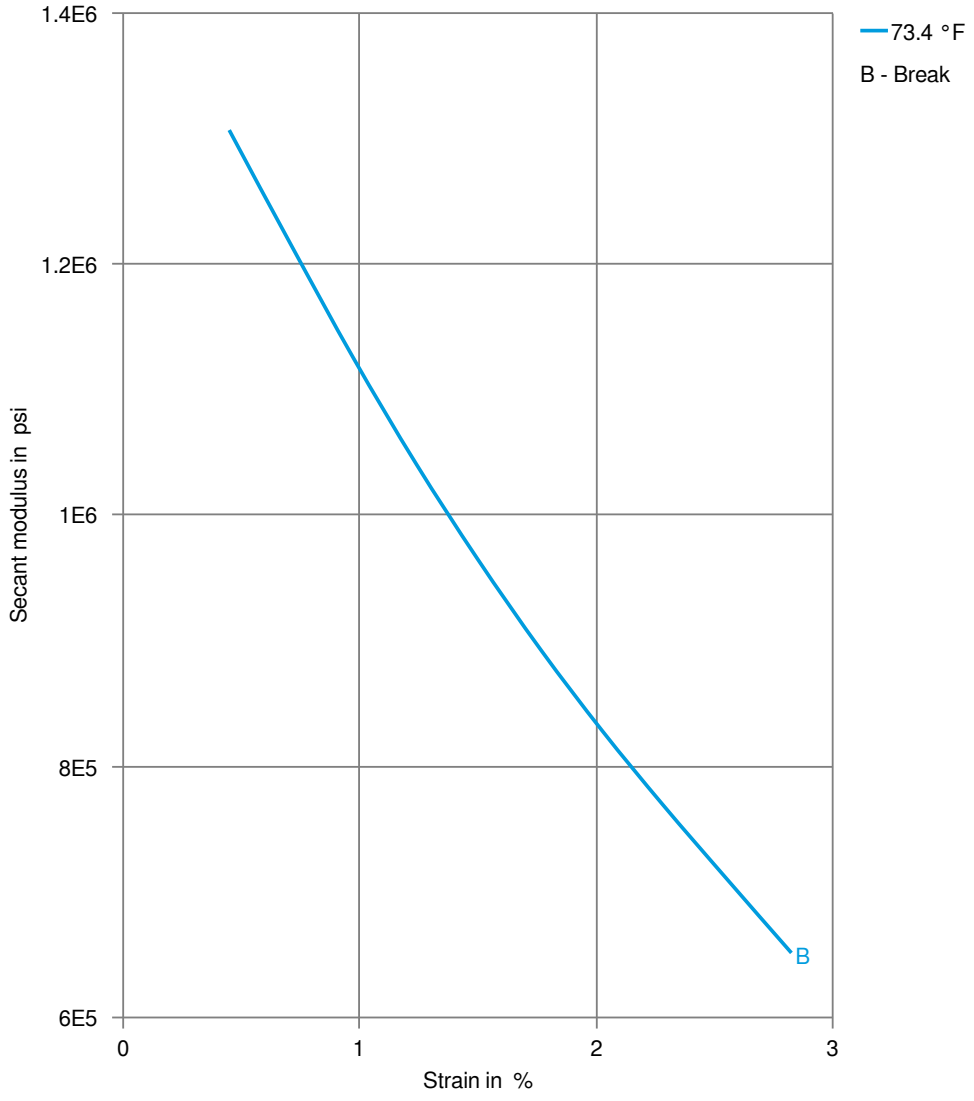
Stress-strain (cond.)



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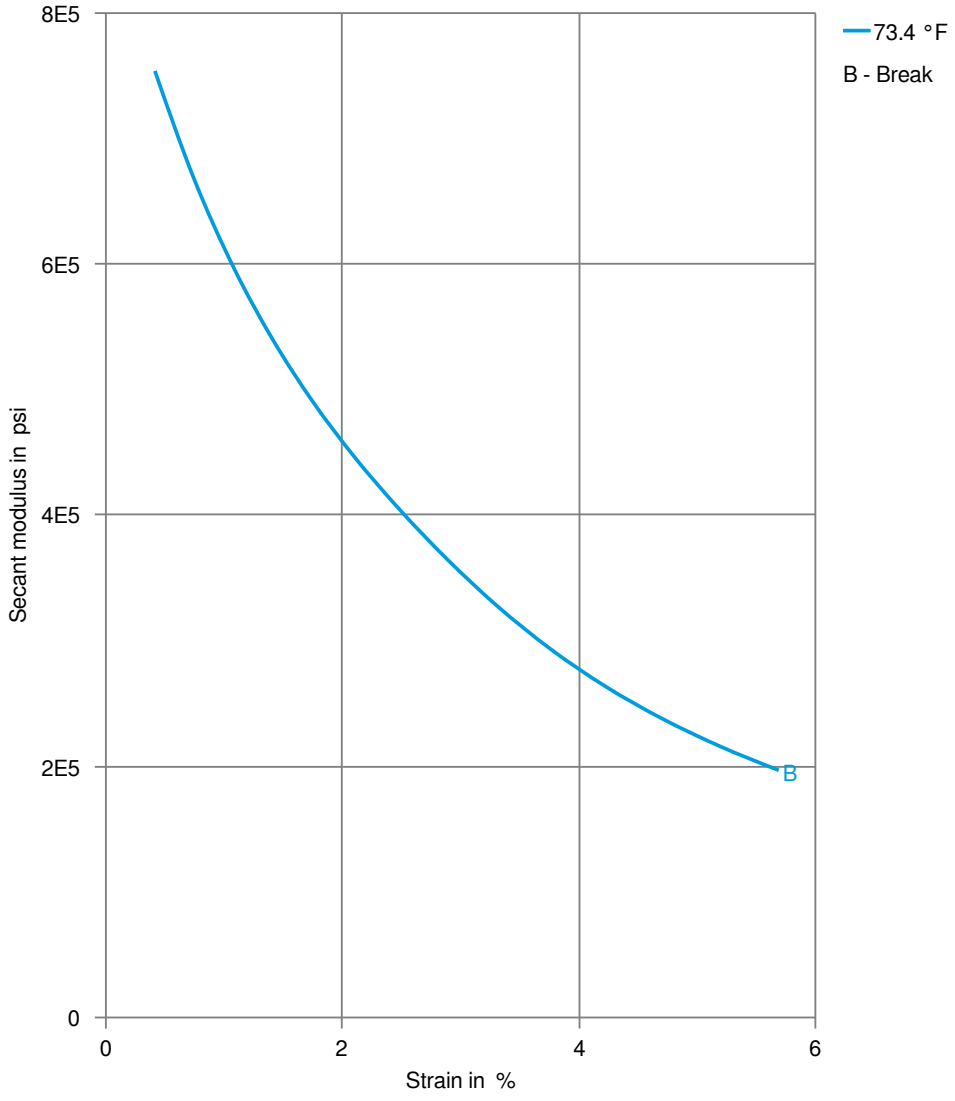
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



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