FRIANYL® A3 V2XI

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Designed for Electrical applications requiring self-extinguishing properties combined with ignition resistance, this grade meets the most stringent safety requirements for insulating materials for the household appliance industry.

Product information

Resin Identification	PA66 FR(16+72)		ISO 1043
Part Marking Code	>PA66 FR(16+72)<		ISO 11469
Continuous Service Temperature	230	°F	IEC 60216-1

Rheological properties

Molding shrinkage range, parallel	0.8 - 1.2	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.8 - 1.2	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	515000 / 181000	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	8700 / -	psi	ISO 527-1/-2
Tensile stress at break, 50mm/min	- / 26800	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	4.3 / -	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	- / 33	%	ISO 527-1/-2
Flexural modulus	392000 / 174000	psi	ISO 178
Flexural strength	16000 / 5800	psi	ISO 178
Flexural stress at 3.5%	- / 5080	psi	ISO 178
Flexural strain at failure	- / 5	%	ISO 178
Charpy impact strength, 23°C	30.9 / N	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	- / 4.28	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	2.09 / -	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	20.9 / -	ftlb/in²	ISO 180/1U

Thermal properties

	dry/cond.		
Temperature of deflection under load, 1.8 MPa	212 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	455 / *	°F	ISO 75-1/-2
Ball pressure test	446 / -	°F	IEC 60695-10-2
RTI, electrical, 0.75mm	284	°F	UL 746B
RTI, electrical, 1.5mm	284	°F	UL 746B
RTI, electrical, 3.0mm	284	°F	UL 746B
RTI, impact, 0.75mm	194	°F	UL 746B
RTI, impact, 1.5mm	194	°F	UL 746B
RTI, impact, 3.0mm	194	°F	UL 746B
RTI, strength, 0.75mm	239	°F	UL 746B
RTI, strength, 1.5mm	239 / *	°F	UL 746B
RTI, strength, 3.0mm	239	°F	UL 746B

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Burning Behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.0157 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94

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Glow Wire Flammability Index, 0.75mm	1560 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 1.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1610 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.0mm	1650 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1650 / -	°F	IEC 60695-2-13
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
FMVSS Class	SE		ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
High Amperage Arc Ignition Category, 1.5 mm	PLC 0 / *	class	UL 746A

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1 / *	%	Sim. to ISO 62
Water absorption, 2mm	6 / *	%	Sim. to ISO 62
Density	0.048 / -	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	518	°F
Min. melt temperature	509	°F
Max. melt temperature	545	°F
Max. screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	176	°F
Min. mold temperature	158	°F
Max. mold temperature	194	°F

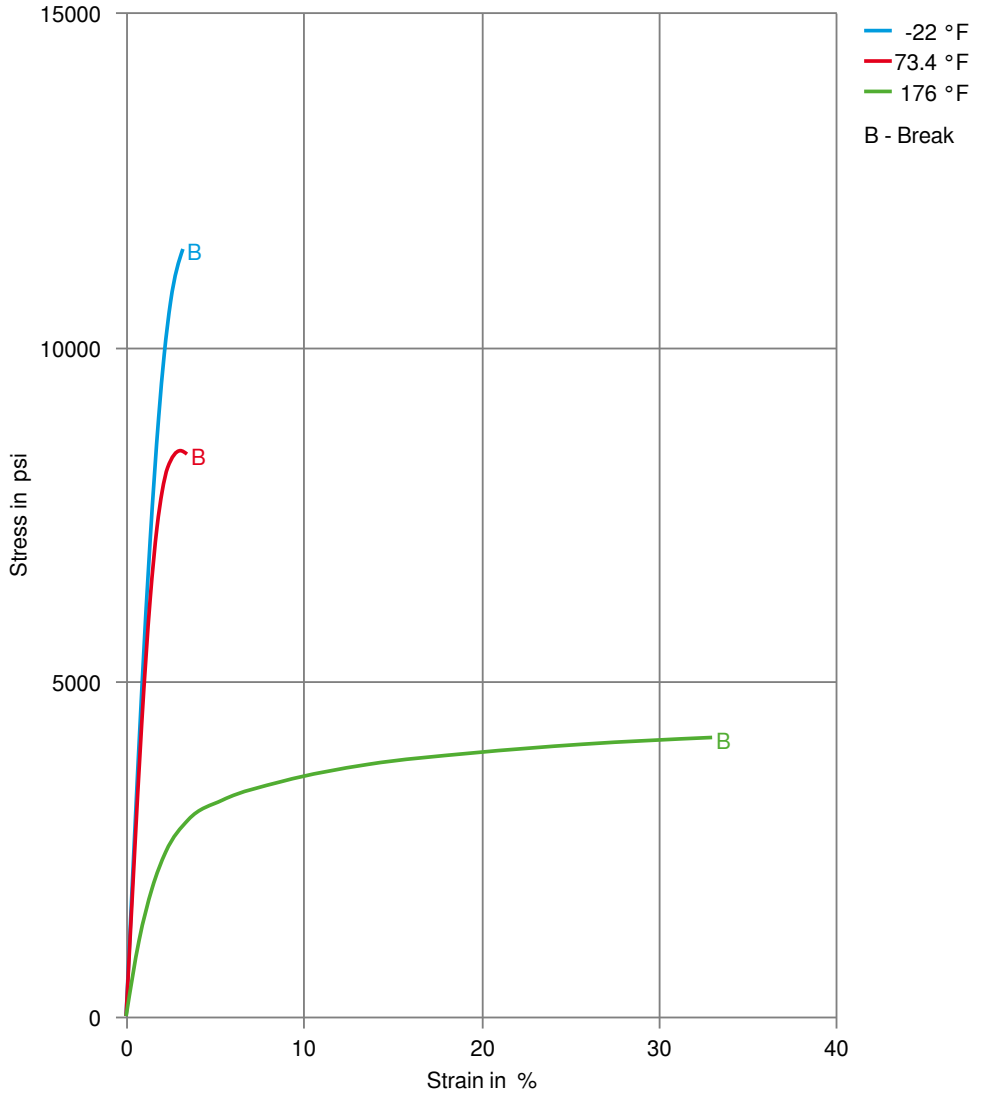
Characteristics

Processing	Injection Molding
Additives	Flame retardant
Special characteristics	Flame retardant, Heat stabilized or stable to heat

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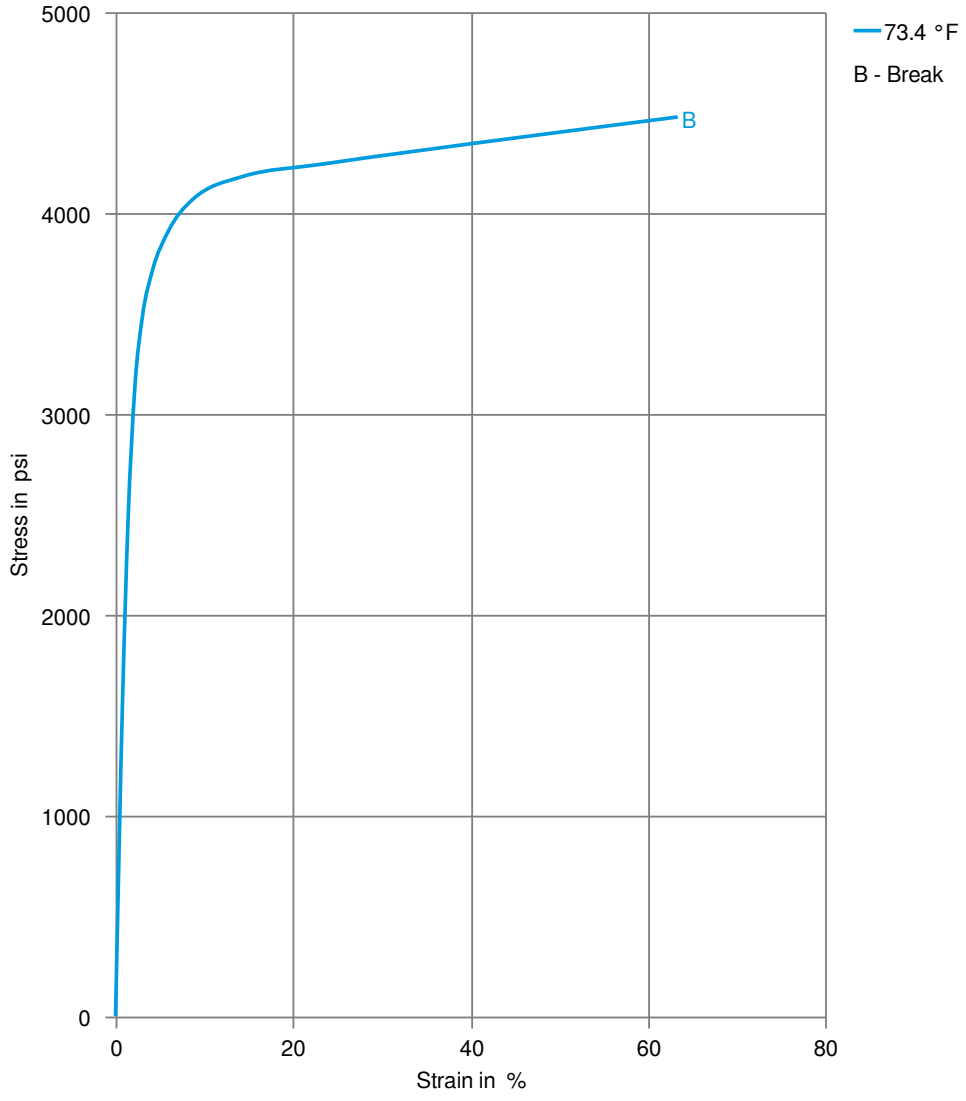
Stress-strain (dry)



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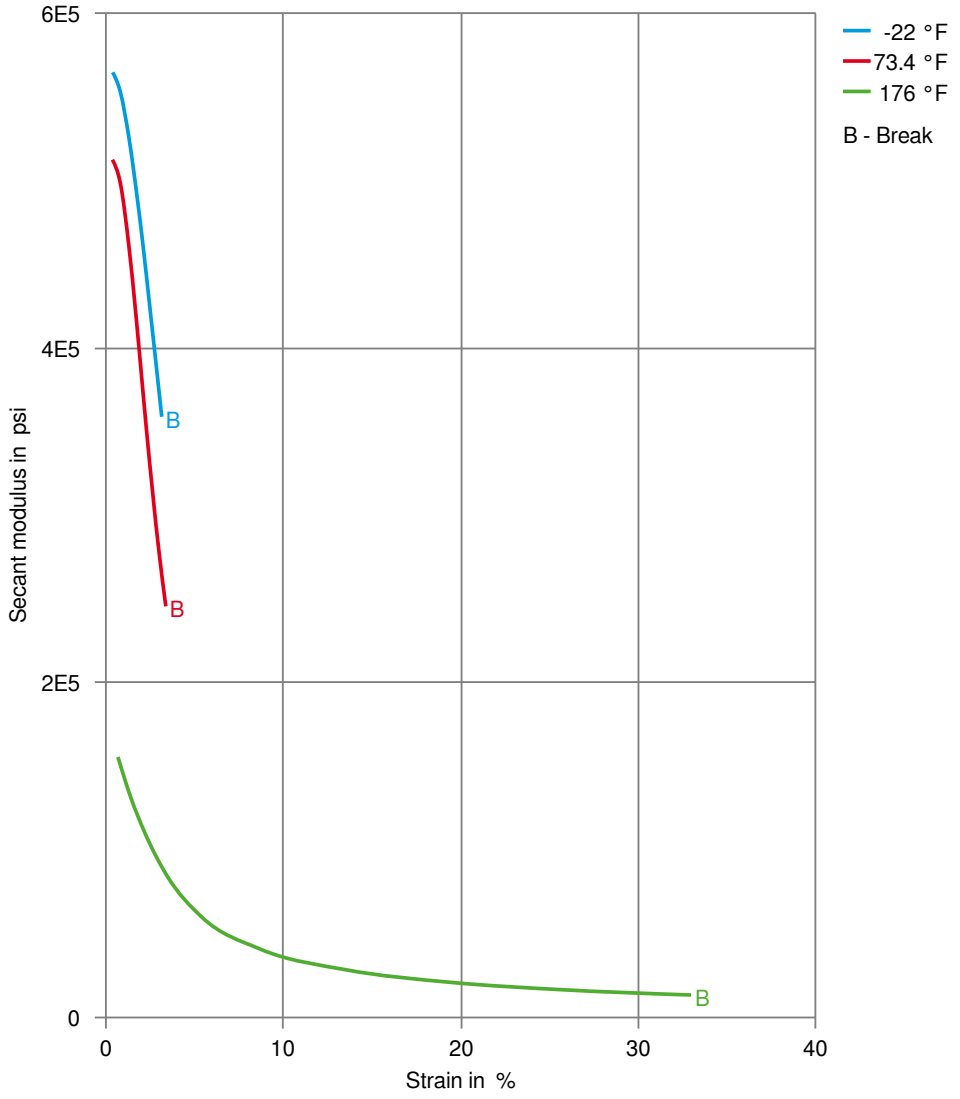
Stress-strain (cond.)



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Secant modulus-strain (dry)

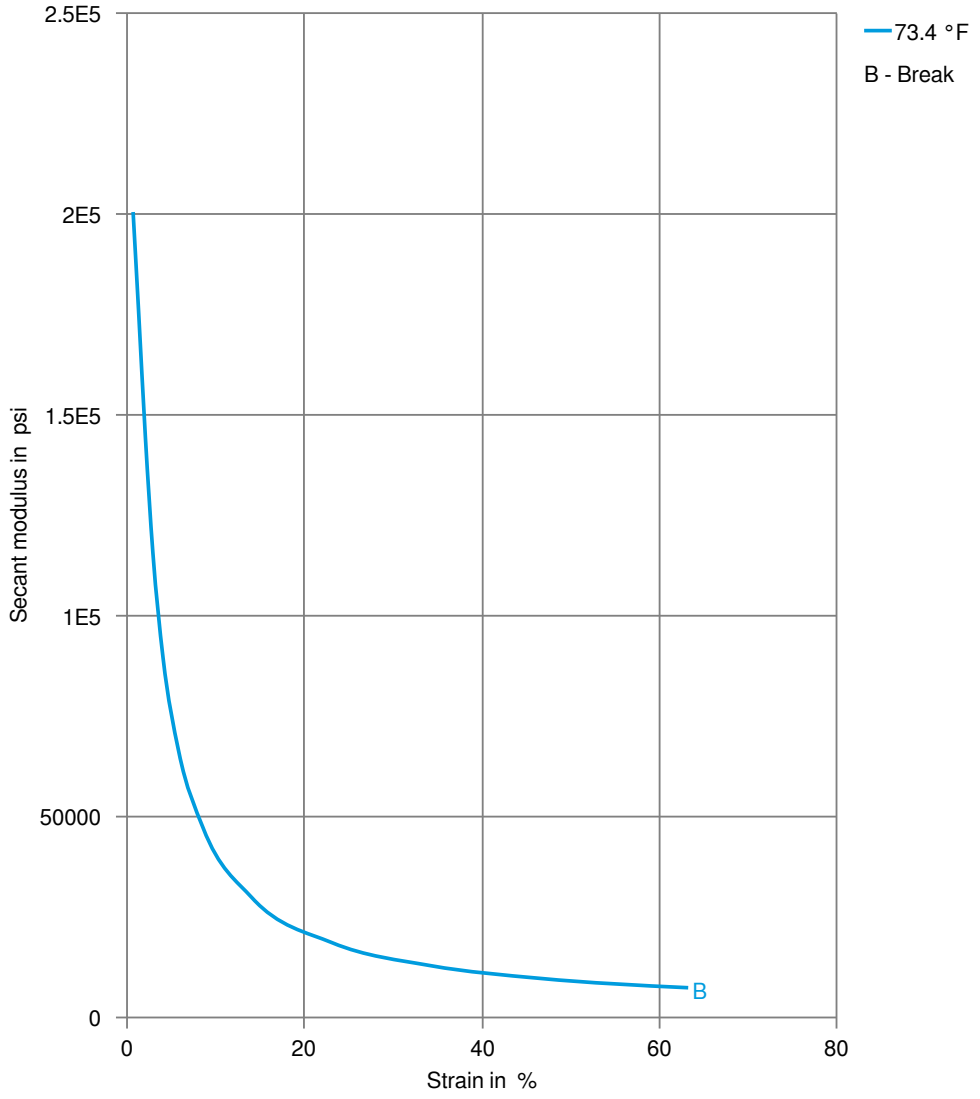


Revised: 2025-02-14 Source: Celanese Materials Database

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Secant modulus-strain (cond.)



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