Celanese
The chemistry inside innovation™

FRIANYL® A3 V0XI

FRIANYL®

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

Product information

Resin Identification	PA66 FR(17)		ISO 1043
Part Marking Code	>PA66 FR(17)<		ISO 11469
Continuous Service Temperature	248	°F	IEC 60216-1

Rheological properties

	dry/cond.		
Melt volume-flow rate	35 / *	cm^3/10min	ISO 1133
Temperature	518 / *	°F	
Load	4.76 / *	lb	
Molding shrinkage, parallel	0.9 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	421000 / -	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8000 / -	psi	ISO 527-1/-2
Tensile strain at break, 50mm/min	15 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	>100 / -	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23°C	2.62 / -	$ftlb/in^2$	ISO 179/1eA
Izod notched impact strength, 23°C	2.85 / -	$ftlb/in^2$	ISO 180/1A

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	500 / *	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	194 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	428 / *	°F	ISO 75-1/-2
RTI, electrical, 0.4mm	248	°F	UL 746B
RTI, electrical, 0.75mm	266	°F	UL 746B
RTI, electrical, 1.5mm	266	°F	UL 746B
RTI, electrical, 3.0mm	266	°F	UL 746B

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, 0.4mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 0.75mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1470 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 0.4mm	1520 / -	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.5mm	1430 / -	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1430 / -	°F	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)

Revised: 2025-07-08 Source: Celanese Materials Database

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.4 / *	%	Sim. to ISO 62
Water absorption, 2mm	5.7 / *	%	Sim. to ISO 62
Density	0.0473 / -	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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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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