Celanese
The chemistry inside innovation™

FRIANYL® C3 H V0

FRIANYL®

Designed for Electrical applications requiring self-extinguishing properties combined with easy processability and excellent surface quality, this grade meets the most stringent safety requirements for insulating materials.

Product information

Resin Identification	PA666 FR(30)		ISO 1043
Part Marking Code	>PA666 FR(30)<		ISO 11469
Continuous Service Temperature	230	°F	IEC 60216-1

Rheological properties

Molding shrinkage range, parallel	1.1 - 1.5	%	ISO 294-4, 2577
Molding shrinkage range, normal	1.1 - 1.5	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	479000 / -	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	10000 / -	psi	ISO 527-1/-2
Tensile strain at break, 50mm/min	10 / -	%	ISO 527-1/-2
Flexural modulus	435000 / -	psi	ISO 178
Flexural strength	16000 / -	psi	ISO 178
Charpy impact strength, 23°C	28.5 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	23.8 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.43 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	1.19 / -	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	1.66 / -	ftlb/in²	ISO 180/1A

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	491 / *	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	176 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	392 / *	°F	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.0630 / *	in	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
FMVSS Class	SE		ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Volume resistivity	1E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	457 / -	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

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

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.9 / *	%	Sim. to ISO 62
Water absorption, 2mm	7.5 / *	%	Sim. to ISO 62
Density	0.0419 / -	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	500	°F
Max. melt temperature	554	°F
Max. screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	158	°F
Min. mold temperature	140	°F
Max. mold temperature	194	°F

Characteristics

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

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