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	110	°C	IEC 60216-1

Rheological properties

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

Typical mechanical properties

	dry/cond.		
Tensile modulus	3300 / -	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	70 / -	MPa	ISO 527-1/-2
Tensile strain at break, 50mm/min	10 / -	%	ISO 527-1/-2
Flexural modulus	3000 / -	MPa	ISO 178
Flexural strength	110 / -	MPa	ISO 178
Charpy impact strength, 23°C	60 / -	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	50 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	3 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.5 / -	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	3.5 / -	kJ/m²	ISO 180/1A
Poisson's ratio	0.37 / -[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	255 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	80 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	200 / *	°C	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.6 / *	mm	IEC 60695-11-10
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	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, 3.0mm	960 / -	°C	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	18 / -	kV/mm	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

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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	1160 / -	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	270	°C
Min. melt temperature	260	°C
Max. melt temperature	290	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	70	°C
Min. mould temperature	60	°C
Max. mould temperature	90	°C

Characteristics

Processing	Injection Moulding
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant, Heat stabilised or stable to heat

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