Celanese
The chemistry inside innovation™

FRIANYL® A3 GF30 V0

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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)-GF30FR(40)	ISO 1043
Part Marking Code	>(PA66+PA6)-GF30FR(40)<	ISO 11469
Continuous Service Temperature	130 °C	IEC 60216-1

Rheological properties

Moulding shrinkage range, parallel	0.2 - 0.5 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.6 - 0.9 %	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	10000 / 6700	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	140 / 105	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / 5.5	%	ISO 527-1/-2
Flexural modulus	10300 / -	MPa	ISO 178
Flexural strength	250 / -	MPa	ISO 178
Charpy impact strength, 23 °C	65 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23 °C	10 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30 °C	9 / -	kJ/m²	ISO 179/1eA
Izod notched impact strength, -30 °C	10.0 / -	kJ/m²	ISO 180/1A
Izod impact strength, -30 °C	60 / -	kJ/m²	ISO 180/1U
Ball indentation hardness, H 961/30	225 / -	MPa	ISO 2039-1
Poisson's ratio	0.34 / 0.35[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	260 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	210 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	235 / *	°C	ISO 75-1/-2
Ball pressure test	175 / -	°C	IEC 60695-10-2
RTI, electrical, 0.4mm	120	°C	UL 746B
RTI, electrical, 0.75mm	130	°C	UL 746B
RTI, electrical, 1.5mm	130	°C	UL 746B
RTI, electrical, 3.0mm	130	°C	UL 746B
RTI, impact, 0.75mm	90	°C	UL 746B
RTI, impact, 1.5mm	90	°C	UL 746B
RTI, impact, 3.0mm	90	°C	UL 746B
RTI, strength, 0.75mm	130	°C	UL 746B
RTI, strength, 1.5mm	130 / *	°C	UL 746B
RTI, strength, 3.0mm	130	°C	UL 746B

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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	0.4 / *	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
Glow Wire Ignition Temperature, 0.75mm	775 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	800 / -	°C	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)
Railway classification	R22 / R24		EN 45545-2
Railway classification rating	HL3 / HL3		EN 45545-2

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	46 / -	kV/mm	IEC 60243-1
Comparative tracking index, 100 drops	600		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.3 / *	%	Sim. to ISO 62
Water absorption, 2mm	4.5 / *	%	Sim. to ISO 62
Density	1410 / -	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	285	°C
Min. melt temperature	270	°C
Max. melt temperature	300	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	80	°C
Min. mould temperature	60	°C
Max. mould temperature	100	°C
Ejection temperature	208	°C

Characteristics

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

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Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Renault	UB22a, 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.	
VW Group	VW 50133	*Best Fitting Grade To PA66-6-A, Not Officially Approved

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