Celanese
The chemistry inside innovation™

FRIANYL® A3 E GF25 V0 BK 9011/YG

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Designed for Electrical applications requiring self-extinguishing properties combined with good mechanical performances, low blooming and corrosion, good surface quality, this grade meets the most stringent safety requirements for insulating materials. Suitable for EV high voltage applications. Suitable for marking with laser.

Product information

Resin Identification	(PA66+PA6)-GF25 FR(40)	ISO 1043
Part Marking Code	>(PA66+PA6)-GF25 FR(40)<	ISO 11469

Rheological properties

	dry/cond.		
Viscosity number	155 / *	cm^3/g	ISO 307, 1628
Moulding shrinkage range, parallel	0.3 - 0.6	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.6 - 0.9	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	9000 / -	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	120 / -	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	55 / -	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	50 / -	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	8 / -	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	5 / -	kJ/m^2	ISO 179/1eA
Poisson's ratio	0.34 / -[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Ball pressure test	175 / -	°C	IEC 60695-10-2

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
Glow Wire Flammability Index, 0.4mm	960 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.75mm	960 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	960 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960 / -	°C	IEC 60695-2-12

Electrical properties

	dry/cond.		
Volume resistivity	1.2E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 5.1E13	Ohm	IEC 62631-3-2
Electric strength	45 / -	kV/mm	IEC 60243-1
Comparative tracking index, 100 drops	500		IEC 60112

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.4 / *	%	Sim. to ISO 62
Water absorption, 2mm	4.8 / *	%	Sim. to ISO 62
Density	1370 / -	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

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, Laser Markable

Revised: 2024-12-09 Source: Celanese Materials Database