Celanese
The chemistry inside innovation™

FRIANYL® A3 W GF35 V0E BK 9004/YG

FRIANYL®

Designed for Electrical applications requiring self-extinguishing properties combined with good mechanical performances, this grade meets the most stringent safety requirements for insulating materials. Ideal for thick walled parts.

Product information

Resin Identification	(PA66+PA6)-GF35FR(40)	ISO 1043
Part Marking Code	>(PA66+PA6)-GF35FR(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	0.5 - 0.8 %	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	12000 / 7500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	155 / 110	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 / 5	%	ISO 527-1/-2
Charpy impact strength, 23 °C	65 / 65	kJ/m²	ISO 179/1eU
Charpy impact strength, -30 °C	60 / 60	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23 °C	9.5 / 15	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30 °C	8 / 8	kJ/m²	ISO 179/1eA
Poisson's ratio	0.33 / 0.34[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	260 / *	°C	ISO 11357-1/-3

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	3 / *	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	1E12 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	48 / -	kV/mm	IEC 60243-1
Comparative tracking index, 100 drops	600		IEC 60112

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.2 / *	%	Sim. to ISO 62
Water absorption, 2mm	4.3 / *	%	Sim. to ISO 62
Density	1460 / -	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, Low halide content
Special characteristics	Flame retardant, Heat stabilised or stable to heat