Celanese
The chemistry inside innovation™

FRIANYL® XT4 GF30 V0I

PPA compound, 30% glass fiber reinforced, heat stabilized, halogens free. UL listed V0@0,4mm.
Specifically designed for electrical and electronic applications that require high thermal, peak and continuous resistance together with compliance with the most stringent safety requirements, this compound is also easy to process with excellent aesthetic results.
Suitable for components that need to withstand the reflow soldering process (SMT).

Product information

Part Marking Code	PA6T/66-GF30 FR(40)	ISO 11469

Rheological properties

Moulding shrinkage range, parallel	0.1 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.5 - 0.9	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	1.58E6 / -	psi	ISO 527-1/-2
Stress at break, 5mm/min	22500 / -	psi	ISO 527-1/-2
Strain at break, 5mm/min	2.1 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	21.4 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	19 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	4.42 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	4.38 / -	ftlb/in²	ISO 179/1eA
Ball indentation hardness, H 358/30	37000	psi	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	617	°F	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	554	°F	ISO 75-1/-2
RTI, electrical, 0.4mm	284	°F	UL 746B
RTI, electrical, 0.75mm	284	°F	UL 746B
RTI, electrical, 1.5mm	284	°F	UL 746B
RTI, electrical, 3mm	284	°F	UL 746B
RTI, impact, 0.4mm	115	°F	UL 746B
RTI, impact, 0.75mm	239	°F	UL 746B
RTI, impact, 1.5mm	248	°F	UL 746B
RTI, impact, 3mm	257	°F	UL 746B
RTI, strength, 0.4mm	239	°F	UL 746B
RTI, strength, 0.75mm	239	°F	UL 746B
RTI, strength, 1.5mm	248	°F	UL 746B
RTI, strength, 3mm	248	°F	UL 746B

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Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	UL 94
Burning Behav. at thickness h	V-0	class	UL 94
Thickness tested	0.4	in	UL 94
UL recognition	yes		UL 94
Glow Wire Flammability Index, 0.75mm	1760	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3mm	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1470	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3mm	1610	°F	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)
Hot Wire Ignition, 0.75mm	PLC 1	s	UL 746A
Hot Wire Ignition, 1.5mm	PLC 0	s	UL 746A
Hot Wire Ignition, 3mm	PLC 0	s	UL 746A

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15 / -	Ohm	IEC 62631-3-2
Electric strength	1020 / -	kV/in	IEC 60243-1
Comparative tracking index	Group I		IEC 60112
Comparative tracking index	PLC 0 / -	PLC	UL 746A
High Amperage Arc Ignition Resistance, 0.75 mm	PLC 2	arcs	UL 746A
High Amperage Arc Ignition Resistance, 1.5 mm	PLC 1	arcs	UL 746A
High Amperage Arc Ignition Category, 1.5 mm	PLC 1	class	UL 746A

Other properties

Humidity absorption, 2mm	0.9	%	Sim. to ISO 62
Water absorption, 2mm	3	%	Sim. to ISO 62
Density	12	lb/gal	ISO 1183

Characteristics

Additives	Non-halogenated/Red phosphorous free flame retardant

Additional information

Injection molding	The following conditions apply to the normal injection molding process of FRIANYL XT4. Machine temperatures: barrel 310-325°C, nozzle and hot runners 325-340°C. Mold temperatures: 100°C. Back pressure: typically, < 5 bar (hydraulic pressure). Temperatures exceeding 340°C and long residence time could lead to degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please contact our technical support team.

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Processing Texts

Injection molding	The following conditions apply to the normal injection molding process of FRIANYL XT4. Machine temperatures: barrel 310-325°C, nozzle and hot runners 325-340°C. Mold temperatures: 100°C. Back pressure: typically, < 5 bar (hydraulic pressure). Temperatures exceeding 340°C and long residence time could lead to degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please contact our technical support team.
Injection molding Preprocessing	FRIANYL XT4 compound is supplied in moisture-proof packaging. The maximum moisture content allowed for the process of injection molding is 0.10%, but to get the maximum performance and reduce possible degradation phenomena is recommended molding with a moisture content < 0.08%. The drying time depends on the initial moisture content and the drying conditions used. Typically 4-6h hours at 110°C with dry air (dew point of <-30°C) are sufficient for the material stored in unopened packs or with moisture content < 0.20-0.25%.
Injection molding Postprocessing	Parts made by FRIANYL XT4 compound, do not change significantly their performance depending on the moisture uptake. Normally, a conditioning cycle is not necessary. After molding, with favorable environmental conditions, a piece can absorb moisture up to 0,1-0,3% in 24h and reach the equilibrium during its lifetime. The post-treatment of the parts may include annealing at 100-110°C in the oven, up to four hours. This treatment is useful to relax any internal stress.