

EXPERIMENTAL DATASHEET

TECHNYL STAR AF 60SX V30 ORANGE 2703
TECHNYL XA 1573 ORANGE 2703



TECHNYL STAR AF 60SX V30 ORANGE 2703 is a high flow polyamide 66 based on a non halogenated flame retardant system, reinforced of 30% of glass fiber, for injection moulding. This product has been specifically designed to resolve the problematic of exudation and/or blooming depending on the usage of the parts. In addition, this product is a non-halogenated flame retardant grade with a complete yellow card included full RTI down to 0.8mm, 5VA @ 1.5mm and f1 rating. This product is as well easy to mould. This product offers his best benefit for all Electrical protection devices and not limited too, such as well connectic and photovoltaic application.

General

Certifications	UL listed product	EC 1907/2006 (REACH)
Polymer type	PA66	
Feature	halogen and red phosphorus free flame retardant electrical corrosion resistant low blooming very high flow	UL 94 V0 excellent surface finish low halogen content GWFI 960°C
Applications	connectors	electrical/electronic applications
Colors available	orange	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66-GF30 FR(40)
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Condition	Standard	Unit	Value
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Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm ³	1.46	
Water absorption	24 hr, 23°C	ISO 62	%	0.7
Water absorption, saturation			%	4.1
Molding shrinkage, parallel	ISO 294-4, 2577	%	0.2 - 0.4	
Molding shrinkage, normal	ISO 294-4, 2577	%	0.9 - 1.1	

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	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	11000 / 8000
Stress at break		ISO 527-1/-2	MPa	145 / 100
Strain at break		ISO 527-1/-2	%	2.4 / 2.9
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	65 / 55

*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	263
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	262
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	250

	Condition	Standard	Unit	Value
Burning behaviour				
UL Yellow Card availability 1	<u>Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716</u>			
Glow-wire flammability index, GWFI, 0.75 mm	0.75 mm	IEC 60695-2-12	°C	>= 960
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	>= 960
Glow-wire flammability index, GWFI, 3.0 mm			°C	>= 960
Glow-wire ignition temperature, GWIT, 0.75 mm	0.75 mm	IEC 60695-2-13	°C	750
Oxygen index			%	33.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Condition	Standard	Unit	Value
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Electrical properties

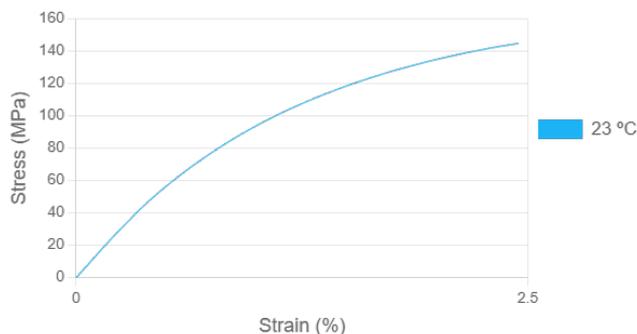
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	33.0

Processing conditions

Drying temperature/time	80°C
Suggested max moisture	0.12 %
Rear temperature	260 - 270 °C
Middle temperature	265 - 275 °C
Front temperature	265 - 280 °C
Recommended mould temperature	60 - 90 °C

Stress-strain, dry

Temperature (°C)



Injection notes

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point minimum -20°C. Recommended time 2-4h.

Injection advice

All reinforced, flame retardant compounds generate some level of abrasion/corrosion to the steel processing equipment. These issues may be magnified by using incorrect processing conditions (temperatures, residence time, moisture level ...) during the moulding process. Therefore, Domo recommends you adhere to the processing conditions detailed in this technical data sheet. For equipment that comes into contact with molten flame retardant compounds, Domo advises you to use a steel with high chromium and high carbon content (having a minimum concentration of 16% chromium) to prevent corrosion and abrasion. For the correct reference of steel associated to flame retardant compounds' processing, please refer to your equipment manufacturers. In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered. The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design.