TECHNYL STAR®
High-flow PA6 & PA66

DOMO
caring is our formula

EXPERIMENTAL DATASHEET

TECHNYL STAR AF 61SX V30 BK

TECHNYL XA 2295 BK

TECHNYL STAR AF 61SX V30 BK is a high flow polyamide 66 based on a non halogenated flame retardant system, organically heat stabilized, reinforced with 30% of glass fiber & suitable for injection moulding.
TECHNYL STAR AF 61SX V30 BK has been tailor-designed to offer a UL 94 V0 rating at 1,6 mm thickness. It is consequently recommended for thick-walled molded parts in E-Mobility needing UL 94 V0 rating. It is also compatible with coolant therefore suitable for thermal management applications. As overall formulation has been optimized to restrict leaching or exudation issues within coolant. Its high flowability finally provides optimized injection-moulding performance.

This material stills under development and is actually registered under the name TECHNYL XA 2295 BK.

General

Certifications	RoHS	EC 1907/2006 (REACH)
Polymer type	PA66	
Feature	halogen and red phosphorus free flame retardant glycol resistant IR-laser markable organic heat stabilized GWFI 960°C	excellent surface finish halogen free flame retardant low blooming very high flow
Applications	automotive applications electrical/electronic applications cooling system	connectors fasteners
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66,GF30FR(40)
ISO 16396 designation	PA66,GF30FR(40),M,S14-110

TECHNYL STAR®
High-flow PA6 & PA66

DOMO caring is our formula

EXPERIMENTAL DATASHEET — **TECHNYL STAR AF 61SX V30 BK**

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm³	1.46
Water absorption	24 hr, 23°C	ISO 62	%	0.7 - 0.8
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

	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	150 / 105
Strain at break		ISO 527-1/-2	%	2.5 / 3.9
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	65 / 67
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	65 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	11 / 15
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	10 / -

: 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	248

TECHNYL STAR®
High-flow PA6 & PA66

DOMO
caring is our formula

EXPERIMENTAL DATASHEET

TECHNYL STAR AF 61SX V30 BK

Burning behaviour

	Condition	Standard	Unit	Value
Flammability, 1.5 mm	1.5 mm	UL 94		V0
Flammability, 3.0 mm	3.0 mm	UL 94		V0
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, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	725
Glow-wire ignition temperature, GWIT, 3.0 mm	3.0 mm	IEC 60695-2-13	°C	775
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100 mm/min

Processing conditions

Drying temperature/time	80
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

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.