TECHNYL STAR®
High-flow PA6 & PA 6.6

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL STAR S 60X1 V30 WT 2656LPU

TECHNYL STAR S 60X1 V30 WT 2656LPU is a grade based on a non-halogenated flame retardant system and on a patented high flow polyamide 6 resin (TechnylStar), reinforced of 30% of glass fiber, heat stabilized, laser markable, for injection moulding. This grade is heat stabilized and provides optimized injection moulding performance.

General

Feature	Halogen and red phosphorus free flame retardant Very high flow Corrosion resistant Low temperature impact resistant	Arc resistant UV-laser markable Excellent surface finish
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card European Railways Certifications EN 45545-2
Applications	Connectors	Electrical/Electronic Applications
Colors available	White	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-GF30 FR(40)

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.42
Water absorption	24 hr, 23°C	ISO 62	%	0.9
Water absorption, saturation			%	4.2
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.95

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10500 / 6700
Stress at break		ISO 527-1/-2	MPa	120 / 75
Strain at break		ISO 527-1/-2	%	1.9 / 3.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	10000 / 6400
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	185 / 130
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	37 / 40
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	35 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	5.5 / 8
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	5 / -
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	222
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	202
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	6E+014
Comparative tracking index	Solution A	IEC 60112	V	600
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	38
Burning behaviour				
UL Yellow Card availability	Click here to have access to the UL Yellow Card → QMFZ2.E44716			
Flammability, 0.75 mm	0.75 mm	UL 94		V0
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, 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	3.0 mm	IEC 60695-2-12	°C	960
Oxygen index			%	35

**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.1 %
Rear temperature	240 - 245 °C
Middle temperature	245 - 255 °C
Front temperature	255 - 260 °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.

Disclaimer

The information provided in this documentation corresponds to our technical knowledge at the date of its publication and do not constitute a specification. This information may be subject to revision at our discretion. Domo cannot anticipate all conditions under which this information and our products of other manufactures in combination with our products may be used. Domo accepts no responsibility for results obtained by the application of this information or for the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes. Unless otherwise agreed in writing, Domo sells the product without warranties. Buyers and users assume all responsibility and liability for loss or damage arising from handling and use of our products, whether used alone or in combination with other products. Unless specifically indicated, the grades mentioned are not suitable for applications in the pharmaceutical/medical sector.