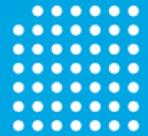


TECHNICAL DATA SHEET

TECHNYL STAR SX 218 V50 BK Z



TECHNYL STAR SX 218 V50 BK Z is based on a patented high flow polyamide 6 resin (Technylstar), heat stabilized, reinforced with 50% of glass fibre, for injection moulding. Due to its outstanding flow characteristics, this grade allows more freedom in mould and part design versus a standard polyamide solutions.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA6	
Feature	heat-aging stabilized high dimensional stability very high flow	excellent surface finish high stiffness
Applications	automotive applications power tool / garden equipment sport	electrical/electronic applications pulleys
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA6-GF50
ISO 16396 designation	PA6,GF50,M1,S14-190

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm ³	1.56
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.4
Water absorption	24 hr, 23°C	ISO 62	%	0.5 - 0.6
Water absorption, saturation			%	2.7
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.25 - 0.35
Molding shrinkage, normal		ISO 294-4, 2577	%	0.4 - 0.5

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	17500 / 11000
Stress at break		ISO 527-1/-2	MPa	240 / 150
Strain at break		ISO 527-1/-2	%	2.3 / 3.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	15000 / 9300
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	350 / 220
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	90 / 95
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m ²	75 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	16 / 20
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m ²	15.5 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	85 / 90
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	16 / 21

*: **conditioned according to ISO 1110**

Condition	Standard	Unit	Value
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Thermal properties

Melting temperature, 10°C/min		ISO 11357-1	°C	220
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	210

Condition	Standard	Unit	Value
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Burning behaviour

UL Yellow Card availability 1	Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716			
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Flammability, 3.0 mm	3.0 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

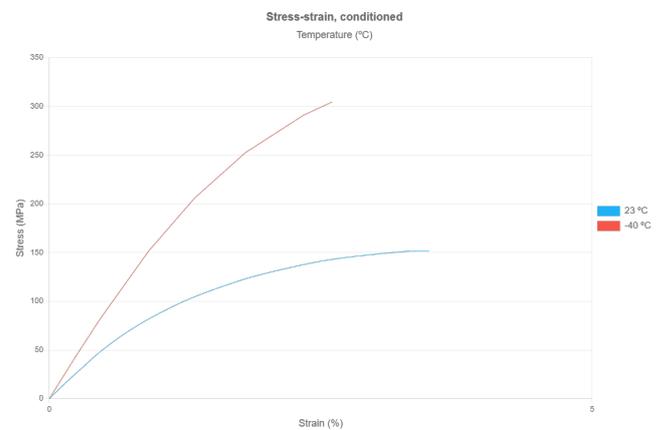
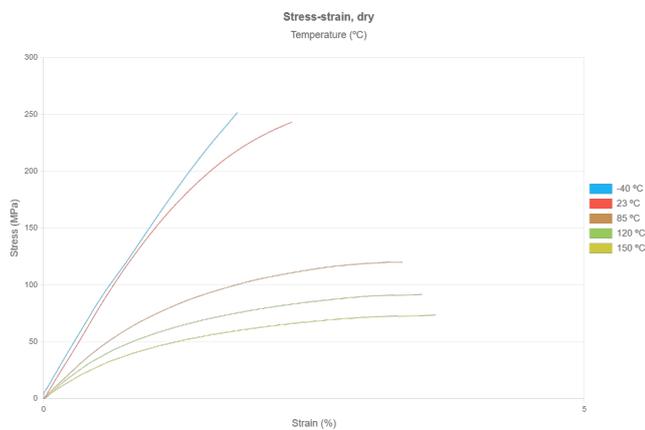
Condition	Standard	Unit	Value
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Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1.9E15
Surface resistivity		IEC 62631-3-1	ohm	1.7E14
Comparative tracking index	Solution A	IEC 60112	V	650.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	20.0

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	230 - 235 °C
Middle temperature	235 - 245 °C
Front temperature	245 - 250 °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

For reinforced polyamides, Domo recommends the use of steel with a high content of carbon, and purified for polishing, to avoid or limit the abrasion. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm) or X160CrMoV12 (EN Norm) - 1.2601 /1.2379 (DIN Norm). 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.