+135-3858-6433 (GuangDong)
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TECHNYL STAR®
High-flow PA6 & PA 6.6

DOMO
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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 caracteristics, this grade allows more freedom in mould and part design versus a standard polyamide solutions.

General

Feature	Heat-aging stabilized Very high flow High stiffness	High dimensional stability Excellent surface finish
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card
Applications	Automotive Applications Power Tool & Garden Equipment Sport	Electrical/Electronic Applications Pulleys
Colors available	Black	
Forms	Pellets	

Product identification

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

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.56
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.4
Water absorption	24 hr, 23°C	ISO 62	%	0.6 - 0.65
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

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	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/m²	90 / 95
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	75 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	16 / 20
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	15.5 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m²	85 / 90
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	16 / 21
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
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	2E+015
Surface resistivity		IEC 62631-3-1	ohm	2E+014
Comparative tracking index	Solution A	IEC 60112	V	650
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	20
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		HB
Flammability, 3.0 mm	3.0 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100

**: conditioned according to ISO 1110*

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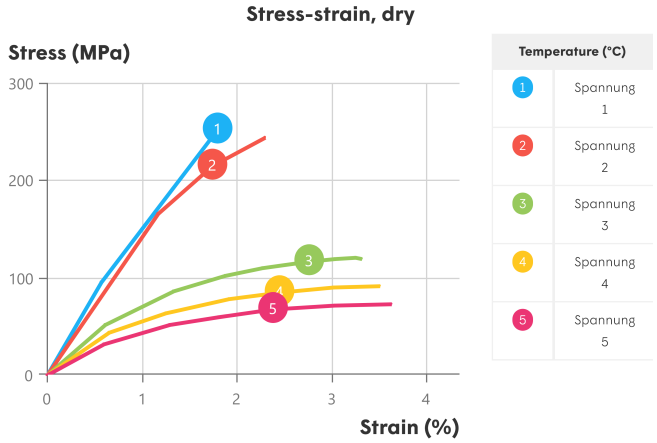
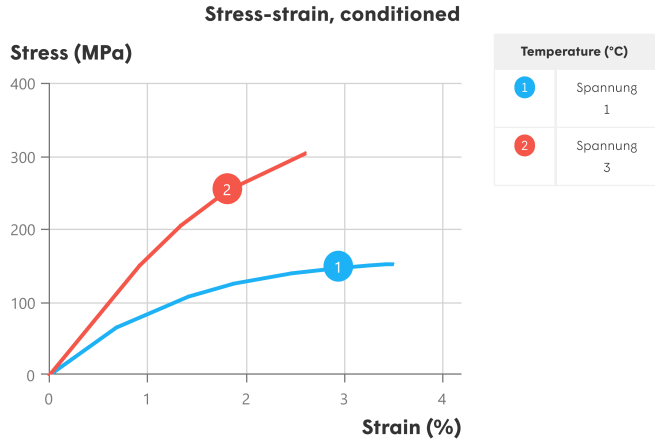
Processing conditions

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.

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.