TECHNYL STAR®
High-flow PA6 & PA 6.6

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL STAR S 218 V30 BK 31N

TECHNYL STAR S 218 V30 BK 31N is based on a patented high flow polyamide 6 resin (TechnylStar), heat stabilized, reinforced with 30% of glass fibre, for injection moulding. Due to its outstanding flow caracteristics, this grade provides a significant productivity improvement and allows more freedom in mould and part design versus a standard polyamide solutions.

General

Feature	Heat-aging stabilized Excellent surface finish	Very high flow
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS	
Applications	Consumer good application Industrial Applications PC / laptop / tablet	home & office furniture General Purpose
Colors available	Black	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-GF30

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.35
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.68
Water absorption	24 hr, 23°C	ISO 62	%	0.95
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.15
Molding shrinkage, normal		ISO 294-4, 2577	%	0.8

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10000 / 6000
Stress at break		ISO 527-1/-2	MPa	185 / 105
Strain at break		ISO 527-1/-2	%	2.9 / 4.8
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9000 / 5300
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	8650 / 5000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	250 / 165
Flexural strength, ASTM D790	2 mm/min	ASTM D790	MPa	- / 140
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	70 / 75
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	40 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	11 / 14
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	7 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m²	68 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	11 / 15
Izod notched impact strength, -30°C	-30°C	ISO 180/1A	kJ/m²	11 / 14
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	221
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	208
Electrical properties				
Comparative tracking index	Solution A	IEC 60112	V	400
CTI performance level category		Sol A		PLC 1
Burning behaviour				
Flammability, 3.0 mm	3.0 mm	UL 94		HB
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	650
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100

**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	80°C
Suggested max moisture	0.2 %
Rear temperature	230 - 235 °C
Middle temperature	235 - 240 °C
Front temperature	240 - 245 °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.

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