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TECHNYL STAR®
High-flow PA6 & PA 6.6

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL STAR S 218 V60 BK 21N

(Previously DOMAMID 6LVG60H2 BK)

Polyamide 6, 60% glass fiber reinforced, heat-aging stabilized, improved flowability, for injection moulding, black

TECHNYL STAR S 218 V60 Black 21N is a polyamide 6, reinforced with 60% of glass fiber, heat stabilized, improved flowability, for injection moulding. Due to its flow caracteristics, this grade allows more freedom in mould and part design versus a standard polyamide solutions.

General

Feature	Heat-aging stabilized	Improved flowability
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Applications	Automotive Applications	
Colors available	Black	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-GF60
ISO 16396 designation	PA6,GF60,M1H,S12-220

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.71
Humidity absorption	T=23°C, 50% RH	ISO 62	%	0.9 - 1.3
Water absorption, saturation			%	3.9
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.1 - 0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.4 - 0.6

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	21500 / 15200
Stress at break	5 mm/min	ISO 527-1/-2	MPa	250 / 185
Strain at break	5 mm/min	ISO 527-1/-2	%	2.2 / 3.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	18000 / 12200
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	385 / 260
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	100 / 100
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	100 / 103
Charpy impact strength, -40°C	-40°C	ISO 179/1eU	kJ/m²	100 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	17 / 22
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	17 / 19
Charpy notched impact strength, -40°C	-40°C	ISO 179/1eA	kJ/m²	15 / -
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	221
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	220
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	215
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	210
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	1E+013
Burning behaviour				
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Test run at 23°C if not differently specified, DAM state (dry as moulded).
**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Recommended melt temperature	280 - 300 °C
Recommended mould temperature	80 - 100 °C

These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part.

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

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