

TECHNICAL DATA SHEET

TECHNYL STAR S 216 V50 BK 21N

(Previously DOMAMID VHF 6G50 BK999)

Polyamide 6, 50% glass fiber reinforced, high flowability, improved surface finish, for injection moulding

General

Feature	High flowability, improved surface finish	
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Colors available	Black	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-GF50
ISO 16396 designation	PA6,GF50,M1,S10-140

Condition	Standard	Unit	Value
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Physical properties

Density		ISO 1183	g/cm ³	1.57
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.1 - 0.2
Molding shrinkage, normal		ISO 294-4, 2577	%	0.4 - 0.6
Viscosity number	96% H ₂ SO ₄	ISO 307	cm ³ /g	110

Mechanical properties

dam / cond.*

Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	15000 / 10000
Stress at break	5 mm/min	ISO 527-1/-2	MPa	205 / 130
Strain at break	5 mm/min	ISO 527-1/-2	%	2 / 4
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	14000 / 8000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	310 / 190
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	85 / 100
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	19 / 25
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	80 / 90
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	18 / 25

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	Condition	Standard	Unit	Value
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	210
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	215

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	1E+013

Burning behaviour

Flammability, 0.75 mm	0.75 mm	UL 94		HB
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), valid for natural colored products.

**: 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	260 - 280 °C
Recommended mould temperature	90 - 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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