

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
<b>Physical properties</b>				
Density		ISO 1183	g/cm <sup>3</sup>	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% H2SO4	ISO 307	cm <sup>3</sup> /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 <sup>2</sup>	85 / 100
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	19 / 25
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m <sup>2</sup>	80 / 90
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m <sup>2</sup>	18 / 25

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	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
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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