

TECHNICAL DATA SHEET

TECHNYL C 216 V50 BK

(Previously DOMAMID 6G50FC 300 BK)

Polyamide 6, 50% glass fiber reinforced, for injection moulding, black

General

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,S14-160

Condition	Standard	Unit	Value
-----------	----------	------	-------

Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm ³	1.56	
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.7
Molding shrinkage, parallel	ISO 294-4, 2577	%	0.3 - 0.5	
Molding shrinkage, normal	ISO 294-4, 2577	%	1 - 1.2	
Melt volume-flow rate, MVR, 5.0 kg	275°C, 5kg	ISO 1133	cm ³ /10 min	22
Viscosity number	96% H2SO4	ISO 307	cm ³ /g	145

Mechanical properties

dam / cond.*

Condition	Standard	Unit	Value	
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	17000 / 11100
Stress at break	5 mm/min	ISO 527-1/-2	MPa	220 / 145
Strain at break	5 mm/min	ISO 527-1/-2	%	2.5 / 4.4
Yield stress	5 mm/min	ISO 527-1/-2	MPa	215 / 145
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	13300 / 8250
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	100 / 100
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	14 / 25

	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

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	250 - 290 °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

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.