

## 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
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#### Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm <sup>3</sup>	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 <sup>3</sup> /10 min	22
Viscosity number	96% H2SO4	ISO 307	cm <sup>3</sup> /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 <sup>2</sup>	100 / 100
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	14 / 25

	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

## Burning behaviour

Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min
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*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.