

TECHNICAL DATA SHEET

TECHNYL C 216S V50 BK

DOMAMID HCE 6G50 BK

TECHNYL C 216S V50 BK is a Polyamide 6 reinforced with 50% of glass fiber, for injection moulding. It has been developed especially for gas molding and for those applications requiring painting, chrome plating or high quality surface aspect.

General

Polymer type	PA6		
Certifications	RoHS	EC 1907/2006 (REACH)	
Feature	improved surface finish	high stiffness	
Applications	automotive applications	consumer applications	
Colors available	black	natural	
Forms	pellets		
Processing technology	injection moulding		

Product identification

ISO 1043 abbreviation	PA6-GF50
ISO 16396 designation	PA6,GF50,M,S14-160

Condition	Standard	Unit	Value
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Physical properties

		Standard	Unit	Value
Density		ISO 1183	g/cm ³	1.59
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.9 - 2.3
Water absorption	24 hr, 23°C	ISO 62	%	1.3 - 1.4
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.1 - 0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.3 - 0.5

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	17000 / 12500
Stress at break	5 mm/min	ISO 527-1/-2	MPa	230 / 160
Strain at break	5 mm/min	ISO 527-1/-2	%	2.3 / 3.2
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	15500 / 10000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	330 / 225
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	80 / 85
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	14 / 16
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	85 / 85
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	16 / 20

*: **conditioned according to ISO 1110**

	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

	Condition	Standard	Unit	Value
Burning behaviour				
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Glow-wire flammability index, GWFI, 3.0 mm			°C	650
Glow-wire flammability index, GWFI	1-3 mm	IEC 60695-2-12	°C	>= 650
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Condition	Standard	Unit	Value
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Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E13

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Rear temperature	260 - 270 °C
Middle temperature	260 - 280 °C
Front temperature	260 - 280 °C
Recommended melt temperature	260 - 280 °C
Recommended mould temperature	90 - 100 °C

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.