TECHNYL®

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TECHNICAL DATA SHEET

TECHNYL C 216 V50 NC

(Previously DOMAMID 6LVG50 300 NC / DOMAMID 6G50 NC)

Polyamide 6, 50% glass fiber reinforced, improved flowability, for injection moulding, natural color

TECHNYL C 216 V50 NC is a polyamide 6, reinforced with 50% of glass fibre, for injection moulding. This grade offers high mechanical strength, high surface aspect by easy flow & low pressure moulding for injection moulding.

General

Feature	Improved flowability High stiffness	High dimensional stability
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Applications	Automotive Applications Industrial Applications	Consumer good application
Colors available	Black	Natural
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-GF50
ISO 16396 designation	PA6,GF50,M1,S12-160

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.56
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.2 - 2.4
Water absorption	24 hr, 23°C	ISO 62	%	1.4 - 1.5
Water absorption, saturation			%	6.2
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	0.7 - 0.9

	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	16500 / 10500
Stress at break	5 mm/min	ISO 527-1/-2	MPa	230 / 140
Strain at break	5 mm/min	ISO 527-1/-2	%	3 / 6
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	15000 / 9000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	350 / 230
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	100 / 120
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	90 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	20 / 25
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	15 / -
Izod impact strength		ISO 180/1U	kJ/m²	95 / 100
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	19 / 25
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+014
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).
**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Suggested max moisture	0.2 %
Rear temperature	235 - 240 °C
Middle temperature	240 - 250 °C
Front temperature	250 - 260 °C
Recommended melt temperature	235 - 260 °C
Recommended mould temperature	60 - 90 °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