

TECHNICAL DATA SHEET

TECHNYL A 218 V50 BK 21N

TECHNYL A 218 V50 BK 21N is a polyamide 66, reinforced with 50% of glass fibre, heat stabilized, for injection moulding. This grade offers an excellent combination between thermal and mechanical properties.

General

Feature	Heat-aging stabilized High stiffness	High dimensional stability
Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card
Applications	Automotive Applications Industrial Applications	Consumer good application
Colors available	Black	Natural
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66-GF50
-----------------------	-----------

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

Physical properties

Density		ISO 1183	g/cm³	1.55
Water absorption	24 hr, 23°C	ISO 62	%	0.6
Water absorption, saturation			%	3.6
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	0.65

TECHNICAL DATA SHEET

TECHNYL A 218 V50 BK 21N

	Condition	Standard	Unit	Value
Mechanical properties			dam / cond.*	
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	16200 / 12500
Stress at break		ISO 527-1/-2	MPa	240 / 175
Strain at break		ISO 527-1/-2	%	2.7 / 4
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	14500 / 10000
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	13800 / -
Flexural strength, ASTM D790	2 mm/min	ASTM D790	MPa	320 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	95 / 95
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	14 / 18
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	15 / 17


Thermal properties

Melting temperature, 10°C/min		ISO 11357-1	°C	262
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	260
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	255

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	6E+014
Comparative tracking index	Solution A	IEC 60112	V	400
CTI performance level category		Sol A		PLC 1
Dielectric strength	1 mm	IEC 60243-1	kV/mm	35

Burning behaviour

UL Yellow Card availability 	Click here to have access to the UL Yellow Card → QMFZ2.E44716			
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Flammability, 1.5 mm	1.5 mm	UL 94		HB
Flammability, 3.0 mm	3.0 mm	UL 94		HB
Glow-wire flammability index, GWFI, 0.75 mm	0.75 mm	IEC 60695-2-12	°C	650
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	650
Glow-wire flammability index, GWFI, 3.0 mm	3.0 mm	IEC 60695-2-12	°C	700
Oxygen index			%	23

*: conditioned according to ISO 1110

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

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	270 - 280 °C
Middle temperature	280 - 290 °C
Front temperature	280 - 300 °C
Recommended mould temperature	70 - 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.

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.