+135-3858-6433 (GuangDong)
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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

Physical properties

	Condition	Standard	Unit	Value
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

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	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