

TECHNICAL DATA SHEET

TECHNYL A 218 V20 BK 21N

TECHNYL A 218 V20 BK 21N is a polyamide 66, reinforced with 20% of glass fibre, heat stabilized, for injection moulding. This grade offers an excellent combination between thermal and mechanical properties.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA66	
Feature	heat-aging stabilized	
Applications	automotive applications fittings	electrical/electronic applications
Colors available	black	natural
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66-GF20
ISO 16396 designation	PA66,GF20,MH,S14-090

Condition	Standard	Unit	Value
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Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm ³	1.27	
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.4 - 2.6
Water absorption	24 hr, 23°C	ISO 62	%	0.85 - 0.9
Water absorption, saturation			%	5.9
Molding shrinkage, parallel	ISO 294-4, 2577	%		0.4 - 0.5
Molding shrinkage, normal	ISO 294-4, 2577	%		1.2 - 1.3

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	7400 / 5000
Stress at break		ISO 527-1/-2	MPa	150 / 100
Strain at break		ISO 527-1/-2	%	3 / 7
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	6400 / 4200
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	235 / 160
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	50 / 80
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	6.5 / 10
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	7 / 13

*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
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	247

	Condition	Standard	Unit	Value
Burning behaviour				
UL Yellow Card availability 1		<u>Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716</u>		
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	650
Oxygen index			%	23.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100mm/min

	Condition	Standard	Unit	Value
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	6.0E15
Comparative tracking index	Solution A	IEC 60112	V	400.0
CTI performance level category		Sol A		PLC 1
Dielectric strength	1 mm	IEC 60243-1	kV/mm	32.0

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	270 - 280 °C
Middle temperature	275 - 285 °C
Front temperature	280 - 290 °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.