

TECHNICAL DATA SHEET

## TECHNYL C 218 V30 BK

TECHNYL C 218 V30 BK is a polyamide 6, reinforced with 30% of glass fiber, heat stabilized, for injection moulding. The product offers an excellent combination between thermal and mechanical properties.

### General

Polymer type	PA6	
Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Feature	heat-aging stabilized	
Applications	automotive applications electrical/electronic applications	connectors wire / cable applications
Colors available	black	natural
Forms	pellets	
Processing technology	injection moulding	

### Product identification

ISO 1043 abbreviation	PA6-GF30
ISO 16396 designation	PA6,GF30,MH,S14-100

Condition	Standard	Unit	Value
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### Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm <sup>3</sup>	1.36
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			%	6.1
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	0.7 - 0.8

	Condition	Standard	Unit	Value
<b>Mechanical properties</b>				<b>dam / cond.*</b>
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10000 / 6000
Stress at break		ISO 527-1/-2	MPa	180 / 115
Strain at break		ISO 527-1/-2	%	3.2 / 6.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	8500 / 5000
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	8900 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	250 / 160
Flexural strength, ASTM D790	2 mm/min	ASTM D790	MPa	255 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m <sup>2</sup>	80 / 90
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	10 / 18
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m <sup>2</sup>	9 / 19

\*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
Melting temperature, 10°C/min		ISO 11357-1	°C	222
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	218
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	208
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	214

Condition	Standard	Unit	Value
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## Burning behaviour

UL Yellow Card availability 1	<a href="#"><b>Click here to have access to the UL Yellow Card availability 1 -&gt; QMFZ2.E44716</b></a>			
Flammability, 0.40 mm	0.40 mm	UL 94		HB
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, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	650
Oxygen index			%	23.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Condition	Standard	Unit	Value
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## Electrical properties

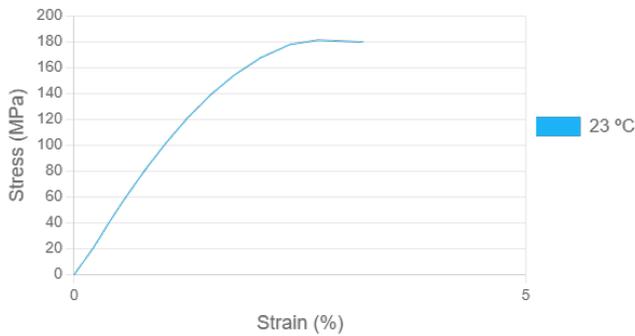
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E14
Comparative tracking index	Solution A	IEC 60112	V	400.0
CTI performance level category		Sol A		PLC 1

## 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	240 - 250 °C
Middle temperature	250 - 270 °C
Front temperature	260 - 290 °C
Recommended mould temperature	60 - 90 °C

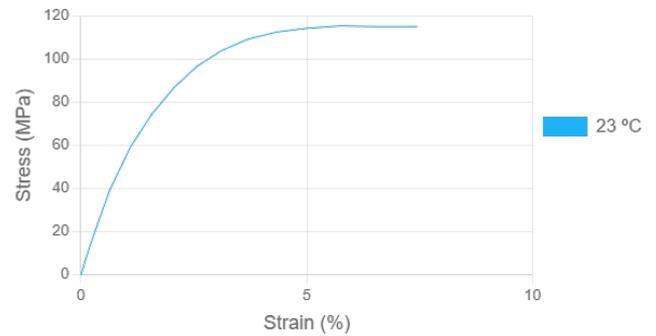
**Stress-strain, dry**

Temperature (°C)



**Stress-strain, conditioned**

Temperature (°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.