

TECHNICAL DATA SHEET

**TECHNYL STAR AF 218 V35 BK 21N**



TECHNYL STAR AF 218 V35 BK 21N is a polyamide 6.6, high flow, reinforced with 35% of glass fiber, heat stabilized, for injection moulding. Due to its outstanding flow characteristics, this grade shows exceptional processing behaviour and excellent surface aspect of the finished part. This grade is ideal for use in the automotive industry for engine components. This grade is ideal for Mucell<sup>®</sup> injection moulding technology.

**General**

Certifications	RoHS	EC 1907/2006 (REACH)
Polymer type	PA66	
Feature	heat-aging stabilized very high flow	excellent surface finish
Applications	automotive applications general purpose	bobbins pulleys
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

**Product identification**

ISO 1043 abbreviation	PA66-GF35
ISO 16396 designation	PA66,GF35,MH,S14-110

Condition	Standard	Unit	Value
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**Physical properties**

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm <sup>3</sup>	1.41	
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.8 - 1.9
Water absorption	24 hr, 23°C	ISO 62	%	0.75 - 0.8
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.25 - 0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.9 - 1.0

	Condition	Standard	Unit	Value
<b>Mechanical properties</b>				<b>dam / cond.*</b>
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	11400 / 7000
Stress at break		ISO 527-1/-2	MPa	200 / 120
Strain at break		ISO 527-1/-2	%	3 / 7.3
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9000 / 5400
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	270 / 170
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>	12 / 18

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

	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
Melting temperature, 10°C/min		ISO 11357-1	°C	260
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	257
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	245

	Condition	Standard	Unit	Value
<b>Burning behaviour</b>				
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Flammability, 1.5 mm	1.5 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

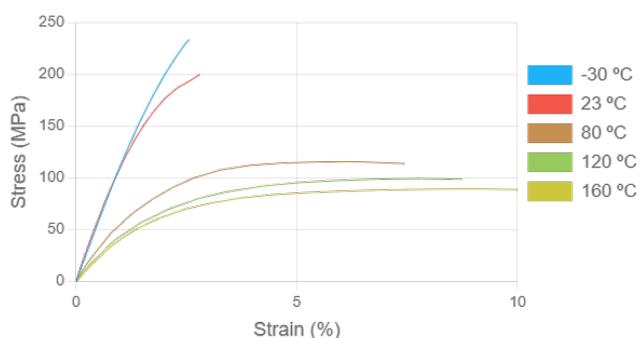
	Condition	Standard	Unit	Value
<b>Electrical properties</b>				
Volume resistivity		IEC 62631-3-1	ohm.m	4.0E12
Surface resistivity		IEC 62631-3-1	ohm	6.0E13

**Processing conditions**

Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	265 - 275 °C
Middle temperature	270 - 280 °C
Front temperature	280 - 290 °C
Recommended mould temperature	60 - 90 °C

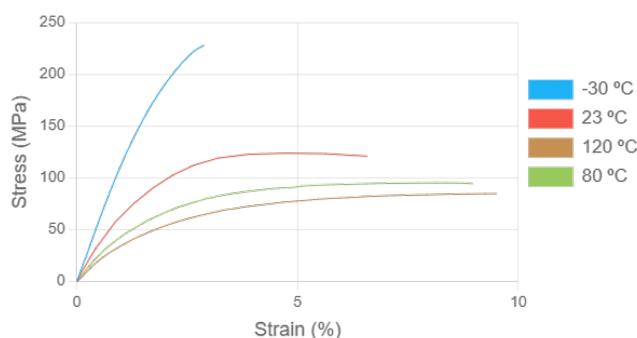
**Stress-strain, dry**

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.