

TECHNICAL DATA SHEET

## TECHNYL D 218CR V33 BK

### TECHNYL eXten D 218CR V33 BLACK

TECHNYL D 218CR V33 BK is a glass fiber reinforced grade based on polyamide blend of polyamide 6.10 and polyamide 66, heat stabilized, for injection moulding. This grade shows outstanding resistance to hydrolysis and chemical resistance to long life automotive coolants. It also offers an excellent crack resistance to calcium chloride road salts, good injection process ability, high surface aspect quality, and high overall mechanical and thermal properties.

#### General

Certifications	RoHS	EC 1907/2006 (REACH)
Polymer type	PA610 + PA66 blend	
Feature	heat-aging stabilized contains renewable content excellent hydrolysis resistant low moisture absorption	chemical resistant excellent glycol resistant good surface finish road salt resistant
Applications	automotive applications	
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

#### Product identification

ISO 1043 abbreviation	PA610+PA66-GF33
ISO 16396 designation	PA610+PA66,GF33,MHW,S14-110

Condition	Standard	Unit	Value
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#### Physical properties

Condition	Standard	Unit	Value
Density	ISO 1183	g/cm <sup>3</sup>	1.35
Humidity absorption	T=23°C, 50% RH	%	1.6
Water absorption	24 hr, 23°C	%	0.3
Water absorption, saturation		%	3.7
Molding shrinkage, parallel	ISO 294-4, 2577	%	0.2 - 0.3
Molding shrinkage, normal	ISO 294-4, 2577	%	0.8 - 1.0

	Condition	Standard	Unit	Value
<b>Mechanical properties</b>				<b>dam / cond.*</b>
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	11300 / 7900
Stress at break		ISO 527-1/-2	MPa	195 / 135
Strain at break		ISO 527-1/-2	%	3.3 / 6
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	10050 / 7000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	300 / 200
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m <sup>2</sup>	90 / -
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m <sup>2</sup>	70 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	12 / 13
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m <sup>2</sup>	9 / 10

\*: **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	225
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	218

	Condition	Standard	Unit	Value
<b>Burning behaviour</b>				
Flammability, 0.40 mm	0.40 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	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E15
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	34.0

### Processing conditions

Drying temperature/time	80 °C / 2-4 h
Suggested max moisture	0.15 %
Rear temperature	265 - 275 °C
Middle temperature	270 - 280 °C
Front temperature	275 - 285 °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.