TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL 4EARTH A1E 218 V50 BK H

TECHNYL 4EARTH A4E 218 V50 BLACK

TECHNYL 4EARTH A1E 218 V50 BK H is a recycled polyamide 66, reinforced with 50% of glass fiber, heat stabilized for injection moulding. It offers very good mechanical performances, high stiffness with respect to virgin materials with reduced carbon footprint.

General

Polymer type	PA66	
Certifications	RoHS	EC 1907/2006 (REACH)
Feature	heat-aging stabilized recycled	high stiffness
Applications	automotive applications	
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66(REC)-GF50
ISO 16396 designation	PA66,GF50 (R100),MH,S14-160

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.54
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.4
Water absorption	24 hr, 23°C	ISO 62	%	0.8 - 0.9
Water absorption, saturation			%	4.0
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.3 - 0.5
Molding shrinkage, normal		ISO 294-4, 2577	%	0.7 - 0.9

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	16000 / 12000
Stress at break		ISO 527-1/-2	MPa	240 / 160
Strain at break		ISO 527-1/-2	%	2.3 / 4
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	15000 / 11500
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	350 / 260
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	90 / 85
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	85 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	15 / 16
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	15 / -

: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	261
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	261
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	255

	Condition	Standard	Unit	Value
Burning behaviour				
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100mm/min

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

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Processing conditions

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.