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TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL 4EARTH A1E 218 V35 BK H

(Previously TECHNYL 4EARTH A4E 218 V35 BLACK)

Polyamide 66, reinforced with 35% of glass fiber, heat stabilized, for injection moulding, black

General

Feature	Heat-aging stabilized	
Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Applications	Automotive Applications	
Colors available	Black	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66(REC)-GF35
ISO 16396 designation	PA66,GF35(R100),M1H,S14-120

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.41
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.8
Water absorption	24 hr, 23°C	ISO 62	%	0.85 - 0.9
Water absorption, saturation			%	5.2
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.3 - 0.45
Molding shrinkage, normal		ISO 294-4, 2577	%	0.85 - 0.9

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	11300 / 7800
Stress at break		ISO 527-1/-2	MPa	200 / 125
Strain at break		ISO 527-1/-2	%	3 / 6.2
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9650 / 6650
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	295 / 185
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	80 / 85
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	70 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	11 / 14
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	9 / -
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	248
Burning behaviour				
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100

**: conditioned according to ISO 1110*

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.

Disclaimer

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