TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL 4EARTH A1E 218 V30 BK 34NG LP

TECHNYL XA4E 1782 BK

Produced with 50% recycled polymer from mechanical and physical recycling.

General

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

Product identification

ISO 1043 abbreviation	PA66(REC)-GF30
ISO 16396 designation	PA66,GF30(R50),MHW,S14-090

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.36
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.2 - 2.4
Water absorption	24 hr, 23°C	ISO 62	%	1.3
Water absorption, saturation			%	5.3
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	1.0 - 1.2
Viscosity number	96% H2SO4	ISO 307	cm³/g	148.0

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10000 / 6400
Stress at break		ISO 527-1/-2	MPa	190 / 120
Strain at break		ISO 527-1/-2	%	3 / 7.6
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	8500 / 7500
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	280 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	78 / 90
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	65 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	14 / 16
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	10 / -

: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	262
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	250
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	248

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Burning behaviour

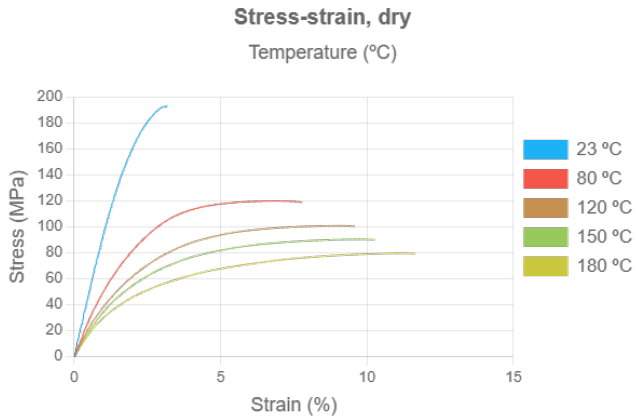
	Condition	Standard	Unit	Value
Flammability, 0.40 mm	0.40 mm	UL 94		HB
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Flammability, 1.5 mm	1.5 mm	UL 94		HB
Flammability, 3.0 mm	3.0 mm	UL 94		HB
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	650
Oxygen index			%	23.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Electrical properties

	Condition	Standard	Unit	Value
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	6.0E14
Comparative tracking index	Solution A	IEC 60112	V	400.0
CTI performance level category		Sol A		PLC 1
Dielectric strength	1 mm	IEC 60243-1	kV/mm	34.0

Processing conditions

Drying temperature/time	T=80°C drying temperature to reach recommended moisture level of 0.08%
Suggested max moisture	0.12 %
Rear temperature	270 - 280 °C
Middle temperature	275 - 285 °C
Front temperature	280 - 290 °C
Recommended melt temperature	290 °C
Recommended mould temperature	60 - 90 °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.