TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL 4EARTH AC9E 218 C10 Y20 NC H

Recycled polyamide 66/6, 10% carbon fiber reinforced, heat-aging stabilized, improved tribological properties, for injection molding, natural color

General

Polymer type	PA66/6 copolymer	
Certifications	RoHS	EC 1907/2006 (REACH)
Feature	heat-aging stabilized high stiffness	improved tribological properties recycled
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66/6(REC)-CF10
ISO 16396 designation	PA66/6,CF10(R75),MH,S14-090

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.19
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.5 - 2.9
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.1 - 0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.6 - 0.8

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	9000 / 4500
Stress at break	5 mm/min	ISO 527-1/-2	MPa	145 / 85
Strain at break	5 mm/min	ISO 527-1/-2	%	1.8 / 5.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	6800 / 3500
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	200 / 110
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	28 / 75
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	3.5 / 6.5
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m²	25 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	3.5 / -

: 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	235
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	229
Thermal conductivity, through plane		ASTM E1461	W/m.K	0.4
Thermal conductivity, in plane		ASTM E1461	W/m.K	0.6

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

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Electrical properties

	Condition	Standard	Unit	Value
Volume resistivity		IEC 62631-3-1	ohm.m	10.0
Surface resistivity		IEC 62631-3-1	ohm	10.0

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Recommended melt temperature	270 - 300 °C
Recommended mould temperature	80 - 110 °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.