

TECHNICAL DATA SHEET

TECHNYL 4EARTH C2E 216 V50 BK H
ECONAMID PLUS 6G50 BK


Recycled polyamide 6, 50% glass fiber reinforced, for injection moulding, black

General

Certifications	RoHS	EC 1907/2006 (REACH)
Polymer type	PA6	
Feature	high stiffness not heat stabilized	recycled
Colors available	black	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA6(REC)-GF50
ISO 16396 designation	PA6,GF50(R100),M,S14-140

Condition	Standard	Unit	Value
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Physical properties

Density		ISO 1183	g/cm ³	1.57
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.9 - 2.3
Water absorption	24 hr, 23°C	ISO 62	%	1.3 - 1.4
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.1 - 0.2
Molding shrinkage, normal		ISO 294-4, 2577	%	0.5 - 0.6

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	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	15000 / 8000
Stress at break	5 mm/min	ISO 527-1/-2	MPa	160 / 100
Strain at break	5 mm/min	ISO 527-1/-2	%	1.8 / 3.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	13000 / 7000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	250 / 150
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	55 / 60
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m ²	55 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	11 / 19
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m ²	9 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	50 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	12 / -

*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	221
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	215
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	205
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	210

	Condition	Standard	Unit	Value
Burning behaviour				
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Condition	Standard	Unit	Value
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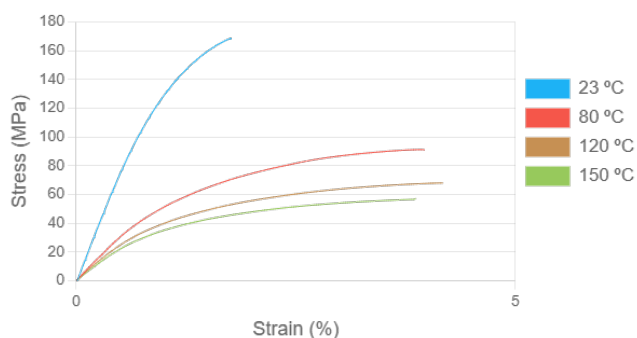
Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E13
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0

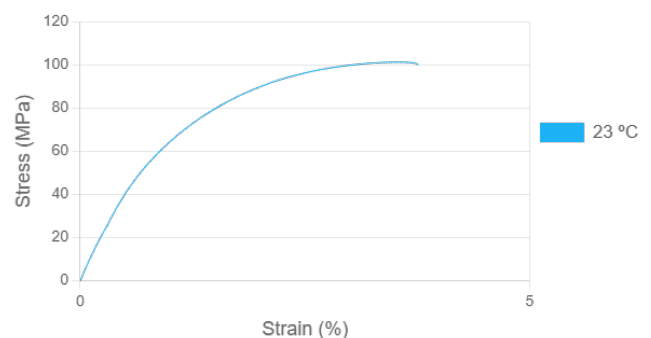
Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Suggested max moisture	0.2 %
Rear temperature	235 - 240 °C
Middle temperature	240 - 250 °C
Front temperature	250 - 260 °C
Recommended melt temperature	240 - 260 °C
Recommended mould temperature	60 - 90 °C

Stress-strain, dry
Temperature (°C)



Stress-strain, conditioned
Temperature (°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.