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TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL 4EARTH A2E 216 BK

(Previously ECONAMID PLUS 66 BK)

Polyamide 66, for injection moulding, black

General

Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Colors available	Black	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66
ISO 16396 designation	PA66,(R>50),M1,S14-030

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm³	1.14
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.5 - 3.2
Water absorption	24 hr, 23°C	ISO 62	%	1.2 - 1.3
Water absorption, saturation			%	8.3

Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	2900 / 1100
Strain at break	50 mm/min	ISO 527-1/-2	%	25 / 50
Yield stress	50 mm/min	ISO 527-1/-2	MPa	70 / 45
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	2400 / 900
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	100 / 70
Izod impact strength, +23°C	+23°C	ISO 180/1U		NB / NB
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	5 / 13
Rockwell hardness		ISO 2039/2	ScaleR	118 / -

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	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	195
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	70
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	235
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1E+016
Surface resistivity		IEC 62631-3-1	ohm	1E+014
Burning behaviour				
Flammability, 0.75 mm	0.75 mm	UL 94		HB
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Test run at 23°C if not differently specified, DAM state (dry as moulded), valid for black products.
**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Rear temperature	265 - 275 °C
Middle temperature	270 - 280 °C
Front temperature	280 - 285 °C
Recommended melt temperature	265 - 285 °C
Recommended mould temperature	60 - 80 °C

These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part. Thess TECHNYL grades are not recommended for injection moulding hot runner systems with a diameter below 1mm.

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 unfilled polyamides, Domo recommends the use of high alloy steel with a low chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (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.

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Disclaimer

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