

TECHNICAL DATA SHEET

TECHNYL C 219M BK

(Previously DOMAMID 6I1H1 BK)

Polyamide 6, heat-aging stabilized, impact modified, for injection moulding, black

General

Feature	Heat-aging stabilized	Impact modified
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS	EC 1907/2006 (REACH)
Colors available	Black	Natural
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6-I
ISO 16396 designation	PA6-I,M,S14-030

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm ³	1.12
Humidity absorption	T=23°C, 50% RH	ISO 62	%	2.8 - 3.2
Water absorption	24 hr, 23°C	ISO 62	%	1.8 - 2
Water absorption, saturation			%	9.1
Molding shrinkage, parallel		ISO 294-4, 2577	%	1.5 - 1.7
Molding shrinkage, normal		ISO 294-4, 2577	%	1.5 - 1.7

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	2800 / 1000
Stress at break		ISO 527-1/-2	MPa	40 / -
Strain at break	50 mm/min	ISO 527-1/-2	%	10 / 100
Yield stress	50 mm/min	ISO 527-1/-2	MPa	70 / 40
Yield strain	50 mm/min	ISO 527-1/-2	%	4 / 20
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	2400 / 900
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	90 / 30
Charpy impact strength, +23°C	+23°C	ISO 179/1eU		NB / NB
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m ²	95 / NB
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	7 / 25
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m ²	6 / 5
Izod impact strength, +23°C	+23°C	ISO 180/1U		NB / NB
Rockwell hardness		ISO 2039/2	ScaleR	110 / -

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	160
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	60
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	190

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+016
Surface resistivity		IEC 62631-3-1	ohm	1E+014
Comparative tracking index	Solution A	IEC 60112	V	600
CTI performance level category		Sol A		PLC 0

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).
 *: 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	240 - 260 °C
Middle temperature	250 - 270 °C
Front temperature	260 - 280 °C
Recommended melt temperature	240 - 280 °C
Recommended mould temperature	60 - 90 °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.

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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