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DOMO caring is our formula

TECHNICAL DATA SHEET

TECHNYL PROTECT B 50H1 NC L

TECHNYL B 50H1 NATURAL L

TECHNYL PROTECT B 50H1 NC L is an unreinforced copolyamide 6.6/6 based on a non-phosphorous and non-halogenated flame retardant system, heat stabilized, for injection moulding. This flame retardant grade, UL94 V0 at 0.4mm, offers excellent filling qualities together with good stiffness.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product EN 45545
Polymer type	PA66/6 copolymer	
Feature	halogen free flame retardant	
Applications	connectors	electrical/electronic applications
Colors available	black	natural
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66/6 FR(30)

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.16
Water absorption	24 hr, 23°C	ISO 62	%	1.1
Molding shrinkage, parallel		ISO 294-4, 2577	%	1.1
Molding shrinkage, normal		ISO 294-4, 2577	%	0.9

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3750 / 2200
Stress at break		ISO 527-1/-2	MPa	70 / 40
Strain at break		ISO 527-1/-2	%	12 / 100
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	3700 / 1100
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	3800 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	130 / 40
Flexural strength, ASTM D790	2 mm/min	ASTM D790	MPa	125 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	70 / -
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m²	80 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	3.5 / 5
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m²	3 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	5 / 6.5

: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	242
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	85

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Burning behaviour

	Condition	Standard	Unit	Value
UL Yellow Card availability 1	**Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716**			
Flammability, 0.40 mm	0.40 mm	UL 94		V0
Flammability, 0.75 mm	0.75 mm	UL 94		V0
Flammability, 1.5 mm	1.5 mm	UL 94		V0
Flammability, 3.0 mm	3.0 mm	UL 94		V0
Glow-wire flammability index, GWFI, 0.75 mm	0.75 mm	IEC 60695-2-12	°C	960
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	960
Glow-wire flammability index, GWFI, 3.0 mm			°C	960
Glow-wire ignition temperature, GWIT, 0.75 mm	0.75 mm	IEC 60695-2-13	°C	750
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	650
Oxygen index			%	33.0

Electrical properties

	Condition	Standard	Unit	Value
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E15
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	33.0

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	245 - 250 °C

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Processing conditions

Middle temperature	250 - 255 °C
Front temperature	250 - 260 °C
Recommended mould temperature	60 - 80 °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

All reinforced, flame retardant compounds generate some level of abrasion/corrosion to the steel processing equipment. These issues may be magnified by using incorrect processing conditions (temperatures, residence time, moisture level ...) during the moulding process. Therefore, Domo recommends you adhere to the processing conditions detailed in this technical data sheet. For equipment that comes into contact with molten flame retardant compounds, Domo advises you to use a steel with high chromium and high carbon content (having a minimum concentration of 16% chromium) to prevent corrosion and abrasion. For the correct reference of steel associated to flame retardant compounds' processing, please refer to your equipment manufacturers. 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.