

TECHNICAL DATA SHEET

TECHNYL PROTECT A 50X2 NC XB
DOMAMID FR 66/6V0M



Polyamide 66/6, heat-aging stabilized, halogen and red phosphorus free flame retardant, for injection moulding, natural color

General

Certifications	RoHS	UL listed product
Polymer type	PA66/6 copolymer	
Feature	halogen and red phosphorus free flame retardant UL 94 V0 GWIT > 800°C	heat-aging stabilized GWFI 960°C
Colors available	natural	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66/6 FR(30)
ISO 16396 designation	PA66/6,FR(30),MH,S14-040

Condition	Standard	Unit	Value
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Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm ³	1.16	
Humidity absorption	T=23°C, 50% RH	ISO 62	%	3.2 - 3.3
Water absorption	24 hr, 23°C	ISO 62	%	1.8 - 1.9
Water absorption, saturation			%	9.1
Molding shrinkage, parallel	ISO 294-4, 2577	%		1.0 - 1.2
Molding shrinkage, normal	ISO 294-4, 2577	%		1.0 - 1.2

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3600 / 1600
Strain at break	50 mm/min	ISO 527-1/-2	%	15 / 50
Yield stress	50 mm/min	ISO 527-1/-2	MPa	80 / 45
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	3300 / 1450
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	120 / 55
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	80 / NB
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	4 / 9
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m ²	3.5 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	70 / NB
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	3.5 / 9

*: **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	200
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	75
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	215

Condition	Standard	Unit	Value
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Burning behaviour

UL Yellow Card availability 1	Click here to have access to the UL Yellow Card availability 1 -> E170540-100221782			
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, 0.40 mm	0.40 mm	IEC 60695-2-12	°C	960
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, 0.40 mm	0.40 mm	IEC 60695-2-13	°C	960
Glow-wire ignition temperature, GWIT, 0.75 mm	0.75 mm	IEC 60695-2-13	°C	960
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	850
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	1.0E16
Surface resistivity		IEC 62631-3-1	ohm	1.0E14
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)
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Processing conditions

Recommended melt temperature	260 - 280 °C
Recommended mould temperature	60 - 80 °C

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.