

TECHNICAL DATA SHEET

TECHNYL PROTECT A 31H1 V25 NC



TECHNYL PROTECT A 31H1 V25 NC is a flame retardant polyamide PA66, reinforced with 25% of glass heat stabilised, for injection moulding.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA66	
Feature	heat-aging stabilized	good strength
Applications	consumer applications	power tool / garden equipment
Colors available	natural	grey
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66 FR(17)
ISO 16396 designation	PA66,GF25FR(17),MH,S14-090

Condition	Standard	Unit	Value
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Physical properties

Density		ISO 1183	g/cm ³	1.48
Water absorption	24 hr, 23°C	ISO 62	%	0.8

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	9000 / 6500
Stress at break		ISO 527-1/-2	MPa	140 / 105
Strain at break		ISO 527-1/-2	%	2 / 3
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	7300 / 5000
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	55 / 55
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	8 / 10
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	6 / 7

*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	263

	Condition	Standard	Unit	Value
Burning behaviour				
UL Yellow Card availability 1	<u>Click here to have access to the UL Yellow Card availability 1 -> File Number: E44716</u>			
Flammability, 0.75 mm	0.75 mm	UL 94		V2
Flammability, 1.5 mm	1.5 mm	UL 94		V1
Flammability, 3.0 mm	3.0 mm	UL 94		V0
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	960

	Condition	Standard	Unit	Value
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E9
Comparative tracking index	Solution A	IEC 60112	V	300.0
CTI performance level category		Sol A		PLC 2
Dielectric strength	1 mm	IEC 60243-1	kV/mm	40.0

Processing conditions

Drying temperature/time	80
Suggested max moisture	0.2 %
Rear temperature	265 - 275 °C
Middle temperature	270 - 280 °C
Front temperature	280 - 290 °C
Recommended mould temperature	60 - 90 °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.