

TECHNICAL DATA SHEET

TECHNYL PROTECT A 30H1 V30 NC
(Previously TECHNYL A 30H1 V30 NATURAL)

TECHNYL PROTECT A 30H1 V30 NC is a flame retardant polyamide 66, reinforced with 30% of glass fibre, for injection moulding.

General

Polymer type	PA66 (Polyamide 66)
Processing technology	Injection molding
Certification	RoHS
Colors available	Natural
Forms	Pellets

Product identification

ISO 1043 abbreviation	PA66-GF30 FR(21)
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Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.57
Humidity absorption	T=23°C, 50% RH	ISO 62	%	0.8
Molding shrinkage, parallel		ISO 294-4, 2577	%	1
Molding shrinkage, normal		ISO 294-4, 2577	%	0.35

Mechanical properties

				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10000 / 7000
Stress at break		ISO 527-1/-2	MPa	130 / 95
Strain at break		ISO 527-1/-2	%	2.2 / 3.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9500 / 7000
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	9500 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	200 / 170
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	42 / 50
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	9.5 / 12
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	10 / 13

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	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	263
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	226

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+015
Surface resistivity		IEC 62631-3-1	ohm	1E+014
Comparative tracking index	Solution A	IEC 60112	V	450
CTI performance level category		Sol A		PLC 1
Dielectric strength	1 mm	IEC 60243-1	kV/mm	42

Burning behaviour

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	3.0 mm	IEC 60695-2-12	°C	960
Glow-wire ignition temperature, GWIT, 0.75 mm	0.75 mm	IEC 60695-2-13	°C	800
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	825
Oxygen index			%	31
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100

*: conditioned according to ISO 1110

Processing conditions

Drying temperature/time	80°C
Suggested max moisture	0.2 %
Rear temperature	270 - 280 °C
Middle temperature	275 - 285 °C
Front temperature	280 - 290 °C
Recommended mould temperature	70 - 100 °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.

Disclaimer

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