

TECHNICAL DATA SHEET

**TECHNYL PROTECT A 21T3 V25 BK 15N**  
(Previously TECHNYL A 21T3 V25 BLACK 15N)

TECHNYL PROTECT A 21T3 V25 BK 15N is a Red Phosphorous flame retardant polyamide 66, reinforced with 25% of glass fibre, heat stabilized, impact improved, for injection moulding. This flame retardant grade offers excellent filling qualities and with good mechanical properties. This grade is stabilized to offer a very low migration and corrosion of metallic contacts.

**General**

Feature	Impact resistant
Polymer type	PA66 (Polyamide 66)
Processing technology	Injection molding
Certification	RoHS EC 1907/2006 (REACH) <span style="float: right;">UL-Yellow Card</span>
Applications	Electrical/Electronic Applications
Colors available	Black
Forms	Pellets

**Product identification**

ISO 1043 abbreviation	PA66-GF25 FR(52)
-----------------------	------------------

Condition	Standard	Unit	Value
-----------	----------	------	-------

**Physical properties**

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm <sup>3</sup>	1.31
Water absorption	24 hr, 23°C	ISO 62	%	0.9

**Mechanical properties**

dam / cond.\*

	Condition	Standard	Unit	Value
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	8000 / 5400
Stress at break		ISO 527-1/-2	MPa	130 / 70
Strain at break		ISO 527-1/-2	%	2.7 / 4
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	7900 / 5200
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	200 / 155
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m <sup>2</sup>	57 / 65
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m <sup>2</sup>	60 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	7 / 9
Charpy notched impact strength, -30°C	-30°C	ISO 179/1eA	kJ/m <sup>2</sup>	6 / -

TECHNICAL DATA SHEET

TECHNYL PROTECT A 21T3 V25 BK 15N

	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
Melting temperature, 10°C/min		ISO 11357-1	°C	263
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	230

**Electrical properties**

Comparative tracking index	Solution A	IEC 60112	V	500
CTI performance level category		Sol A		PLC 1
Dielectric strength	1 mm	IEC 60243-1	kV/mm	37

**Burning behaviour**

Flammability, 0.75 mm	0.75 mm	UL 94		V2
Flammability, 1.5 mm	1.5 mm	UL 94		V0
Flammability, 3.0 mm	3.0 mm	UL 94		V2
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	930
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	725
Glow-wire ignition temperature, GWIT, 3.0 mm	3.0 mm	IEC 60695-2-13	°C	800
Oxygen index			%	28

\*: conditioned according to ISO 1110

**Processing conditions**

Drying temperature/time	80 °C
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.

### Disclaimer

The information provided in this documentation corresponds to our technical knowledge at the date of its publication and do not constitute a specification. This information may be subject to revision at our discretion. Domo cannot anticipate all conditions under which this information and our products of other manufactures in combination with our products may be used. Domo accepts no responsibility for results obtained by the application of this information or for the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes. Unless otherwise agreed in writing, Domo sells the product without warranties. Buyers and users assume all responsibility and liability for loss or damage arising from handling and use of our products, whether used alone or in combination with other products. Unless specifically indicated, the grades mentioned are not suitable for applications in the pharmaceutical/medical sector.