+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

TECHNYL® ONE
Enhanced electrical properties

DOMO
caring is our formula

TECHNICAL DATA SHEET

TECHNYL ONE J 60X1 V15 NC

TECHNYL ONE J 60X1 V15 natural is a high temperature polyamide based on a non-halogenated flame retardant system, reinforced with 15% of glass fiber with best-in-class fire protection behavior, for injection moulding. This product has superior electrical performance compared to traditional high-performance plastics. Its low corrosion ensures processing tools longevity. This product, based on a high fluidity matrix, offers strong benefits in term of productivity and design freedom. The data provided are based on laboratory/experimental results. These data could be adjusted after industrial production.

General

Feature	Halogen and red phosphorus free flame retardant heat resistant	Corrosion resistant
Polymer type	PA66/6T copolymer	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card European Railways Certifications EN 45545-2
Applications	Connectors	Electrical/Electronic Applications
Colors available	Natural	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66/6T-GF15 FR(40)

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm³	1.3
Water absorption	24 hr, 23°C	ISO 62	%	0.75
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.5
Molding shrinkage, normal		ISO 294-4, 2577	%	1
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	7600 / -
Stress at break		ISO 527-1/-2	MPa	125 / -
Strain at break		ISO 527-1/-2	%	2.8 / -
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	6300 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	120 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	47 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	6 / -

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	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	278
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	245
Electrical properties				
Comparative tracking index	Solution A	IEC 60112	V	600
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	35
Burning behaviour				
UL Yellow Card availability	Click here to have access to the UL Yellow Card → QMFZ2.E44716			
Flammability, 0.75 mm	0.75 mm	UL 94		V0
Flammability, 1.5 mm	1.5 mm	UL 94		5VA
Flammability, 3.0 mm	3.0 mm	UL 94		5VA
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	750
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	775

**: conditioned according to ISO 1110*

Processing conditions

Drying temperature/time	80 °C
Suggested max moisture	0.12 %
Rear temperature	285 - 295 °C
Middle temperature	290 - 300 °C
Front temperature	290 - 300 °C
Recommended mould temperature	90 - 110 °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, recommended water content maximum 0,15% (optimum 0,08%-0,12%)

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.

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.