

TECHNICAL DATA SHEET

**TECHNYL ONE J 60X1 V30 GY 2682 LP**



TECHNYL ONE J 60X1 V30 GY 2682 LP is a high temperature polyamide based on a non-halogenated flame retardant system, reinforced with 30% of glass fiber with best-in-class fire protection behavior, for injection moulding. A full yellow card is available with a UL94 V0 rating at 0.4 mm, unmatched thermal ageing properties (150°C electrical RTI - Relative Thermal Index), and outstanding electrical properties, including a high comparative tracking index (CTI 0 for 600 volts and higher). 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.

**General**

Polymer type	PA66/6T copolymer	
Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Feature	halogen and red phosphorus free flame retardant excellent surface finish IR-laser markable very high flow	corrosion resistant heat resistant laser weldable
Applications	electrical/electronic applications	wire / cable applications
Colors available	black orange white	natural grey
Forms	pellets	
Processing technology	injection moulding	

**Product identification**

ISO 1043 abbreviation	PA66/6T-GF30 FR(40)
ISO 16396 designation	PA66/6T,GF30,MH,S14-110

	Condition	Standard	Unit	Value
<b>Physical properties</b>				
Density		ISO 1183	g/cm <sup>3</sup>	1.41
Humidity absorption	T=23°C, 50% RH	ISO 62	%	1.4
Water absorption	24 hr, 23°C	ISO 62	%	0.6 - 0.65
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	1.0 - 1.2

	Condition	Standard	Unit	Value
<b>Mechanical properties</b>				<b>dam / cond.*</b>
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	11000 / -
Stress at break		ISO 527-1/-2	MPa	150 / -
Strain at break		ISO 527-1/-2	%	2.7 / -
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9000 / 8000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	230 / 190
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m <sup>2</sup>	58 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m <sup>2</sup>	5 / 9
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m <sup>2</sup>	50 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m <sup>2</sup>	9 / -

\*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
Melting temperature, 10°C/min		ISO 11357-1	°C	270
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	274
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	255

	Condition	Standard	Unit	Value
<b>Burning behaviour</b>				
UL Yellow Card availability 1	<a href="#"><b>Click here to have access to the UL Yellow Card availability 1 -&gt; QMFZ2.E44716</b></a>			
Flammability, 0.40 mm	0.40 mm	UL 94		V0
Flammability, 0.75 mm	0.75 mm	UL 94		V0,5VA
Flammability, 1.5 mm	1.5 mm	UL 94		V0,5VA
Flammability, 3.0 mm	3.0 mm	UL 94		V0,5VA
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	800
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	800
Glow-wire ignition temperature, GWIT, 3.0 mm	3.0 mm	IEC 60695-2-13	°C	800
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100 mm/min

	Condition	Standard	Unit	Value
<b>Electrical properties</b>				
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	24.0

**Processing conditions**

Drying temperature/time	80°C
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### Processing conditions

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.