TECHNYL® PROTECT
Flame retardants

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TECHNICAL DATA SHEET

TECHNYL PROTECT C 52G2 BK 9307

DOMAMID 6LVGT85 BK99307

TECHNYL PROTECT C 52G2 BK 9307 is a unfilled Polyamide 6 based on a non-phosphorous and non-halogenated flame retardant system, for injection moulding. This grade offers fire and electrical overall properties, with improved flowability.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA6	
Feature	flame retarded halogen free flame retardant	UL 94 V2 GWFI 850°C
Colors available	black grey	natural white
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA6 FR(30)
ISO 16396 designation	PA6,FR(30)M,S12-030

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.14

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3300 / -
Stress at break		ISO 527-1/-2	MPa	65 / -
Strain at break		ISO 527-1/-2	%	2.5 / -
Yield stress		ISO 527-1/-2	MPa	60 / -
Yield strain		ISO 527-1/-2	%	3.5 / -
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	2600 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	125 / -
Charpy impact strength		ISO 179/1eU	kJ/m²	30 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	4 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m²	25 / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	4 / -

: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	221
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	180
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	70
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	205

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Burning behaviour

	Condition	Standard	Unit	Value
UL Yellow Card availability 1		**Click here to have access to the UL Yellow Card availability 1 -> E170540**		
Flammability, 0.40 mm	0.40 mm	UL 94		V2
Flammability, 0.75 mm	0.75 mm	UL 94		V2
Flammability, 1.5 mm	1.5 mm	UL 94		V2
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	850
Glow-wire flammability index, GWFI, 3.0 mm			°C	960
Glow-wire ignition temperature, GWIT, 3.0 mm	3.0 mm	IEC 60695-2-13	°C	725
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100mm/min

Electrical properties

	Condition	Standard	Unit	Value
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E16
Surface resistivity		IEC 62631-3-1	ohm	1.0E14
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)
Recommended melt temperature	230 - 250 °C
Recommended mould temperature	40 - 80 °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.