

TECHNICAL DATA SHEET

TECHNYL PROTECT C 52G2 BG 2166
(Previously DOMAMID 6LVGT85 BG12166)

Polyamide 6 unfilled, for fire and electrical overall properties, with improved flowability, for injection moulding

General

Feature	UL V2	Improved flowability
Polymer type	PA6 (Polyamide 6)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card
Colors available	Black Grey	Natural
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA6 FR(30)
ISO 16396 designation	PA6,M1,S12-030

Condition	Standard	Unit	Value
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Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm ³	1.14
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.8 - 1
Molding shrinkage, normal		ISO 294-4, 2577	%	1 - 1.2
Melt volume-flow rate, MVR, 5.0 kg	275°C, 5kg	ISO 1133	cm ³ /10 min	225
Viscosity number	96% H2SO4	ISO 307	cm ³ /g	125

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	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3300 / -
Strain at break	50 mm/min	ISO 527-1/-2	%	40 / -
Yield stress	50 mm/min	ISO 527-1/-2	MPa	85 / -
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	2800 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	105 / -
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	NB / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	4 / -
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	NB / -
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	4 / -
Rockwell hardness		ISO 2039/2	ScaleR	121 / -


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

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+016
Surface resistivity		IEC 62631-3-1	ohm	1E+014
Comparative tracking index	Solution A	IEC 60112	V	600
CTI performance level category		Sol A		PLC 0

Burning behaviour

UL Yellow Card availability 	Click here to have access to the UL Yellow Card → QMFZ2.E170540			
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	1-3 mm	IEC 60695-2-12	°C	850
Glow-wire ignition temperature, GWIT	1-3 mm	IEC 60695-2-13	°C	725
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Test run at 23°C if not differently specified, DAM state (dry as moulded), valid for natural colored products.
*: conditioned according to ISO 1110

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

These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part.

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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