

TECHNICAL DATA SHEET

TECHNYL PROTECT C 52G3 V20 RD 3183



Polyamide 6, 20% glass fiber reinforced, heat-aging stabilized, for injection moulding

General

Polymer type	PA6		
Certifications	RoHS EC 1907/2006 (REACH)	UL listed product	
Feature	flame retarded halogen free flame retardant	UL 94 V2	
Colors available	grey red	blue	
Forms	pellets		
Processing technology	injection moulding		

Product identification

ISO 1043 abbreviation	PA6-GF20 FR(30)
ISO 16396 designation	PA6-GF20 FR(30),M,S14-060

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

Physical properties

Condition	Standard	Unit	Value
Density	ISO 1183	g/cm ³	1.32
Molding shrinkage, parallel	ISO 294-4, 2577	%	0.5 - 0.7
Molding shrinkage, normal	ISO 294-4, 2577	%	0.6 - 0.8

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	6000 / 2900
Stress at break		ISO 527-1/-2	MPa	80 / 50
Strain at break		ISO 527-1/-2	%	3.8 / 9
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	5500 / 2900
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	135 / 75
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	35 / 90
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	3.5 / 8.5
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	30 / 85
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	3 / 9

*: **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	205
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	170
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	205

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

Burning behaviour

UL Yellow Card availability 1	Click here to have access to the UL Yellow Card availability 1 -> UL YC			
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, 3.0 mm			°C	960
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	750
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100mm/min

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

Electrical properties

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)
Suggested max moisture	0.2 %
Rear temperature	230 - 240 °C
Middle temperature	240 - 250 °C
Front temperature	250 - 260 °C
Recommended melt temperature	230 - 260 °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.