TECHNYL® PROTECT
Flame retardants

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TECHNICAL DATA SHEET

TECHNYL PROTECT A 60G1 V30 BK

(Previously DOMAMID FR 66G30V0E BK)

Polyamide 66, 30% glass fiber reinforced, halogen and red phosphorus free flame retardant, heat-aging stabilized, for injection moulding

General

Feature	UL V0 Heat-aging stabilized	Halogen and red phosphorus free flame retardant
Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS	UL-Yellow Card

Product identification

ISO 1043 abbreviation	PA66-GF30 FR(40)
ISO 16396 designation	PA66,GF30FR(40),M1H,S14-100

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm³	1.43
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.4
Molding shrinkage, normal		ISO 294-4, 2577	%	0.6 - 0.8
Viscosity number	96% H2SO4	ISO 307	cm³/g	145
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10500 / 8400
Stress at break	5 mm/min	ISO 527-1/-2	MPa	140 / 105
Strain at break	5 mm/min	ISO 527-1/-2	%	2.5 / 4.5
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	9600 / 7000
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	200 / 170
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m²	55 / 65
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	8.5 / 13
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m²	50 / 60
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m²	8 / 12

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	Condition	Standard	Unit	Value
Thermal properties				
Melting temperature, 10°C/min		ISO 11357-1	°C	262
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	250
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	230
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	245
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 → E170540-563189			
Flammability, 0.75 mm	0.75 mm	UL 94		V0
Glow-wire flammability index, GWFI	1-3 mm	IEC 60695-2-12	°C	960
Glow-wire ignition temperature, GWIT	1-3 mm	IEC 60695-2-13	°C	750
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	270 - 290 °C
Recommended mould temperature	80 - 100 °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.