TECHNYL® 4EARTH®
Sustainable polyamide

DOMO
caring is our formula

EXPERIMENTAL DATASHEET

TECHNYL 4EARTH A1E 60G1 V30 GY R7035

XA4E 1780 R7035

TECHNYL 4Earth A1E 60G1 V30 GY R7035 is a partially recycled polyamide 66 based on a non-halogenated flame retardant system, reinforced with 30% of glass fiber, heat stabilized for injection moulding.
This partially recycled material has been developed to reduce its environmental footprint (3,4 kg CO2 eq. according to IPCC 2013 100a methodology) with respect to first-choice materials while offering excellent & identical flame retardant properties (UL 94 V0 - GWFI 960Â°C all at 0.8 mm thickness). It also offers unchanged mechanical and electrical performances with respect to virgin materials. It is already all colors UL yellow card registered for short-term properties (UL 94, 5VA, HWI, HAI, CTI) waiting for RTI ratings completion.

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA66	
Feature	UL 94 V0 GWFI 960Â°C	halogen free flame retardant
Applications	automotive applications	electrical/electronic applications
Colors available	grey	
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66(REC)-GF30 FR(40)
ISO 16396 designation	PA66,GF30FR(40)(R50),M,S14-110

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm3	1.43
Water absorption	24 hr, 23Â°C	ISO 62	%	0.6 - 0.65
Water absorption, saturation			%	4.0
Molding shrinkage, parallel		ISO 294-4, 2577	%	0.2 - 0.3
Molding shrinkage, normal		ISO 294-4, 2577	%	0.9 - 0.95

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	Condition	Standard	Unit	Value
Mechanical properties				**dam / cond.***
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	10900 / -
Stress at break		ISO 527-1/-2	MPa	149 / -
Strain at break		ISO 527-1/-2	%	2.3 / -

: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
Thermal properties				
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	248

	Condition	Standard	Unit	Value
Burning behaviour				
UL Yellow Card availability 1	**Click here to have access to the UL Yellow Card availability 1 -> YC TECHNYL 4EARTH A1E 60G1 V30 GY R7035**			
Flammability, 0.75 mm	0.75 mm	UL 94		V0
Flammability, 1.5 mm	1.5 mm	UL 94		V0
Flammability, 3.0 mm	3.0 mm	UL 94		V0
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, 0.75 mm	0.75 mm	IEC 60695-2-13	°C	750
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	775
Glow-wire ignition temperature, GWIT, 3.0 mm	3.0 mm	IEC 60695-2-13	°C	775
Oxygen index			%	33.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

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	Condition	Standard	Unit	Value

Electrical properties

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	31.0

Processing conditions

Drying temperature/time	80 Â°C
Suggested max moisture	0.2 %
Rear temperature	275 °C
Middle temperature	275 °C
Front temperature	280 °C
Recommended mould temperature	90 °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 -20Â°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 120Â°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.