TECHNYL® A 60G1 V30 BLACK-K

Polyamide 66

Solvay Engineering Plastics

Message:

TECHNYL® A 60G1 V30 Black-K is a Non-halogenated flame retardant polyamide 66 reinforced with 30% of glass fiber, heat stabilized, for injection moulding. This grade offers excellent flame retardancy properties (UL 94, 5VA, GWIT) combined with excellent processing, mechanical and electrical performance. It can withstand temperatures of 160°C for over 6000 hours and has a UL F1 rating for weatherability resistance

General Information	
UL YellowCard	E44716-467001
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight
Additive	heat stabilizer Flame retardancy
Features	Halogen-free
Uses	Electrical/Electronic Applications
Agency Ratings	EN 45545 NF F 16-101 UL QMFZ2
RoHS Compliance	RoHS compliance
Appearance	Black Grey Natural color
Forms	Particle
Processing Method	Injection molding
Resin ID (ISO 1043)	PA66-GF30 FR(40)

Physical	Dry	Conditioned	Unit	Test Method
Density	1.46	--	g/cm³	ISO 1183/A
Water Absorption				ISO 62
23°C, 24 hr	0.73	--	%	ISO 62
Saturated, 23°C	4.3	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.8	--	%	ISO 62
Outdoor Suitability	f1	--		UL 746C

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	11700	8410	MPa	ISO 527-2/1A
Tensile Strength				
Fracture, 23°C	135	105	MPa	ASTM D638
Fracture, 23°C	145	110	MPa	ISO 527-2/1A

Tensile Elongation				
Fracture, 23°C	3.5	--	%	ASTM D638
Fracture, 23°C	2.3	4.0	%	ISO 527-2
Flexural Modulus (23°C)	11000	7900	MPa	ASTM D790, ISO 178
Flexural Strength				
23°C	220	180	MPa	ASTM D790
23°C	250	180	MPa	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	8.0	--	kJ/m²	ISO 179/1eA
23°C	8.0	11	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	55	--	kJ/m²	ISO 179/1eU
23°C	55	60	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	80	--	J/m	ASTM D256
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature (1.8 MPa, Unannealed)	245	--	°C	ISO 75-2/Af
Melting Temperature	263	--	°C	ISO 11357-3
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Surface Resistivity	2.0E+15	--	ohms	IEC 60093
Volume Resistivity	6.0E+14	--	ohms·cm	IEC 60093
Dielectric Strength (0.800 mm)	38	--	kV/mm	IEC 60243-1
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.8 mm	V-0	--		UL 94
	V-0			
1.6 mm	5VA	--		UL 94
	V-0			
3.2 mm	5VA	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
0.8 mm	960	--	°C	IEC 60695-2-12
1.6 mm	960	--	°C	IEC 60695-2-12
3.2 mm	960	--	°C	IEC 60695-2-12

Glow Wire Ignition Temperature (0.8 mm)	775	--	°C	IEC 60695-2-13
Oxygen Index	33	--	%	ISO 4589-2
French Fire Index	F3	--		NF F16-101
French Smoke Index	I3	--		NF F16-101
European Railways Certifications				EN 45545-2
R22	HL3	--		EN 45545-2
R23	HL3	--		EN 45545-2

Injection	Dry	Unit
Drying Temperature	80	°C
Suggested Max Moisture	0.20	%
Rear Temperature	265 - 275	°C
Middle Temperature	265 - 275	°C
Front Temperature	270 - 280	°C
Mold Temperature	60 - 90	°C

Injection instructions

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 mini -20°C. Recommended time 2-4hInjection Advice:
All reinforced flame retardant compounds generate some level of abrasion/corrosion to the steel processing equipment.
These issues can be worsened by using incorrect processing conditions (temperatures, residence time, moisture level ...) during the moulding process. Therefore, Solvay recommends to use the advised processing conditions detailed in this technical data sheet. For equipment that comes into contact with molten flame retarded compounds, Solvay advises to use a steel containing high chromium & high carbon content (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. For Mould Temperature, in the case of parts where the surface roughness is required we can recommend a temperature at 120°C. Of course it should be noted that this improvement in the surface appearance may be at the expense of the cycle time.
The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design

Recommended distributors for this material

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