TECHNYL® A 20 V25 BLACK 2006 CF

Polyamide 66

Solvay Engineering Plastics

PROSPECTOR®

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Technical Data

Product Description

TECHNYL® A 20 V25 Black 2006 CF is a flame retardant polyamide 66, reinforced with 25% of glass fiber, heat stabilized, for injection moulding. This grade provides robust UL 94 V-0 and a full UL yellow card while offering good mechanical properties. This grade is suitable for moulding insulating parts for electrical devices, and more generally for thin parts under stress.

General

Material Status	• Commercial: Active		
UL Yellow Card [1]	• E44716-235546		
Search for UL Yellow Card	• Solvay Engineering Plastics • TECHNYL®		
Availability	• Africa & Middle East	• Asia Pacific	• Europe
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight		
Additive	• Flame Retardant	• Heat Stabilizer	
Uses	• Appliances • Connectors	• Electrical/Electronic Applications • White Goods & Small Appliances	• Wire & Cable Applications
Agency Ratings	• EC 1907/2006 (REACH) • EN 45545	• NF F 16-101 • UL QMFZ2	
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Natural Color	
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PA66-GF25 FR(52)		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.38	--	g/cm³	ISO 1183/A
Water Absorption				ISO 62
73°F (23°C), 24 hr	0.75	--	%	
Equilibrium, 73°F (23°C), 50% RH	2.1	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F (23°C))	1.36E+6 (9400)	914000 (6300)	psi (MPa)	ISO 527-2/1A
Tensile Stress (Break, 73°F (23°C))	21800 (150)	14500 (100)	psi (MPa)	ISO 527-2/1A
Tensile Strain (Break, 73°F (23°C))	2.5	5.2	%	ISO 527-2
Flexural Modulus (73°F (23°C))	1.23E+6 (8500)	827000 (5700)	psi (MPa)	ISO 178
Flexural Stress (73°F (23°C))	37000 (255)	24700 (170)	psi (MPa)	ISO 178

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F (-30°C)	3.3 (7.0)	--	ft·lb/in² (kJ/m²)	
73°F (23°C)	3.8 (8.0)	4.3 (9.0)	ft·lb/in² (kJ/m²)	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F (-30°C)	24 (50)	--	ft·lb/in² (kJ/m²)	
73°F (23°C)	26 (55)	29 (60)	ft·lb/in² (kJ/m²)	

Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact Strength (73°F (23°C))	3.8 (8.0)	4.3 (9.0)	ft·lb/in² (kJ/m²)	ISO 180
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/Af
264 psi (1.8 MPa), Unannealed	468 (242)	--	°F (°C)	
Melting Temperature	505 (263)	--	°F (°C)	ISO 11357-3
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Surface Resistivity	1.0E+13	1.0E+12	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+13	ohms·cm	IEC 60093
Electric Strength (0.0315 in (0.800 mm))	760 (30)	--	V/mil (kV/mm)	IEC 60243-1
Relative Permittivity	3.40	4.00		IEC 60250
Dissipation Factor	0.020	0.050		IEC 60250
Comparative Tracking Index (Solution A)	400	--	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.031 in (0.8 mm)	V-0	--		
0.06 in (1.6 mm)	V-0	--		
0.13 in (3.2 mm)	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.031 in (0.8 mm)	1760 (960)	--	°F (°C)	
0.06 in (1.6 mm)	1760 (960)	--	°F (°C)	
0.13 in (3.2 mm)	1760 (960)	--	°F (°C)	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.06 in (1.6 mm)	1340 (725)	--	°F (°C)	
Oxygen Index	31	--	%	ISO 4589-2
French Fire Index	F3	--		NF F16-101
French Smoke Index	I3	--		NF F16-101

Injection	Dry (English)	Dry (SI)
Drying Temperature	176 °F	80 °C
Suggested Max Moisture	0.20 %	0.20 %
Rear Temperature	509 to 527 °F	265 to 275 °C
Middle Temperature	518 to 536 °F	270 to 280 °C
Front Temperature	536 to 554 °F	280 to 290 °C
Mold Temperature	140 to 194 °F	60 to 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 mini -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 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

Notes

[1] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[2] Typical properties: these are not to be construed as specifications.

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Where to Buy

Supplier

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Distributor

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