TECHNYL® A 20 V35 NATURAL

Polyamide 66

Solvay Engineering Plastics

Message:

TECHNYL® A 20 V35 Natural is a Red Phosphorous flame retardant polyamide 66, reinforced with 35% 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 Information	
UL YellowCard	E44716-235547
Filler / Reinforcement	Glass fiber reinforced material, 35% filler by weight
Additive	heat stabilizer Flame retardancy
Uses	Electrical/Electronic Applications
Agency Ratings	EC 1907/2006 (REACH) EN 45545 NF F 16-101 UL QMFZ2
RoHS Compliance	RoHS compliance
Appearance	Black Natural color
Forms	Particle
Processing Method	Injection molding
Resin ID (ISO 1043)	PA66-GF35 FR(52)

Physical	Dry	Conditioned	Unit	Test Method
Density	1.46	--	g/cm³	ISO 1183/A
Water Absorption				ISO 62
23°C, 24 hr	0.60	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.7	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	12500	8200	MPa	ISO 527-2/1A
Tensile Stress (Break, 23°C)	175	110	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	2.1	3.2	%	ISO 527-2
Flexural Modulus (23°C)	11000	7500	MPa	ISO 178
Flexural Stress (23°C)	260	200	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	10	12	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	55	--	kJ/m²	ISO 179/1eU
23°C	60	70	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	10	12	kJ/m²	ISO 180
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature (1.8 MPa, Unannealed)	244	--	°C	ISO 75-2/Af
Melting Temperature	263	--	°C	ISO 11357-3
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Surface Resistivity	1.0E+14	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (0.800 mm)	32	--	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
0.8 mm	V-0	--		UL 94
1.6 mm	V-0	--		UL 94
3.2 mm	V-0	--		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
Oxygen Index	31	--	%	ISO 4589-2
Injection	**Dry**	**Unit**		
Drying Temperature	80		°C	
Suggested Max Moisture	0.20		%	
Rear Temperature	265 - 275		°C	
Middle Temperature	270 - 280		°C	
Front Temperature	280 - 290		°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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