



TECHNYL A 20 V35

Description

TECHNYL[®] A 20 V35 is a 35% glass fiber reinforced Red Phosphorous flame retarded grade based on a polyamide 66 resin. This product is heat stabilized for optimized injection moulding.

This product is available in Natural & Black.

Key Properties

Benefits

This Red Phosphorous flame retardent grade provides robust UL 94 V-0 and a full UL yellow card while offering good mechanical properties.

Applications

It is suitable for moulding insulating parts for electrical devices, and more generally for thin parts under stress. Industrial controls and electrical insulation system.

Properties

Typical values of properties are for natural grades

	Standards	Unit	Values	
			d.a.m.	Cond.
Physical				
Water absorption(24h at 23°C)	ISO 62	%	0,60	
Density	ISO 1183/A	g/cm3	1,46	
Mechanical				
Tensile Modulus	ISO 527 Type 1A	MPa	12000	10000
Tensile strength at break	ISO 527 Type 1A	MPa	170	140
Elongation at yield	ISO 527 Type 1A	%	2	3
Elongation at break	ISO 527 Type 1A	%	2	
Flexural modulus	ISO 178	MPa	10000	7500
Flexural maximum stress	ISO 178	MPa	260	200
Charpy notched impact strength (23 °C)	ISO 179/1eA	kJ/m2	10	12
Charpy unnotched impact strength (23 °C)	ISO 179/1eU	kJ/m2	65	70
Izod notched impact strength (23 °C)	ISO 180/1A	kJ/m2	10	12
Flammability				
Flammability (Thickness: 0,8 mm)	ISO 1210 / UL94		V0	
Flammability (Thickness: 1,6 mm)	ISO 1210 / UL94		V0	
Glow Wire Flammability Index (Thickness: 1,6 mm)	ISO 60695-2-12	°C	960	
Limit Oxygen Index	ISO 4589		30,5	
Thermal				
Melting Temperature	ISO 11357	°C	263	
Electrical				
Comparative tracking index (Sol A)	IEC 60112	V	400	375
Comparative tracking index (Sol B)	IEC 60112	V	325	
Dielectric strength	IEC 60243	kV/mm	25	25
Dissipation factor	IEC 60250		0,020	0,050
Surface resistivity	IEC 60093	Ohm	1E 13	1E 12
Volume resistivity	IEC 60093	Ohm/cm	1E 15	1E 13
Specific				
Identification code			PA66-GF35 FR(52)	

d.a.m. = dry as moulded
Cond = conditioned

Processing Guide

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.

Recommended Maximum water content: 0,2 %

Drying conditions: 80 °C

Recommended moulding conditions

Barrel Temperatures:

- feed zone	265 - 275 °C
- compression zone	270 - 280 °C
- mixing zone	280 - 290 °C
Mould temperatures:	70 - 100 °C

Steel advice for tools

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.

Disclaimer

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and it is in no way binding. This information must on no account be used as a substitute for necessary prior tests which alone can ensure that a product is suitable for a given use. ANY WARRANTY OF PRODUCT PERFORMANCE, MERCHANDABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorizations. Users are requested to check that they are in possession of the latest version of this document, and Solvay is at their disposal to supply any additional information.

Safety information

Detailed information regarding safety are available on the safety data sheet (SDS).
SDS is sent with the first material order, or available by contacting our customer services

Regulations compliance

Grades produced or imported in Europe comply with directive 453/2010/EC, which amends REACH directive 1907/2006/EC

This grade complies with RoHS directive 2002/95/EC

Unless specified, this grade is not suitable for food contact, medical devices or toy applications

Customer services

Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered on:

- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

You can find more information on Solvay Product range by on Technyl.com and the link to the product finder and brochures at the following address:

<http://www.technyl.com/en/download/brochures/index.html>

Yellow card

Component - Plastics [\[guide info\]](#) E44716

SOLVAY ENGINEERING PLASTICS GBU

QUARTIER BELLE-ETOILE, AVE RAMBOZ, BOITE POSTALE 64, ST FONS CEDEX 69192 FR

A 20 V35

Polyamide 66 (PA66), glass reinforced, "Technyl", furnished as pellets

	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.84	V-0	2	0	115	105	105
	1.7	V-0	1	0	115	105	115
	3.0	V-0	1	0	130	110	130

Comparative Tracking Index (CTI): 1

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): 29

Volume Resistivity (10^x ohm-cm): 12

High-Voltage Arc Tracking Rate (HVTR): 1

High Volt, Low Current Arc Resis (D495): 5

Dimensional Stability (%): 0.0

NOTE - Materials designated "Technyl" may be prefixed by the letters "TY".

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

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Last Revised: 2013-07-10

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.84	V-0 (ALL)
			1.7	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-