



TECHNYL B 50H1 NATURAL L

Description

TECHNYL® B 50H1 Natural L is an unreinforced melamine cyanurate flame retarded copolyamide 66/6. This product has been heat stabilised and is suitable for injection moulding.

This product is available in natural and other colors upon request.

Key Properties

UL94 V0 at 0.4mm
High ductility at low temperature
Excellent filling qualities

Benefits

This phosphorus and halogen free flame retardant grade, UL94 V0 at 0.4mm, offers excellent filling qualities together with good stiffness.

Applications

Connectivity : junction blocks, terminal blocks, connectors...

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	%	1,10	
Density	ISO 1183/A	g/cm ³	1,16	
Molding shrinkage Parallel	RHODIA	%	1,10	
Molding shrinkage normal or perpendicular	RHODIA	%	1	
Molding Shrinkage Isotropy	RHODIA		1,10	
Mechanical				
Tensile Modulus	ISO 527 Type 1A	MPa	3600	2200
Tensile strength at yield	ISO 527 Type 1A	MPa	80	40
	ASTM D-638	MPa	85	
Tensile strength at break	ISO 527 Type 1A	MPa	70	40
Elongation at yield	ISO 527 Type 1A	%	4	5
Elongation at break	ISO 527 Type 1A	%	10	100
	ASTM D-638	%	10	
Flexural modulus	ASTM D-790	MPa	3650	
Flexural maximum stress	ISO 178	MPa	105	70
	ASTM D-790	MPa	120	
Charpy notched impact strength (23 °C)	ISO 179/1eA	kJ/m ²	4,5	5,5
Charpy unnotched impact strength (23 °C)	ISO 179/1eU	kJ/m ²	90	NB
Izod notched impact strength (23 °C)	ISO 180/1A	kJ/m ²	5	6,5
	ASTM D256	J/m	60	
Flammability				
Flammability (Thickness: 0,38 mm)	ISO 1210 / UL94		V0	
Flammability (Thickness: 0,8 mm)	ISO 1210 / UL94		V0	
Flammability (Thickness: 1,6 mm)	ISO 1210 / UL94		V0	
Flammability (Thickness: 3,2 mm)	ISO 1210 / UL94		V0	
Glow Wire Flammability Index (Thickness: 0,8 mm)	ISO 60695-2-12	°C	960	
Glow Wire Flammability Index (Thickness: 1,6 mm)	ISO 60695-2-12	°C	960	
Glow Wire Flammability Index (Thickness: 3,2 mm)	ISO 60695-2-12	°C	960	
Glow Wire Ignition Temperature (Thickness: 1,6 mm)	ISO 60695-2-13	°C	650	
Limit Oxygen Index	ISO 4589		33	
Fire and Smoke index	NF F 16 101		I2 / F3	

	Standards	Unit	Values	
			d.a.m.	Cond.
Thermal				
Melting Temperature	ISO 11357	°C	242	
Heat deflection temperature (1,8 MPa)	ISO 75/Af	°C	85	
Heat deflection temperature (1,82 MPa)	ASTM D-648	°C	85	
Coef of Linear thermal expansion parallel (23°C to 85°C)	ISO 11359	E-5/°C	6,5	
Electrical				
Comparative tracking index (Sol A)	IEC 60112	V	600	600
Comparative tracking index (Sol B)	IEC 60112	V	575	600
Dielectric strength	IEC 60243	kV/mm	34	30
Dissipation factor	IEC 60250		0,020	0,060
Relative permittivity	IEC 60250		3,60	4
Surface resistivity	IEC 60093	Ohm	1E 15	1E 12
Volume resistivity	IEC 60093	Ohm/cm	1E 15	1E 15
Specific				
Identification code				PA66/6 FR(30)

d.a.m. = dry as moulded

Cond = conditioned

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.

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 240 - 250 °C
- compression zone 245 - 255 °C
- mixing zone 250 - 260 °C

Mould temperatures: 60 - 80 °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.

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

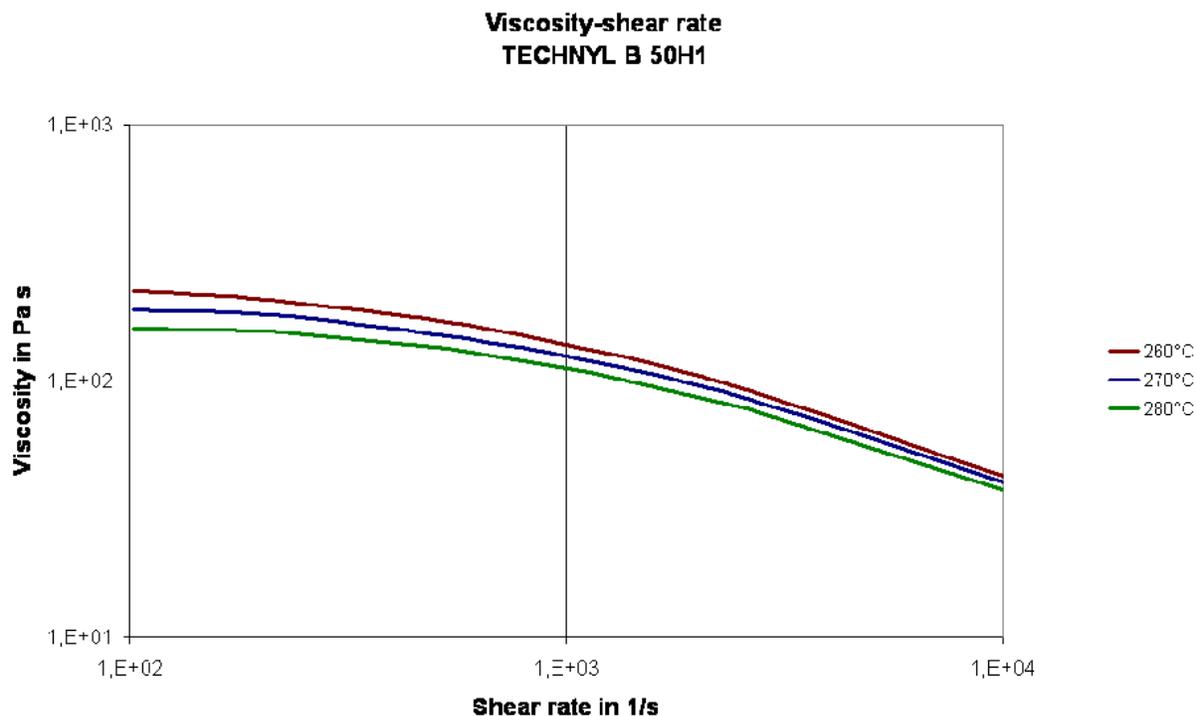
Customer services

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

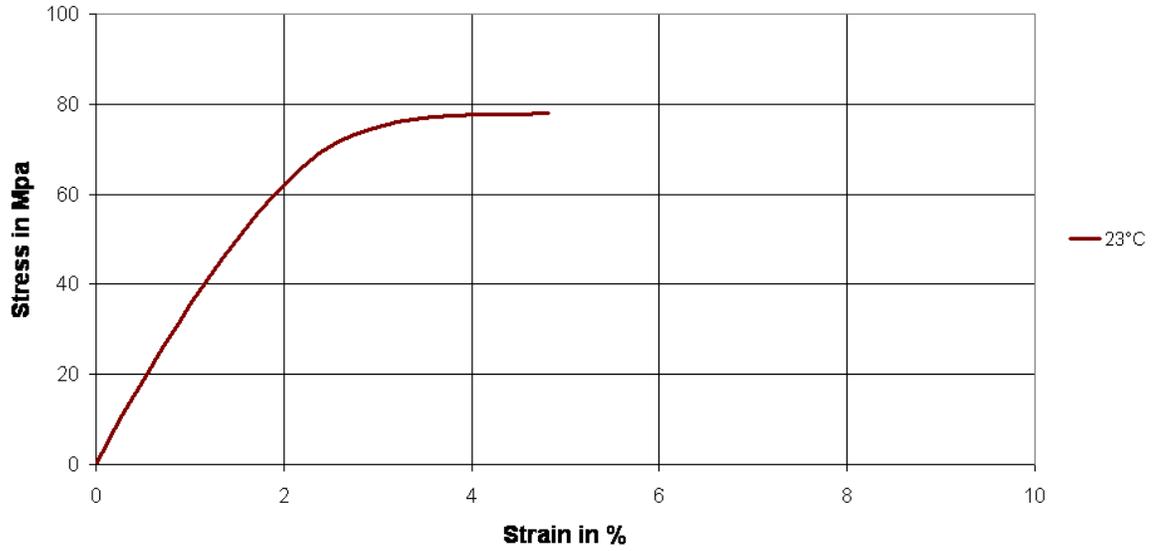
You can find more information on Solvay Product range by on Technyl.com and the link to the product finder and brochures at the following address:
<http://www.technyl.com/en/download/brochures/index.html>

Viscosity-shear rate



— Stress-strain

Stress-Strain (dry)
TECHNYL B 50H1



Yellow card

Component - Plastics					E44716		
RHODIA ENGINEERING PLASTICS							
QUARTIER BELLE-ETOILE, AVE RAMBOZ, BOITE POSTALE 64, ST FONS CEDEX 69192 FR							
B 50H1(r1)							
Polyamide 66/6 (PA66/6), unfilled, "Technyl", furnished as pellets							
	Min Thk	Flame			RTI	RTI	RTI
Color	(mm)	Class	HWI	HAI	Elec	Imp	Str
ALL	0.38	V-0	4	0	120	-	-
	0.75	V-0	4	0	120	90	95
BK	1.0	V-0, 5VB	4	0	120	90	95
	1.5	V-0	4	0	120	90	95
	3.0	V-0	3	0	120	90	95
Comparative Tracking Index (CTI): 0			Dimensional Stability (%): -				
High-Voltage Arc Tracking Rate (HVTR): 0			High Volt, Low Current Arc Resis (D495): 6				
Dielectric Strength (kV/mm): -			Volume Resistivity (10 ^x ohm-cm): -				
(r1) - Virgin and regrind up to 50% by weight incl. have the same basic material characteristics, except for the 5VB rating.							
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.							
Report Date: 1993-10-21		Underwriters Laboratories Inc®					
Last Revised: 2005-11-11							

IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.38	V-0 (ALL)
			0.75	V-0 (ALL)
			1.0	V-0, 5VB (BK)
			1.5	V-0 (BK)
			3.0	V-0 (BK)
Glow-Wire Flammability (GWF)	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	-	-

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