Engineering Plastics'
TECHNYL®

Product Data Sheet

01.12.2011

TECHNYL A 30H1 V30 NATURAL

Description

TECHNYL® A 30H1 V30 Natural is a brominated flame retardant polyamide 66, reinforced with 30% of glass fibre, for injection moulding.
This product is available in natural color.

Key Properties

UL94 V0 at 0.8mm
Glow wire resistance

Benefits

This product offers excellent flame retardancy properties (UL 94, GWIT) combined with excellent processing, mechanical and electrical performance.

Applications

This product is ideally suited for appliance and industrial control applications such as switches, timers and contactors.

More info : www.rhodia.com Tel: 00 800 55 400 600
Contact : engineeringplastics-business@eu.rhodia.com

SOLVAY

Properties

Typical values of properties are for natural grades

	Standards	Unit	Values d.a.m.	Values Cond.
Physical				
Water absorption(24h at 23°C)	ISO 62	%	0,80	
Density	ISO 1183/A	g/cm3	1,57	
Molding shrinkage Parallel	RHODIA	%	0,60	
Molding shrinkage normal or perpendicular	RHODIA	%	0,95	
Molding Shrinkage Isotropy	RHODIA		0,63	
Mechanical				
Tensile Modulus	ISO 527 Type 1A	MPa	10000	7000
Tensile strength at break	ISO 527 Type 1A	MPa	130	95
	ASTM D-638	MPa	140	
Elongation at break	ISO 527 Type 1A	%	2,20	3,50
	ASTM D-638	%	2,50	
Flexural modulus	ISO 178	MPa	9500	7000
	ASTM D-790	MPa	9500	
Flexural maximum stress	ISO 178	MPa	200	170
	ASTM D-790	MPa	200	
Charpy notched impact strength (23 °C)	ISO 179/1eA	kJ/m2	9,5	12
Charpy unnotched impact strength (23 °C)	ISO 179/1eU	kJ/m2	42	50
Izod notched impact strength (23 °C)	ISO 180/1A	kJ/m2	10	13
	ASTM D256	J/m	115	
Flammability				
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: 0,8 mm)	ISO 60695-2-13	°C	800	
Glow Wire Ignition Temperature (Thickness: 1,6 mm)	ISO 60695-2-13	°C	825	
Limit Oxygen Index	ISO 4589		31	
Fire and Smoke index	NF F 16 101		I3 / F3	
Thermal				
Melting Temperature	ISO 11357	°C	263	
Heat deflection temperature (1,8 MPa)	ISO 75/Af	°C	226	
	ASTM D-648	°C	227	

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	Standards	Unit	Values	
			d.a.m.	Cond.
Electrical				
Comparative tracking index (Sol A)	IEC 60112	V	450	600
Comparative tracking index (Sol B)	IEC 60112	V	400	500
Dielectric strength	IEC 60243	kV/mm	42	40
Dissipation factor	IEC 60250		0,010	0,050
Relative permittivity	IEC 60250		3,30	3,60
Surface resistivity	IEC 60093	Ohm	1E 14	
Volume resistivity	IEC 60093	Ohm/cm	1E 15	
Specific				
Identification code			PA66-GF30 FR(17)	

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

Disclaimer

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	270 - 280 °C
- compression zone	275 - 285 °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.

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

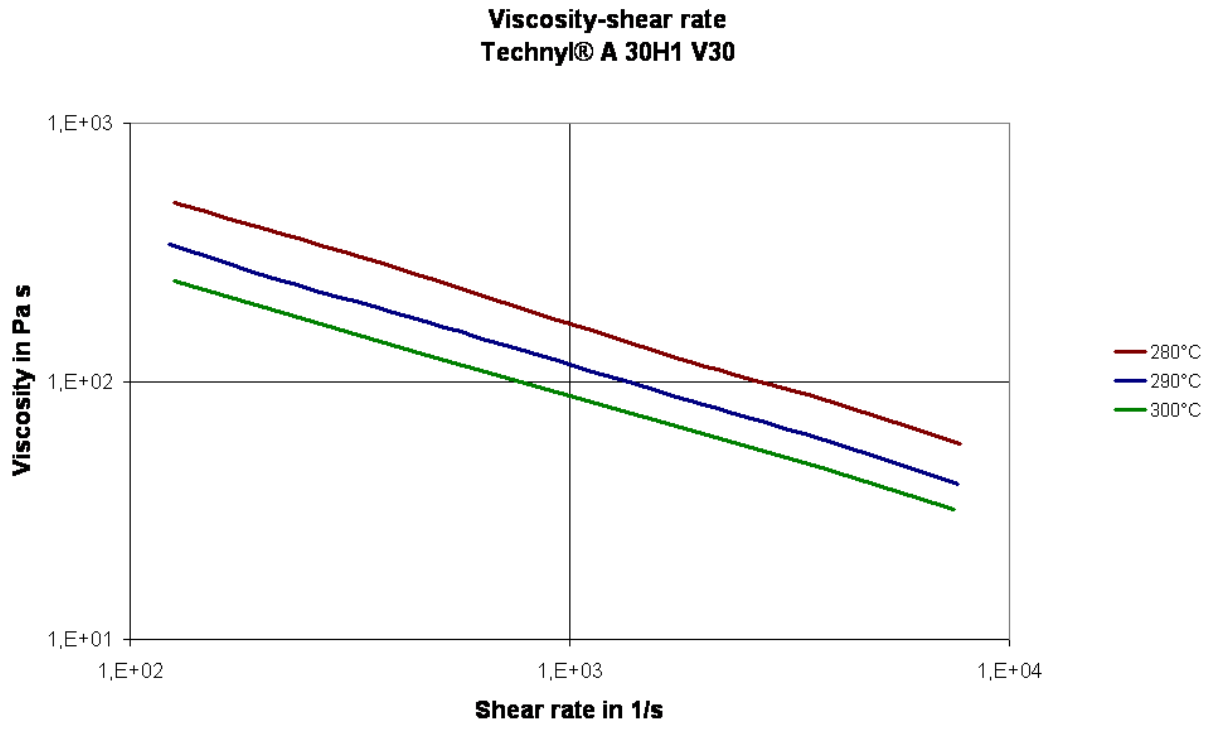
Customer services

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:

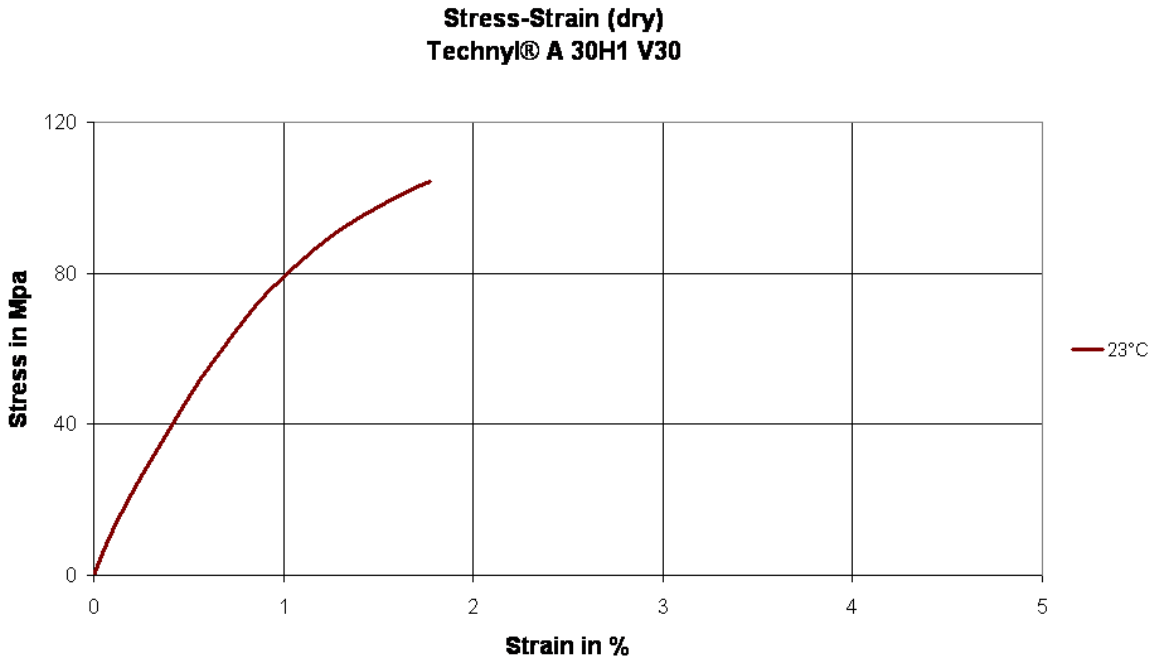
- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

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



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Component - Plastics [guide info] **E44716**

SOLVAY ENGINEERING PLASTICS GBU

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

A 30H1 V30

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

	Min Thk	Flame			RTI	RTI	RTI
Color	(mm)	Class	HWI	HAI	Elec	Imp	Str
ALL	0.75	V-0	0	0	130	90	120
	1.5	V-0	0	0	130	100	120
	3.0	V-0	0	0	130	100	120

Comparative Tracking Index (CTI):	1	Inclined Plane Tracking (IPT):	-
Dielectric Strength (kV/mm):	-	Volume Resistivity (10^x ohm-cm):	-
High-Voltage Arc Tracking Rate (HVTR):	1	High Volt, Low Current Arc Resis (D495):	-
Dimensional Stability (%):	-		

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: 1998-09-29
Last Revised: 2013-07-10

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	V-0 (ALL)
			1.5	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	-	-