

# TECHNYL®

## TECHNYL® A 218W V30 NATURAL

TECHNICAL DATA SHEET

Revised: April, 2017

TECHNYL® A 218W V30 Natural is a polyamide 66, reinforced with 30% of glass fibre, heat stabilized, for injection moulding. This grade offers an improved hydrolysis resistance, as well as an excellent combination between thermal and mechanical properties. It also restricts electrolytical corrosion. It is designed to be used in food contact and drinking water applications.

### GENERAL

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Additive	• Heat Stabilizer
Key Benefits	• Lower Corrosivity • Good Dimensional Stability • Drinking Water Contact Approved • Good Flow • Food Contact Approved • Heat Stabilized (Organic) • Good Mold Release
Applications	• Consumer and Industrial applications • Cooking utensiles • Plumbing application • Switch, Plug, Control & Sockets • Valves • Water pumps • White appliances
Certification/Compliance	• ACS DGS/VS 4 n° 2000-232 • DVGW W270 • EC 1907/2006 (REACH) • KTW Guidelines • NSF STD-61 • UL QMFZ2 • WRAS BS6920-1: 2000 and 2014
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• IMDS ID 56062554/1
Colors Available	• Black • Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA66-GF30

### PROPERTIES

Typical values of properties are for Natural grades

Physical	Dry	Conditioned Unit	Test Method
Molding Shrinkage			ISO 294-4
Across Flow	0.90	%	
Flow	0.33	%	
Water Absorption (23°C, 24 hr)	0.80	%	ISO 62
Density	1.36	g/cm <sup>3</sup>	ISO 1183/A
Mechanical	Dry	Conditioned Unit	Test Method
Tensile Modulus (23°C)	10000	7000 MPa	ISO 527-2/1A

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<b>Mechanical</b>	<b>Dry</b>	<b>Conditioned Unit</b>	<b>Test Method</b>
Tensile Strength			
Break, 23°C	190	120 MPa	ASTM D638
Break, 23°C	190	125 MPa	ISO 527-2/1A
Tensile Elongation			
Break, 23°C	3.5	5.7 %	ASTM D638
Break, 23°C	3.0	7.0 %	ISO 527-2
Flexural Modulus			
23°C	9000	7000 MPa	ASTM D790
23°C	9000	6300 MPa	ISO 178
Flexural Strength			
23°C	270	135 MPa	ASTM D790
23°C	275	217 MPa	ISO 178
Charpy Notched Impact Strength (23°C)	12	15 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	85	95 kJ/m <sup>2</sup>	ISO 179/1eU
Notched Izod Impact			
23°C	110	J/m	ASTM D256
23°C	12	16 kJ/m <sup>2</sup>	ISO 180
Unnotched Izod Impact (Area) (23°C)	95.0	110 kJ/m <sup>2</sup>	ASTM D256
Unnotched Izod Impact Strength (23°C)	75	85 kJ/m <sup>2</sup>	ISO 180/1U
<b>Thermal</b>	<b>Dry</b>	<b>Conditioned Unit</b>	<b>Test Method</b>
Heat Deflection Temperature			
0.45 MPa, Unannealed	260	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	250	°C	ASTM D648
1.8 MPa, Unannealed	255	°C	ISO 75-2/ Af
Melting Temperature	262	°C	ISO 11357-3
<b>Electrical</b>	<b>Dry</b>	<b>Conditioned Unit</b>	<b>Test Method</b>
Surface Resistivity	1.0E+15	1.0E+13 ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+14 ohms-cm	IEC 60093
Electric Strength (2.00 mm)	35	40 kV/mm	IEC 60243-1
Relative Permittivity	3.70	4.30	IEC 60250
Dissipation Factor	0.020	0.080	IEC 60250
Comparative Tracking Index (Solution A)	600	600 V	IEC 60112
<b>Flammability</b>	<b>Dry</b>	<b>Conditioned Unit</b>	<b>Test Method</b>
Flame Rating			UL 94
1.6 mm	HB		
3.2 mm	HB		
Glow Wire Flammability Index (1.6 mm)	700	°C	IEC 60695-2-12

## PROCESSING

Injection	Dry Unit
Drying Temperature	80 °C
Suggested Max Moisture	0.20 %
Rear Temperature	270 to 280 °C
Middle Temperature	275 to 285 °C
Front Temperature	280 to 290 °C
Mold Temperature	70 to 100 °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:

- For reinforced polyamides, Solvay recommends the use of steel with a high content of carbon, and purified for polishing, to avoid or limit the abrasion. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm) or X160CrMoV12 (EN Norm) - 1.2601 /1.2379 (DIN Norm). In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered.
- The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design

## 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 substitutive for necessary prior tests which alone can ensure that a product is suitable for a given use. ANY WARRANTY OF PRODUCT PERFORMANCE, MERCHANTABILITY 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

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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

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This product is not intended to be used for the following regulated market: toys, cosmetics or medical devices.

Relevant drinking water approvals within Europe:

- ACS (Attestation de conformité sanitaire) in France
- KTW (Kunststoffe im Trinkwasser) @ 23°C in Germany
- DVGW (Deutscher Verein des Gas- und Wasserfachs e. V.) W270 in Germany

This grade complies with RoHS directive 2002/95/EC as amended.

Grades produced or imported in Europe comply with REACH directive 1907/2006/EC as amended.

## CUSTOMER SERVICES

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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:

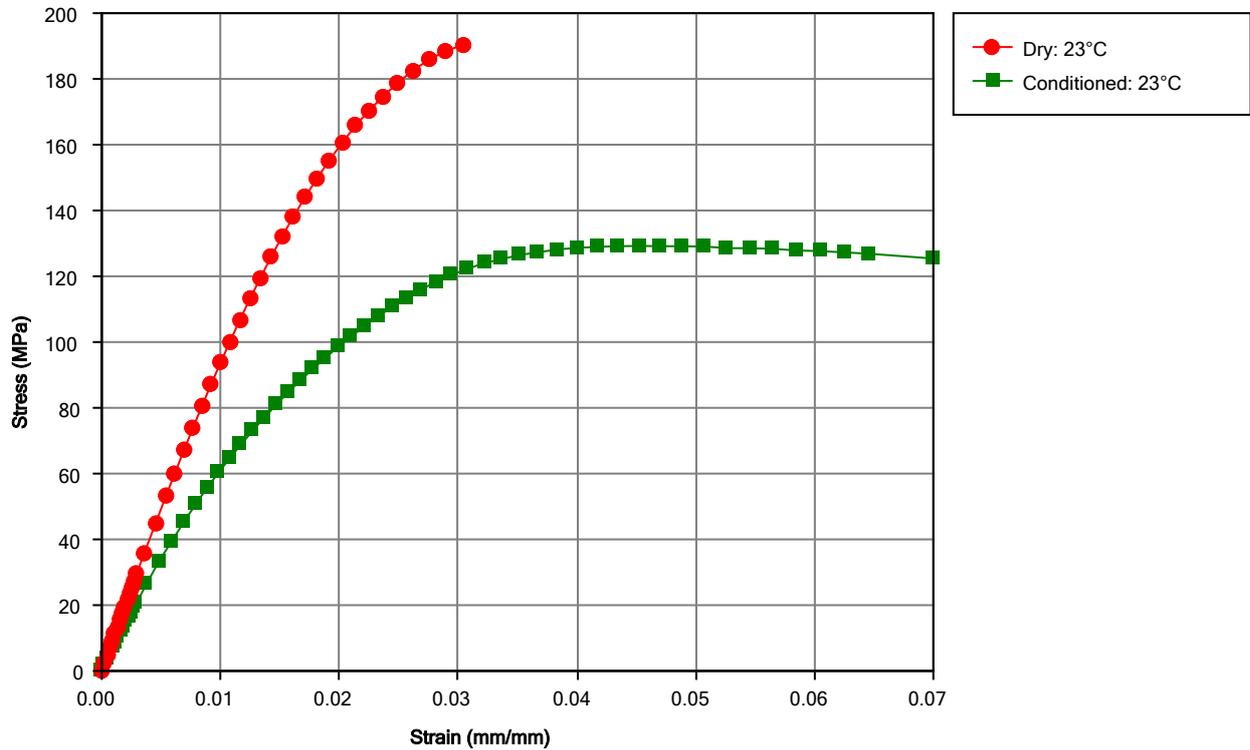
- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Design simulation
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

You can find more information on Solvay Product range on our internet product finder at the following address:  
<http://www.technyl.com>



### MULTIPOINT DATA

#### Isothermal Stress vs. Strain (ISO 11403-1)



#### Notes

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