TECHNYL®

TECHNYL® A 402H1 NATURAL

TECHNICAL DATA SHEET

Revised: January, 2019

TECHNYL® A 402H1 Natural is an unreinforced polyamide 66, very high viscosity, heat stabilized, for extrusion and injection moulding. This grade offers three main advantages: high impact resistance at low humidity levels, good rigidity, and excellent compression resistance.

GENERAL

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Europe	• Latin America
Key Benefits	• High Impact Resistance	• High Viscosity
Applications	• Bearing cages • Consumer and Industrial applications	• Railway insulators • Sports equipment
RoHS Compliance	• RoHS Compliant	
Colors Available	• Natural Color	
Forms	• Pellets	
Processing Method	• Extrusion	
Resin ID (ISO 1043)	• PA66	

PROPERTIES

Typical values of properties are for Natural grades

Physical	Dry	Conditioned	Unit	Test Method
Water Absorption (24 hr, 23°C)	1.5		%	ISO 62
Density	1.14		g/cm³	ISO 1183/A

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3100	1300	MPa	ISO 527-2/1A
Tensile Stress				ISO 527-2/1A
Yield, 23°C	80	45	MPa	
Break, 23°C	55	45	MPa	
Tensile Strain				ISO 527-2
Yield, 23°C	8.0	30	%	
Break, 23°C	35	> 150	%	
Flexural Modulus (23°C)	2800	1200	MPa	ISO 178
Flexural Stress (23°C)	120	75.0	MPa	ISO 178
Charpy Notched Impact Strength (23°C)	7.0	30	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact Strength (23°C)	6.0	65	kJ/m²	ISO 180

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Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	190		°C	ISO 75-2/Bf
1.8 MPa, Unannealed	65		°C	ISO 75-2/Af
Melting Temperature	263		°C	ISO 11357-3

Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13	1.0E+12	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Electric Strength				IEC 60243-1
23°C, 0.800 mm	35		kV/mm	
23°C, 2.00 mm	22		kV/mm	
Relative Permittivity (23°C, 2.00 mm, 1 MHz)	3.50			IEC 60250
Dissipation Factor (1 MHz)	0.033			IEC 60250
Comparative Tracking Index (Solution A)	475	575	V	IEC 60112

Extrusion	Dry	Unit
Suggested Max Moisture	0.080	%
Cylinder Zone 1 Temp.	260 to 270	°C
Cylinder Zone 2 Temp.	275 to 290	°C
Cylinder Zone 3 Temp.	275 to 290	°C
Die Temperature	265 to 285	°C

Extrusion 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.

DISCLAIMER

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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

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

This grade complies with ROHS Directive 2011/65/EU and 2015/863 as amended.

CUSTOMER SERVICES

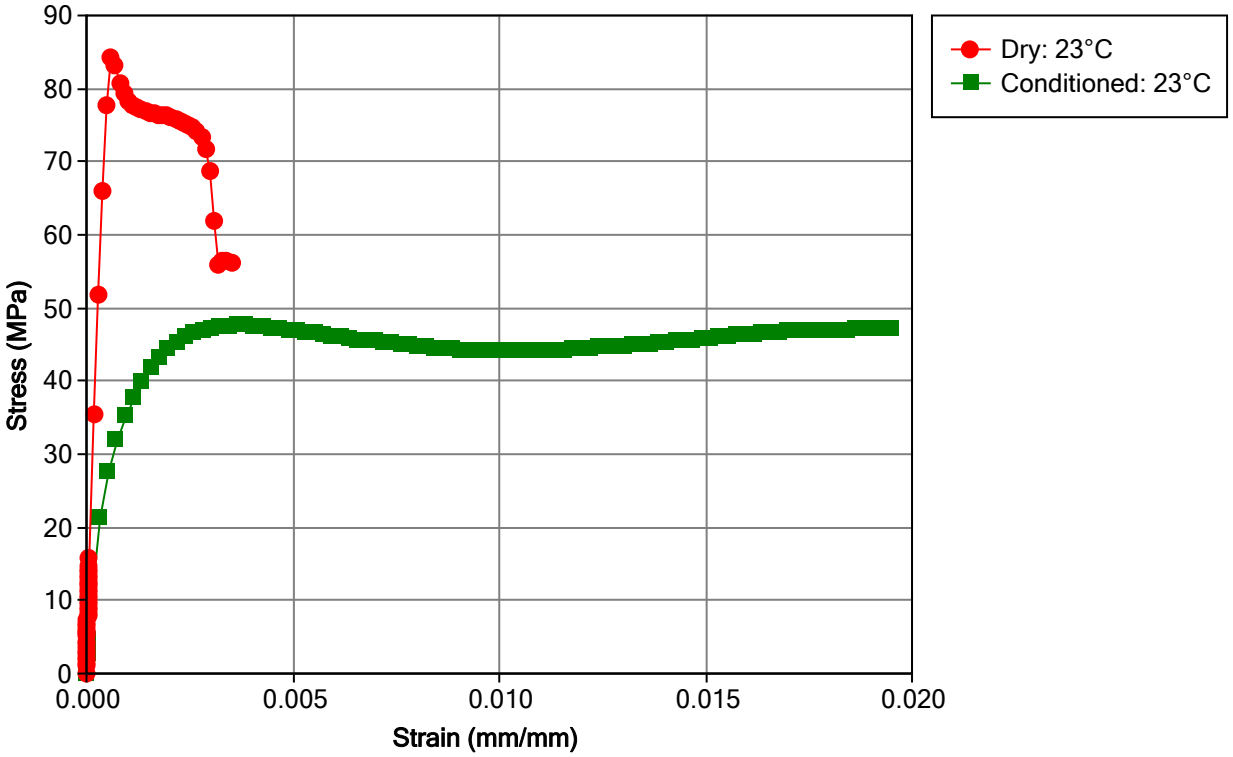
Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered on:

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

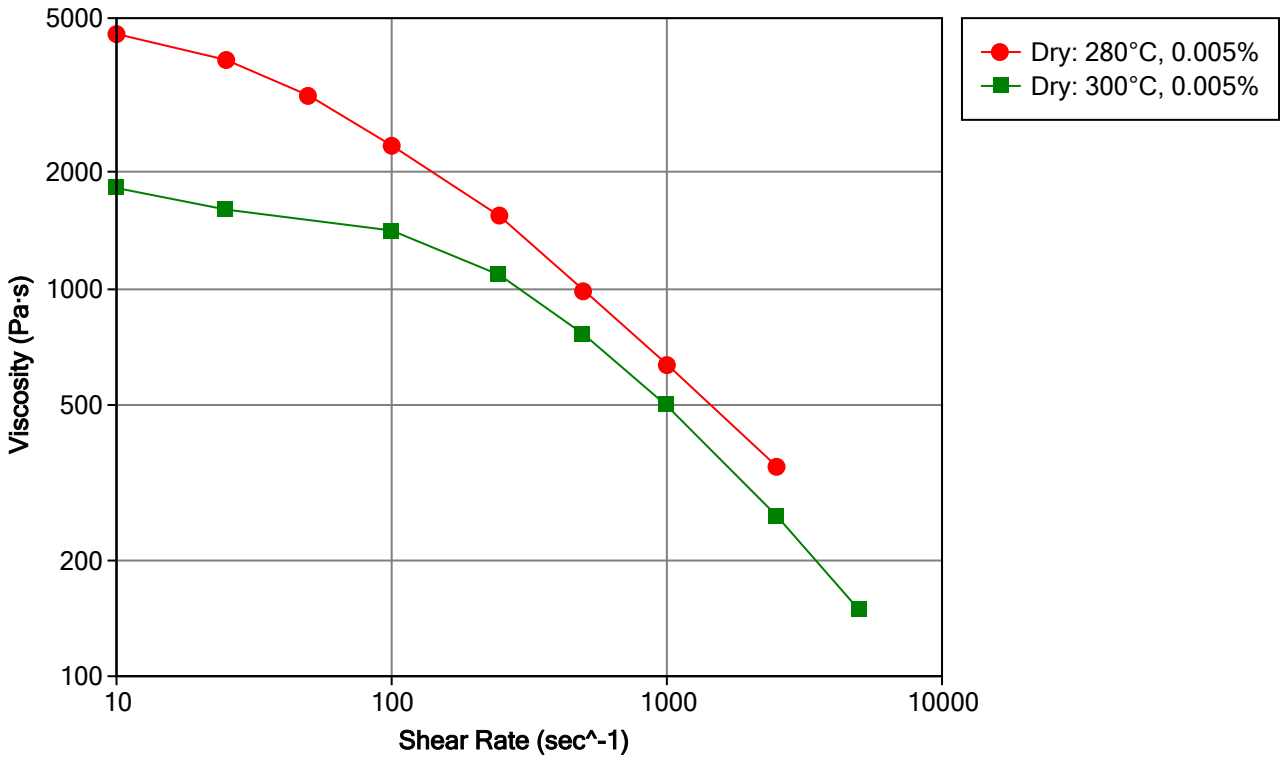
You can find more information on Solvay Product range on our internet product finder at the following address: http://www.technyl.com

MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)



Viscosity vs. Shear Rate (ISO 11403-2)



Notes

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

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