

# TECHNYL®

## TECHNYL® A 218 MZ15 V25 BLACK 31N

TECHNICAL DATA SHEET

Revised: August, 2017

TECHNYL® A 218 MZ15 V25 Black 31N is a polyamide 66, reinforced with 25% of glass fibre and 15% of mineral filler, heat stabilized, for injection moulding. This grade is available in black color. This grade offers an excellent combination between thermal and mechanical properties as well as a low warpage of molded parts.

### GENERAL

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass/Mineral, 40% Filler by Weight
Additive	• Heat Stabilizer
Key Benefits	• Heat Aging Resistance • Heat Stabilized (Inorganic) • Low Warpage
Applications	• Automotive applications • Cylinder head covers • Engine covers • Fans and shrouds • Large molded parts
Certification/Compliance	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• CHRYSLER MS-DB-41 CPN2554 Color: Black
Colors Available	• Black
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA66-GF25+MD15

### PROPERTIES

Typical values of properties are for Black grades

Physical	Dry	Conditioned	Unit	Test Method
Molding Shrinkage				ISO 294-4
Across Flow	1.1		%	
Flow	0.30		%	
Water Absorption (24 hr, 23°C)	1.0		%	ISO 62
Density	1.47		g/cm <sup>3</sup>	ISO 1183/A
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10000	7500	MPa	ISO 527-2/1A
Tensile Strength				
Break, 23°C	150		MPa	ASTM D638
Break, 23°C	140	115	MPa	ISO 527-2/1A



Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Elongation				
Break, 23°C	2.0		%	ASTM D638
Break, 23°C	2.0	3.0	%	ISO 527-2
Flexural Modulus				
23°C	9600		MPa	ASTM D790
23°C	9000		MPa	ISO 178
Flexural Strength				
23°C	220		MPa	ASTM D790
23°C	210		MPa	ISO 178
Charpy Notched Impact Strength (23°C)	5.0	7.0	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	45	55	kJ/m <sup>2</sup>	ISO 179/1eU
Notched Izod Impact				
23°C	70		J/m	ASTM D256
23°C	4.0	6.0	kJ/m <sup>2</sup>	ISO 180
<b>Thermal</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load				
0.45 MPa, Unannealed	240		°C	ASTM D648
1.8 MPa, Unannealed	240		°C	ISO 75-2/Af
Melting Temperature	262		°C	ISO 11357-3
<b>Flammability</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Flame Rating (1.6 mm)	HB			UL 94

## PROCESSING

Injection	Dry	Unit
Drying Temperature	80	°C
Suggested Max Moisture	0.20	%
Rear Temperature	270 to 280	°C
Middle Temperature	280 to 290	°C
Front Temperature	280 to 300	°C
Mold Temperature	70 to 100	°C

### Injection Notes

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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
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### DISCLAIMER

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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: food contact, drinking water, toys, cosmetics or medical devices.

This grade complies with ROHS Directive 2011/65/EU and 2015/863 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:

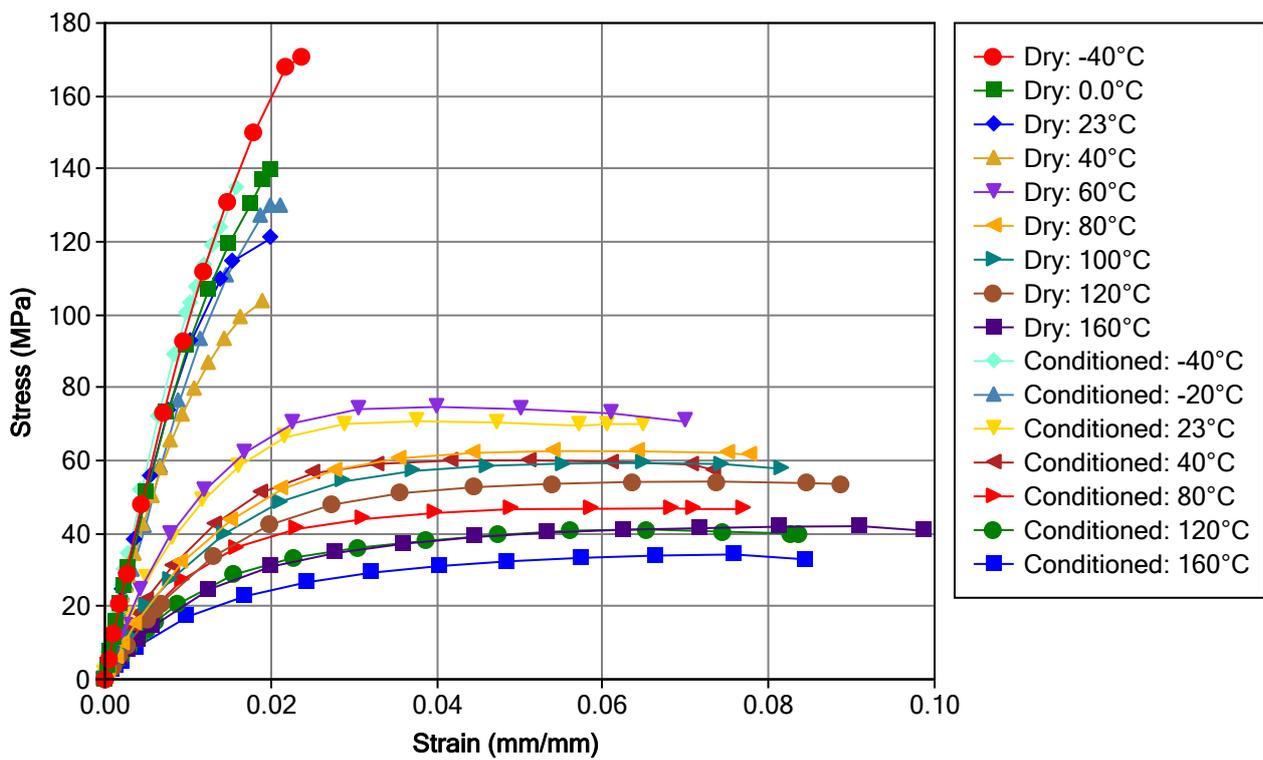
- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Design simulation
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

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

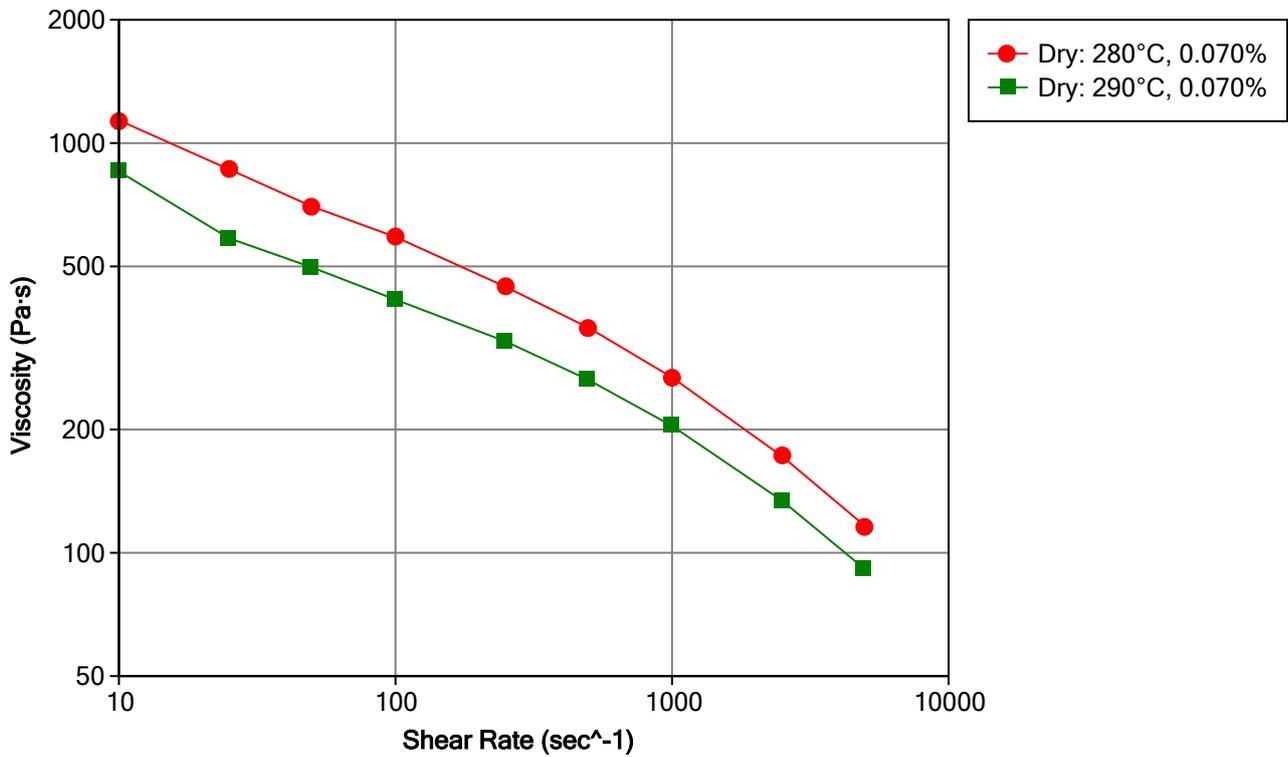


### MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)



### Viscosity vs. Shear Rate (ISO 11403-2)



### Notes

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

