

TECHNYL STAR® S 218 V35 BLACK 31N

TECHNICAL DATA SHEET

Revised: February, 2019

TECHNYL STAR® S 218 V35 Black 31N is based on a patented high flow polyamide 6 resin (TechnylStar), heat stabilized, reinforced with 35% of glass fibre, for injection moulding. Due to its outstanding flow characteristics, this grade provides a significant productivity improvement and allows more freedom in mould and part design versus a standard polyamide solutions.

GENERAL

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight		
Additive	• Heat Stabilizer		
Key Benefits	• Good Dimensional Stability • High Flow • Heat Stabilized (Inorganic)	• Good Mold Release • Superior Surface Finish	
Applications	• Fixation systems • Furnitures	• General purpose • Switch, Plug, Control & Sockets	
Certification/Compliance	• EC 1907/2006 (REACH)	• UL QMFZ2	
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• PSA Peugeot-Citroën SPA X62 4111 Color: 31N Black		
Colors Available	• Black	• Natural Color	
Forms	• Pellets		
Processing Method	• Injection Molding	• MuCell® Injection Molding	
Resin ID (ISO 1043)	• PA6-GF35		

PROPERTIES

Typical values of properties are for Black grades

Physical	Dry	Conditioned	Unit	Test Method
Molding Shrinkage				ISO 294-4
Across Flow	0.80		%	
Flow	0.20		%	
Water Absorption				ISO 62
24 hr, 23°C	0.90		%	
Equilibrium, 23°C, 50% RH	1.9		%	
Density	1.41		g/cm³	ISO 1183/A
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	11000	7400	MPa	ISO 527-2/1A
Tensile Stress (Break, 23°C)	195	115	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	3.0	3.5	%	ISO 527-2

Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Modulus (23°C)	10000	6200	MPa	ISO 178
Flexural Stress (23°C)	275	195	MPa	ISO 178
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	8.0		kJ/m²	
23°C	10	15	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40		kJ/m²	
23°C	55	65	kJ/m²	
Notched Izod Impact Strength (23°C)	10	15	kJ/m²	ISO 180
Unnotched Izod Impact Strength (23°C)	75	80	kJ/m²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/Af
1.8 MPa, Unannealed	210		°C	
Melting Temperature	222		°C	ISO 11357-3
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (3.2 mm)	HB			UL 94
Glow Wire Flammability Index (1.6 mm)	650		°C	IEC 60695-2-12

PROCESSING

Injection	Dry	Unit
Drying Temperature	80	°C
Suggested Max Moisture	0.20	%
Rear Temperature	230 to 235	°C
Middle Temperature	235 to 240	°C
Front Temperature	240 to 245	°C
Mold Temperature	60 to 90	°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, 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.

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.

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

MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)

