TECHNYL STAR® AFX 216 V60 GREY 2327

TECHNICAL DATA SHEET

Revised: April, 2017

TECHNYL STAR® AFX 216 V60 Grey 2327 is a high flow polyamide 66 resin, reinforced with 60% of glass fibre, for injection moulding. Due to its outstanding flow caracteristics, this grade shows exceptional processing behaviour and excellent surface aspect of the finished part.

GENERAL

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific	• Europe
Filler / Reinforcement	• Glass Fiber, 60% Filler by Weight	
Key Benefits	• Good Dimensional Stability • High Flow	• High Stiffness • Superior Surface Finish
Applications	• Gear wheels • Hinges • Interior trims and switches	• Structural and Casing parts • White appliances
Certification/Compliance	• UL QMFZ2	
Colors Available	• Grey	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	
Resin ID (ISO 1043)	• PA66-GF60	

PROPERTIES

Typical values of properties are for Grey grades

Physical	Dry	Conditioned	Unit	Test Method
Molding Shrinkage				ISO 294-4
Across Flow	0.45		%	
Flow	0.35		%	
Water Absorption (24 hr, 23°C)	0.52		%	ISO 62
Density	1.71		g/cm³	ISO 1183/A

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C	19600		MPa	ASTM D638
23°C	22000	16500	MPa	ISO 527-2/1A
Tensile Strength				
Break, 23°C	250		MPa	ASTM D638
Break, 23°C	260	195	MPa	ISO 527-2/1A

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Elongation				
Yield, 23°C	2.0		%	ASTM D638
Break, 23°C	2.0		%	ASTM D638
Break, 23°C	2.2	2.9	%	ISO 527-2
Flexural Modulus				
23°C	18000		MPa	ASTM D790
23°C	18000	13200	MPa	ISO 178
Flexural Strength				
23°C	370		MPa	ASTM D790
23°C	400	300	MPa	ISO 178
Charpy Notched Impact Strength (23°C)	15	15	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	90	87	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	170		J/m	ASTM D256

Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
1.8 MPa, Unannealed	253		°C	ASTM D648
1.8 MPa, Unannealed	258		°C	ISO 75-2/Af
Melting Temperature	262		°C	ISO 11357-3

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.8 mm	HB			
1.6 mm	HB			
3.2 mm	HB			

PROCESSING

Injection	Dry	Unit
Drying Temperature	80	°C
Suggested Max Moisture	0.20	%
Rear Temperature	265 to 275	°C
Middle Temperature	270 to 280	°C
Front Temperature	280 to 290	°C
Mold Temperature	60 to 90	°C

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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

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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.

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

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MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)