

TECHNYL® A 218W V50 Black FA is a polyamide 66, reinforced with 50% of glass fibre, heat stabilized, for injection moulding, with improved hydrolysis resistance. 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 • Asia Pacific • Europe	• Latin America • North America	
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight		
Additive	• Heat Stabilizer		
Key Benefits	• Good Dimensional Stability • Drinking Water Contact Approved • Food Contact Approved	• Good Mold Release • High Stiffness	
Applications	• Consumer and Industrial applications • Plumbing application • Valves	• Valves and pumps • Water meters • White appliances	
Certification/Compliance	• ACS Unspecified Rating • ANSI Unspecified Rating • DVGW Unspecified Rating • EC 1907/2006 (REACH)	• KTW Unspecified Rating • NSF Unspecified Rating • WRAS Unspecified Rating	
RoHS Compliance	• RoHS Compliant		
Colors Available	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PA66-GF50		

PROPERTIES

Typical values of properties are for Black grades

Physical	Dry	Conditioned	Unit	Test Method
Molding Shrinkage				ISO 294-4
Across Flow	0.75		%	
Flow	0.14		%	
Water Absorption (24 hr, 23°C)	0.60		%	ISO 62
Density	1.55		g/cm³	ISO 1183/A

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	16300	12500	MPa	ISO 527-2/1A
Tensile Stress (Break, 23°C)	230	175	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	2.0	2.5	%	ISO 527-2
Flexural Modulus (23°C)	13500	10000	MPa	ISO 178
Charpy Notched Impact Strength (23°C)	14	18	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	88	85	kJ/m²	ISO 179/1eU
Notched Izod Impact Strength (23°C)	14	16	kJ/m²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 1.8 MPa, Unannealed	255		°C	ISO 75-2/Af
Melting Temperature	263		°C	ISO 11357-3
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity				
--	6.0E+13	1.0E+11	ohms	ASTM D257
--	1.0E+14	1.0E+12	ohms	IEC 60093
Electric Strength (2.00 mm)	35	30	kV/mm	IEC 60243-1
Relative Permittivity	3.70	4.00		IEC 60250
Dissipation Factor	0.010	0.11		IEC 60250
Comparative Tracking Index (Solution A)	400	V		IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.8 mm	HB			
1.6 mm	HB			
3.2 mm	HB			
Glow Wire Flammability Index				IEC
0.8 mm	650		°C	60695-2-12
1.6 mm	650		°C	
3.2 mm	700		°C	
Oxygen Index	23		%	ISO 4589-2

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

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

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: 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
- WRAS (Water Regulations Advisory Scheme) in Great Britain

Relevant drinking water approvals outside of Europe:

- NSF/ANSI Standard 61 Approvals - official NSF listing



Certified to
NSF/ANSI 61

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