

TECHNICAL DATA SHEET

TECHNYL SAFE A 219WFC V30 BK

(Previously TECHNYL A 218W V30 BLACK FA)

TECHNYL SAFE A 219WFC V30 BK is a polyamide 66, 30% glass fibre reinforced, heat stabilized with organic stabiliser for injection moulding. Designed to offer an improved hydrolysis resistance and chlorine resistance vs standard PA66, for cold, warm and hot temperature in domestic and industrial water management components including, but not limited to components in contact with drinking water where elevated levels of chlorine could be present.

General

| | | |
|-----------------------|--|--|
| Feature | UL HB Hydrolysis stabilized Good stiffness chlorine resistant | Food contact approved Drinking water certified Organic heat stabilized |
| Polymer type | PA66 (Polyamide 66) | |
| Processing technology | Injection molding | |
| Certification | RoHS ACS DGSNS 4 n° 2000-232 EC 1907/2006 (REACH) NSF STD-61 | UL-Yellow Card DVGW270 KTW guidelines WRAS BS6920-1: 2000 and 2014 |
| Applications | pump / compressor / ventilator water filter / purifier | large appliance |
| Colors available | Black | Natural |
| Forms | Pellets | |

Product identification

| | |
|-----------------------|-----------------------|
| ISO 1043 abbreviation | PA66-GF30 |
| ISO 16396 designation | PA66,GF300,M1,S14-100 |

| Condition | Standard | Unit | Value |
|-----------|----------|------|-------|
|-----------|----------|------|-------|

Physical properties

| | | | | |
|------------------------------|----------------|-----------------|-------------------|-----------|
| Density | | ISO 1183 | g/cm ³ | 1.36 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 2.2 - 2.4 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 0.8 |
| Water absorption, saturation | | | % | 5.3 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.3 - 0.4 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 0.9 - 1.1 |

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| | Condition | Standard | Unit | Value dam / cond.* |
|---------------------------------------|-----------|--------------|-------|-----------------------|
| Mechanical properties | | | | |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 10000 / 7500 |
| Stress at break | | ISO 527-1/-2 | MPa | 185 / 130 |
| Strain at break | | ISO 527-1/-2 | % | 3 / 7 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 9000 / 6400 |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 275 / 180 |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m² | 75 / 85 |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m² | 11 / 15 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m² | 10 / 13 |

Thermal properties

| | | | | |
|--|----------|-------------|----|-----|
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 261 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa | ISO 75 | °C | 260 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 255 |

Electrical properties

| | | | | |
|--------------------------------|------------|---------------|-------|--------|
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1E+013 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 1E+015 |
| Comparative tracking index | Solution A | IEC 60112 | V | 400 |
| CTI performance level category | | Sol A | | PLC 1 |
| Dielectric strength | 1 mm | IEC 60243-1 | kV/mm | 35 |

Burning behaviour

| | | | | |
|---|--|----------------|----|-----|
| UL Yellow Card availability  | Click here to have access to the UL Yellow Card → QMFZ2.E44716 | | | |
| Flammability, 0.75 mm | 0.75 mm | UL 94 | | HB |
| Flammability, 1.5 mm | 1.5 mm | UL 94 | | HB |
| Glow-wire flammability index, GWFI, 1.5 mm | 1.5 mm | IEC 60695-2-12 | °C | 650 |

*: conditioned according to ISO 1110

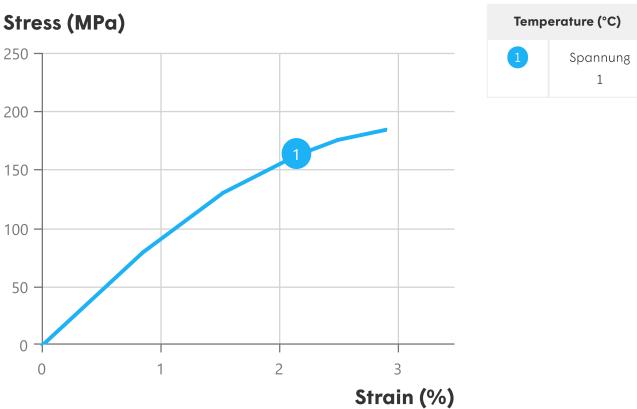
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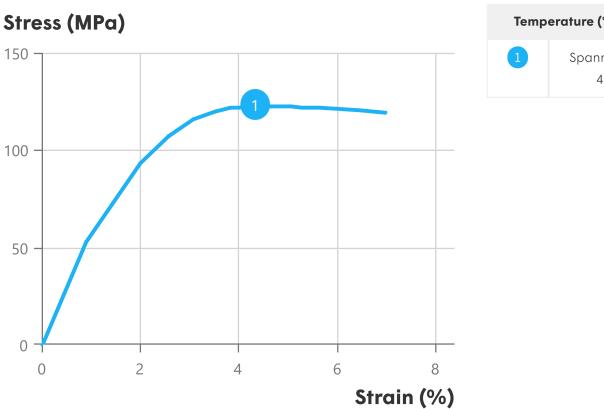
Processing conditions

| | |
|-------------------------------|--------------|
| Drying temperature/time | 80 °C |
| Suggested max moisture | 0.15 % |
| Rear temperature | 270 - 280 °C |
| Middle temperature | 275 - 285 °C |
| Front temperature | 280 - 290 °C |
| Recommended melt temperature | 270 - 290 °C |
| Recommended mould temperature | 70 - 100 °C |

Stress-strain, dry



Stress-strain, conditioned



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 minimum -20°C. Recommended time 2-4h.

Injection advice

For reinforced polyamides, Domo 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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