

EXPERIMENTAL DATASHEET

**TECHNYL SAFE C 216WFC V50 BK**

TECHNYL SAFE C 216WFC V50 BK is a polyamide 6, 50% glass fibre reinforced, food contact and drinking water approved, for injection moulding. Designed to be used in moulded part requiring improved stiffness, dimensional stability and hydrolysis resistance versus PA6GF30 in consumer & industrial goods as well as appliances in contact with drinking water. WRAS approval at 85°C.

**General**

|                       |   |  |
|-----------------------|---|--|
| Feature               | Food contact approved<br>Good stiffness                 | Drinking water contact approved              |
| Polymer type          | PA6 (Polyamide 6)                                       |  |
| Processing technology | Injection molding                                       |  |
| Certification         | Food contact EU<br>RoHS<br>WRAS BS6920-1: 2000 and 2014 | Food contact FDA<br>EC 1907/2006 (REACH)     |
| Applications          | Small appliance<br>Industrial Applications              | Consumer good application<br>large appliance |
| Colors available      | Black   | Natural                                      |
| Forms                 | Pellets   |  |

**Product identification**

|                       |                     |
|-----------------------|---------------------|
| ISO 1043 abbreviation | PA6-GF50            |
| ISO 16396 designation | PA6,GF50,M1,S14-160 |

|                                    | Condition      | Standard        | Unit                    | Value       |
|------------------------------------|----------------|-----------------|-------------------------|-------------|
| <b>Physical properties</b>         |                |                 |                         |             |
| Density                            |                | ISO 1183        | g/cm <sup>3</sup>       | 1.56        |
| Humidity absorption                | T=23°C, 50% RH | ISO 62          | %                       | 1.7         |
| Molding shrinkage, parallel        |                | ISO 294-4, 2577 | %                       | 0.25 - 0.45 |
| Molding shrinkage, normal          |                | ISO 294-4, 2577 | %                       | 0.9 - 1.1   |
| Melt volume-flow rate, MVR, 5.0 kg | 275°C, 5kg     | ISO 1133        | cm <sup>3</sup> /10 min | 15          |
| Viscosity number                   | 96% H2SO4      | ISO 307         | cm <sup>3</sup> /g      | 145         |

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|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 16500 / 9300        |
| Stress at break                       |           | ISO 527-1/-2 | MPa               | 235 / 150           |
| Strain at break                       |           | ISO 527-1/-2 | %                 | 3 / 6               |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa               | 12500 / 9100        |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 95 / 105            |
| Charpy impact strength, -30°C         | -30°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 100 / 105           |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 20 / 30             |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 16 / 17             |

**Thermal properties**

|                               |  |             |    |     |
|-------------------------------|--|-------------|----|-----|
| Melting temperature, 10°C/min |  | ISO 11357-1 | °C | 221 |
|-------------------------------|--|-------------|----|-----|

**Burning behaviour**

|                                     |  |           |  |             |
|-------------------------------------|--|-----------|--|-------------|
| Burning rate, FMVSS, Thickness 1 mm |  | FMVSS 302 |  | <100 mm/min |
|-------------------------------------|--|-----------|--|-------------|

*Test run at 23°C if not differently specified, DAM state (dry as moulded).  
\*: conditioned according to ISO 1110*

**Processing conditions**

|                               |   |
|-------------------------------|---|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Rear temperature              | 250 - 270 °C  |
| Middle temperature            | 260 - 280 °C  |
| Front temperature             | 260 - 290 °C  |
| Recommended melt temperature  | 250 - 290 °C  |
| Recommended mould temperature | 80 - 100 °C   |

*These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part.*

**Disclaimer**

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