

TECHNICAL DATA SHEET

TECHNYL C 218 V50 BK

(Previously DOMAMID 6LVG50H2 BK)

Polyamide 6, 50% glass fiber reinforced, heat-aging stabilized, improved flowability, for injection moulding, black

General

|                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| Feature               | Heat-aging stabilized | Improved flowability |
| Polymer type          | PA6 (Polyamide 6)     |                      |
| Processing technology | Injection molding     |                      |
| Certification         | RoHS                  | EC 1907/2006 (REACH) |
| Colors available      | Black                 | Natural              |
| Forms                 | Pellets               |                      |

Product identification

|                       |                      |
|-----------------------|----------------------|
| ISO 1043 abbreviation | PA6-GF50             |
| ISO 16396 designation | PA6,GF50,M1H,S12-160 |

|                             | Condition      | Standard        | Unit               | Value       |
|-----------------------------|----------------|-----------------|--------------------|-------------|
| Physical properties         |                |                 |                    |             |
| Density                     |                | ISO 1183        | g/cm <sup>3</sup>  | 1.56        |
| Humidity absorption         | T=23°C, 50% RH | ISO 62          | %                  | 1.3 - 1.6   |
| Water absorption            | 24 hr, 23°C    | ISO 62          | %                  | 4.5 - 5.1   |
| Molding shrinkage, parallel |                | ISO 294-4, 2577 | %                  | 0.15 - 0.35 |
| Molding shrinkage, normal   |                | ISO 294-4, 2577 | %                  | 0.75 - 0.95 |
| Viscosity number            | 96% H2SO4      | ISO 307         | cm <sup>3</sup> /g | 125         |

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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 / 11000 |
| Stress at break                       | 5 mm/min  | ISO 527-1/-2 | MPa                 | 225 / 145     |
| Strain at break                       | 5 mm/min  | ISO 527-1/-2 | %                   | 2.5 / 4.5     |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa                 | 13000 / 10000 |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa                 | 360 / 240     |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m²               | 90 / 90       |
| Charpy impact strength, -30°C         | -30°C     | ISO 179/1eU  | kJ/m²               | 90 / 90       |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m²               | 15 / 25       |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m²               | 12 / 14       |

**Thermal properties**

|                                          |              |             |    |     |
|------------------------------------------|--------------|-------------|----|-----|
| Melting temperature, 10°C/min            |              | ISO 11357-1 | °C | 221 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa     | ISO 75      | °C | 220 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa     | ISO 75      | °C | 210 |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C | 215 |

**Electrical properties**

|                     |  |               |       |        |
|---------------------|--|---------------|-------|--------|
| Volume resistivity  |  | IEC 62631-3-1 | ohm.m | 1E+015 |
| Surface resistivity |  | IEC 62631-3-1 | ohm   | 1E+014 |

**Burning behaviour**

|                                     |         |           |  |              |
|-------------------------------------|---------|-----------|--|--------------|
| Flammability, 0.75 mm               | 0.75 mm | UL 94     |  | HB           |
| Burning rate, FMVSS, Thickness 1 mm |         | FMVSS 302 |  | < 100 mm/min |

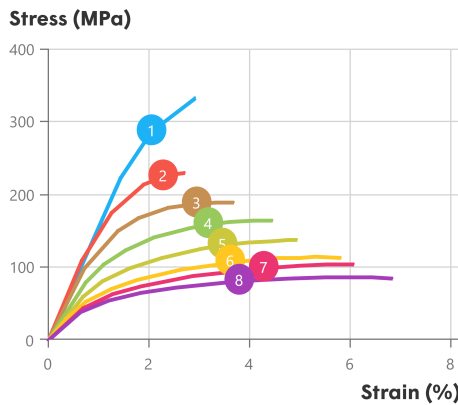
Test run at 23°C if not differently specified, DAM state (dry as moulded).  
\*: conditioned according to ISO 1110

**Processing conditions**

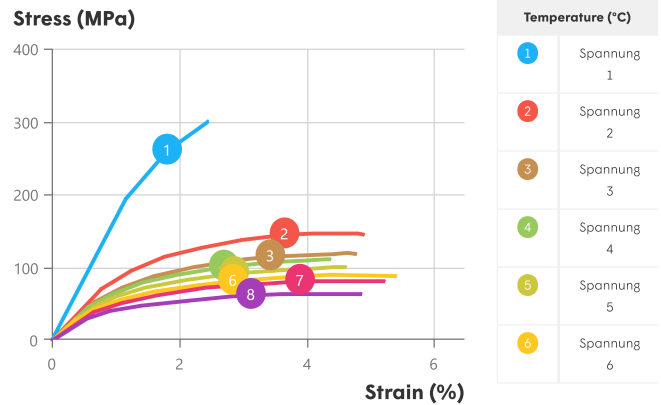
|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature  | 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.

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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