

TECHNICAL DATA SHEET

TECHNYL C 218 V30 BK

TECHNYL C 218 V30 BK is a polyamide 6, reinforced with 30% of glass fiber, heat stabilized, for injection moulding. The product offers an excellent combination between thermal and mechanical properties.

General

| | | |
|-----------------------|---|----------------------------|
| Feature | Heat-aging stabilized | |
| Polymer type | PA6 (Polyamide 6) | |
| Processing technology | Injection molding | |
| Certification | RoHS EC 1907/2006 (REACH) | UL-Yellow Card |
| Applications | Automotive Applications Electrical/Electronic Applications | Connectors Wire & Cable |
| Colors available | Black | Natural |
| Forms | Pellets | |

Product identification

| | |
|-----------------------|----------------------|
| ISO 1043 abbreviation | PA6-GF30 |
| ISO 16396 designation | PA6,GF30,M1H,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 | % | 1.9 - 2.4 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 1.1 |
| Water absorption, saturation | | | % | 6.5 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.3 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 0.75 |

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| | Condition | Standard | Unit | Value dam / cond.* |
|---|--|----------------|-------|-----------------------|
| Mechanical properties | | | | |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 10000 / 6000 |
| Stress at break | | ISO 527-1/-2 | MPa | 180 / 115 |
| Strain at break | | ISO 527-1/-2 | % | 3.2 / 6.5 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 8500 / 4900 |
| Flexural modulus, ASTM D790 | 2 mm/min | ASTM D790 | MPa | 8900 / - |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 250 / - |
| Flexural strength, ASTM D790 | 2 mm/min | ASTM D790 | MPa | 255 / - |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m² | 75 / 90 |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m² | 10 / 18 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m² | 9 / 19 |
| Thermal properties | | | | |
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 222 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa | ISO 75 | °C | 218 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 208 |
| Electrical properties | | | | |
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1E+013 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 1E+014 |
| Comparative tracking index | Solution A | IEC 60112 | V | 400 |
| CTI performance level category | | Sol A | | PLC 1 |
| Burning behaviour | | | | |
| UL Yellow Card availability  | Click here to have access to the UL Yellow Card → QMFZ2.E44716 | | | |
| Flammability, 0.40 mm | 0.40 mm | UL 94 | | HB |
| Glow-wire flammability index, GWFI, 1.5 mm | 1.5 mm | IEC 60695-2-12 | °C | 650 |
| Oxygen index | | | % | 23 |

*: conditioned according to ISO 1110

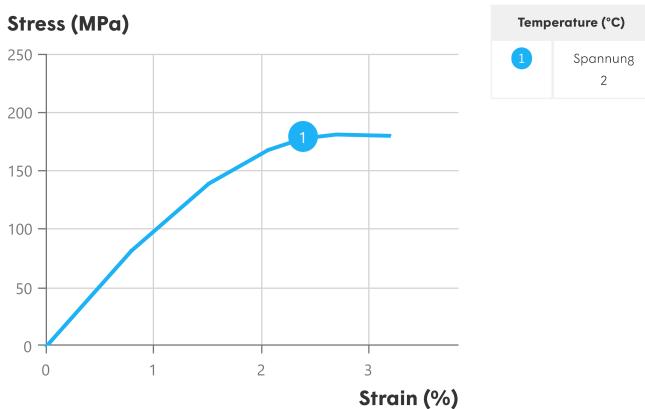
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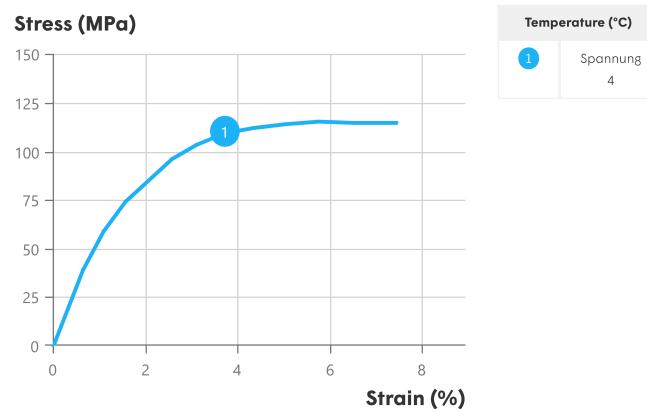
Processing conditions

| | |
|-------------------------------|--------------|
| Drying temperature/time | 80 °C |
| Suggested max moisture | 0.2 % |
| Rear temperature | 230 - 235 °C |
| Middle temperature | 235 - 240 °C |
| Front temperature | 240 - 250 °C |
| Recommended mould temperature | 60 - 90 °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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