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TECHNICAL DATA SHEET

# TECHNYL A 218 V25 BK 21N

TECHNYL A 218 V25 BK 21N is a polyamide 66, reinforced with 25% of glass fibre, heat stabilized, for injection moulding. This grade offers an excellent combination between thermal and mechanical properties.

## General

| | | |
|---|---|---|
| Feature | Heat-aging stabilized | |
| Polymer type | PA66 (Polyamide 66) | |
| Processing technology | Injection molding | |
| Certification | RoHS<br>EC 1907/2006 (REACH) | UL-Yellow Card |
| Applications | Automotive Applications<br>Handles | Consumer good application<br>Industrial Applications |
| Colors available | Black | Natural |
| Forms | Pellets | |

## Product identification

| | |
|---|---|
| ISO 1043 abbreviation | PA66-GF25 |
| ISO 16396 designation | PA66,GF250,M1,S14-090 |

## Physical properties

| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| Density | | ISO 1183 | g/cm³ | 1.32 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 2.3 - 2.5 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 0.8 - 0.9 |
| Water absorption, saturation | | | % | 5.7 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.4 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 1.1 |

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| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| **Mechanical properties** | | | | dam / cond.* |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 8600 / 6000 |
| Stress at break | | ISO 527-1/-2 | MPa | 175 / 120 |
| Strain at break | | ISO 527-1/-2 | % | 3 / 6 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 7600 / 6000 |
| Flexural modulus, ASTM D790 | 2 mm/min | ASTM D790 | MPa | 7300 / - |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 250 / 180 |
| Flexural strength, ASTM D790 | 2 mm/min | ASTM D790 | MPa | 260 / - |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m² | 60 / 75 |
| Charpy impact strength, -30°C | -30°C | ISO 179/1eU | kJ/m² | 55 / - |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m² | 9 / 11.5 |
| Charpy notched impact strength, -30°C | -30°C | ISO 179/1eA | kJ/m² | 7 / - |
| Izod impact strength, +23°C | +23°C | ISO 180/1U | kJ/m² | 55 / 70 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m² | 8.5 / 12 |
| **Thermal properties** | | | | |
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 262 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 250 |
| **Electrical properties** | | | | |
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1E+013 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 6E+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 | 32 |
| **Burning behaviour** | | | | |
| UL Yellow Card availability (UL) | 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 |
| Flammability, 3.0 mm | 3.0 mm | UL 94 | | HB |
| Glow-wire flammability index, GWFI, 1.5 mm | 1.5 mm | IEC 60695-2-12 | °C | 650 |
| Oxygen index | | | % | 23 |
| Burning rate, FMVSS, Thickness 1 mm | | FMVSS 302 | | <100 |

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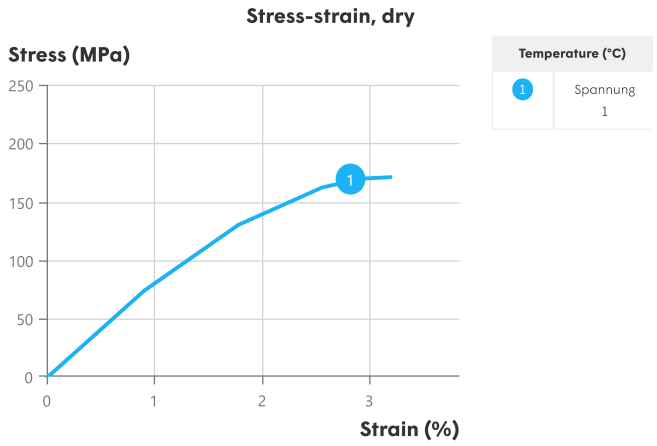
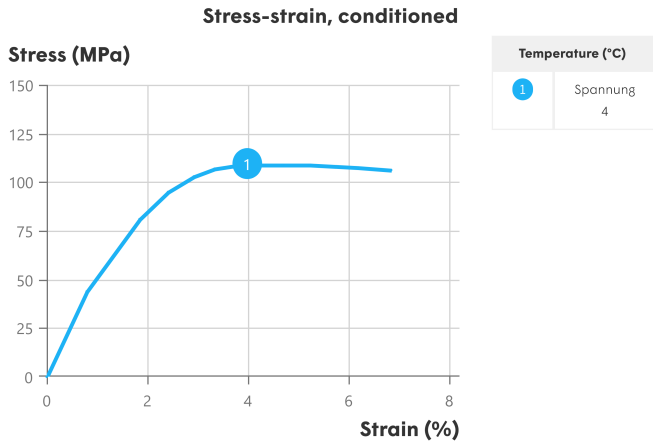
| | Condition | Standard | Unit | Value |
|---|---|---|---|---|

**: conditioned according to ISO 1110*

## Processing conditions

| | |
|---|---|
| Drying temperature/time | 80 °C |
| Suggested max moisture | 0.2 % |
| Rear temperature | 270 - 280 °C |
| Middle temperature | 275 - 285 °C |
| Front temperature | 280 - 290 °C |
| Recommended mould temperature | 70 - 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 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