

TECHNICAL DATA SHEET

TECHNYL A 218 V35 NC

TECHNYL A 218 V35 NC is a polyamide 66, reinforced with 35% 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>Electrical/Electronic Applications<br>Sport | Connectors<br>Outdoor Applications |
| Colors available      | Black                                                                  | Natural                            |
| Forms                 | Pellets                                                                |                                    |

Product identification

|                       |           |
|-----------------------|-----------|
| ISO 1043 abbreviation | PA66-GF35 |
|-----------------------|-----------|

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

Physical properties

|                              |             |                 |                   |      |
|------------------------------|-------------|-----------------|-------------------|------|
| Density                      |             | ISO 1183        | g/cm <sup>3</sup> | 1.41 |
| Water absorption             | 24 hr, 23°C | ISO 62          | %                 | 0.75 |
| Water absorption, saturation |             |                 | %                 | 5.4  |
| Molding shrinkage, parallel  |             | ISO 294-4, 2577 | %                 | 0.35 |
| Molding shrinkage, normal    |             | ISO 294-4, 2577 | %                 | 1.1  |

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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   | 11400 / 8700        |
| Stress at break                       |           | ISO 527-1/-2 | MPa   | 210 / 150           |
| Strain at break                       |           | ISO 527-1/-2 | %     | 3 / 5.5             |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa   | 9500 / 6800         |
| Flexural modulus, ASTM D790           | 2 mm/min  | ASTM D790    | MPa   | 9800 / -            |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa   | 290 / -             |
| Flexural strength, ASTM D790          | 2 mm/min  | ASTM D790    | MPa   | 290 / -             |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m² | 90 / 100            |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m² | 14 / 19             |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   | kJ/m² | 80 / 100            |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m² | 13 / 18             |

**Thermal properties**

|                                          |          |             |    |     |
|------------------------------------------|----------|-------------|----|-----|
| Melting temperature, 10°C/min            |          | ISO 11357-1 | °C | 263 |
| 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   | 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 | 34     |

**Burning behaviour**

|                                                                                                                 |                                                                                |       |   |    |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|---|----|
| UL Yellow Card availability  | Click here to have access to the UL Yellow Card → <a href="#">QMFZ2.E44716</a> |       |   |    |
| 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 |
| Oxygen index                                                                                                    |                                                                                |       | % | 23 |

\*: conditioned according to ISO 1110

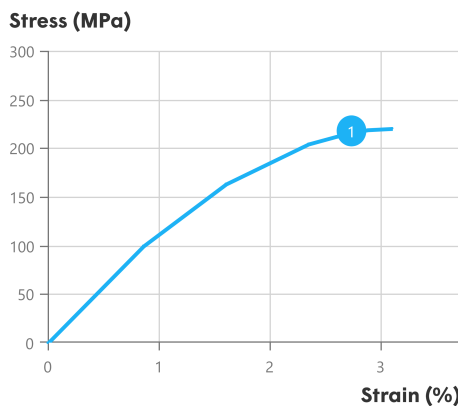
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### Processing conditions

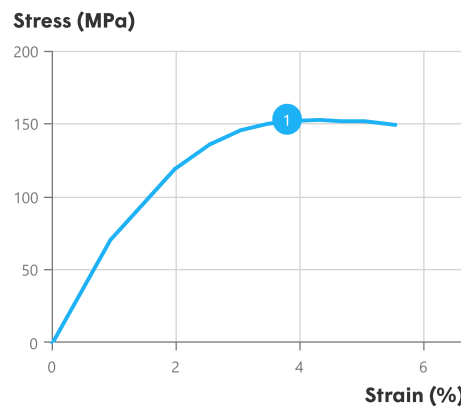
|                               |              |
|-------------------------------|--------------|
| Drying temperature/time       | 80 °C        |
| Suggested max moisture        | 0.2 %        |
| Rear temperature              | 270 - 280 °C |
| Middle temperature            | 275 - 285 °C |
| Front temperature             | 280 - 290 °C |
| Recommended mould temperature | 70 - 100 °C  |

Stress-strain, dry



| Temperature (°C) |          |
|------------------|----------|
| 1                | Spannung |
| 1                |          |

Stress-strain, conditioned



| Temperature (°C) |          |
|------------------|----------|
| 1                | Spannung |
| 4                |          |

### 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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