

TECHNICAL DATA SHEET

TECHNYL A 218 V35 BK 34NG

TECHNYL A 218 V35 BK 34NG is a polyamide 66, reinforced with 35% of glass fiber, heat stabilized, for injection moulding. This grade has been specially designed to improve its resistance to automotive cooling liquids, increasing lifetime of parts in permanent contact with such a liquids.

General

|                       |                              |                                |
|-----------------------|------------------------------|--------------------------------|
| Feature               | Heat-aging stabilized        | Glycol resistant               |
| Polymer type          | PA66 (Polyamide 66)          |                                |
| Processing technology | Injection molding            |                                |
| Certification         | RoHS<br>EC 1907/2006 (REACH) | UL-Yellow Card                 |
| Applications          | Automotive Applications      | pump / compressor / ventilator |
| Colors available      | Black                        |                                |
| 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 |
| Molding shrinkage, parallel |             | ISO 294-4, 2577 | %                 | 0.35 |
| Molding shrinkage, normal   |             | ISO 294-4, 2577 | %                 | 1.1  |

Mechanical properties

dam / cond.\*

|                                       |          |              |                   |              |
|---------------------------------------|----------|--------------|-------------------|--------------|
| Tensile modulus                       | 1 mm/min | ISO 527-1/-2 | MPa               | 12000 / 8700 |
| Stress at break                       |          | ISO 527-1/-2 | MPa               | 210 / 150    |
| Strain at break                       |          | ISO 527-1/-2 | %                 | 3 / 6.5      |
| Charpy impact strength, +23°C         | +23°C    | ISO 179/1eU  | kJ/m <sup>2</sup> | 95 / 100     |
| Charpy notched impact strength, +23°C | +23°C    | ISO 179/1eA  | kJ/m <sup>2</sup> | 14 / 19      |
| Izod notched impact strength, +23°C   | +23°C    | ISO 180/1A   | kJ/m <sup>2</sup> | 13 / 18      |

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|                                          | Condition | Standard    | Unit | Value |
|------------------------------------------|-----------|-------------|------|-------|
| 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   | 255   |

Electrical properties

|                                |            |               |       |        |
|--------------------------------|------------|---------------|-------|--------|
| Volume resistivity             |            | IEC 62631-3-1 | ohm.m | 1E+013 |
| Surface resistivity            |            | IEC 62631-3-1 | ohm   | 6E+014 |
| 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

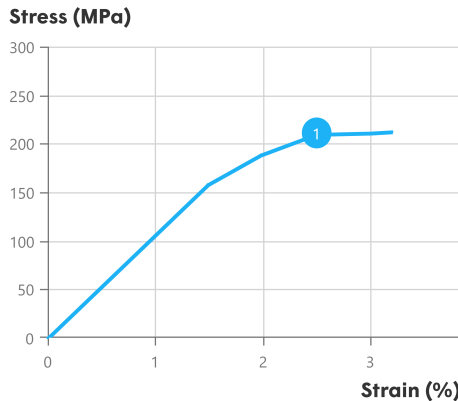
|                                                                                                               |                                                                                |       |   |    |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|---|----|
| 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

Processing conditions

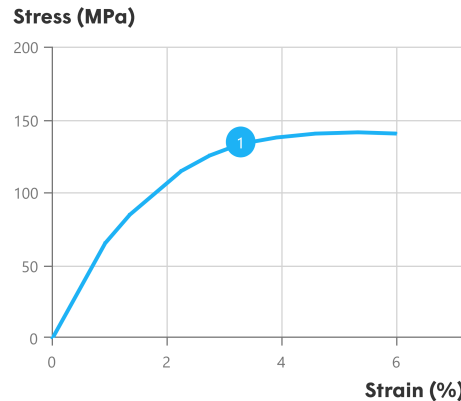
|                               |              |
|-------------------------------|--------------|
| Drying temperature/time       | 80 °C        |
| Suggested max moisture        | 0.2 %        |
| Rear temperature              | 270 - 280 °C |
| Middle temperature            | 275 - 285 °C |
| Front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

Stress-strain, dry



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

Stress-strain, conditioned



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