

TECHNICAL DATA SHEET

**TECHNYL STAR AF 218 V40 BK 21N**

TECHNYL STAR AF 218 V40 BK 21N is a polyamide 6.6, high flow, reinforced with 40% of glass fiber, heat stabilized, for injection moulding. Due to its outstanding flow characteristics, this grade shows exceptional processing behaviour and excellent surface aspect of the finished part. This grade is ideal for use in the automotive industry for engine components. This grade is ideal for Mucell® injection moulding technology.

**General**

|                       |   |                      |
|-----------------------|---|----------------------|
| Feature               | Heat-aging stabilized<br>Excellent surface finish | Very high flow       |
| Polymer type          | PA66 (Polyamide 66)                               |                      |
| Processing technology | Injection molding                                 |                      |
| Certification         | RoHS  | EC 1907/2006 (REACH) |
| Applications          | Automotive Applications<br>General Purpose        | Pulleys              |
| Colors available      | Black   |                      |
| Forms                 | Pellets   |                      |

**Product identification**

|                       |                       |
|-----------------------|-----------------------|
| ISO 1043 abbreviation | PA66-GF40             |
| ISO 16396 designation | PA66,GF400,M1,S14-140 |

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

**Physical properties**

|                  |             |          |       |           |
|------------------|-------------|----------|-------|-----------|
| Density          |             | ISO 1183 | g/cm³ | 1.46      |
| Water absorption | 24 hr, 23°C | ISO 62   | %     | 0.6 - 0.7 |

**Mechanical properties**

dam / cond.\*

|                                       |          |              |       |              |
|---------------------------------------|----------|--------------|-------|--------------|
| Tensile modulus                       | 1 mm/min | ISO 527-1/-2 | MPa   | 12000 / 7200 |
| Stress at break                       |          | ISO 527-1/-2 | MPa   | 220 / 140    |
| Strain at break                       |          | ISO 527-1/-2 | %     | 2.5 / 3.5    |
| Flexural modulus, ISO 178             | 2 mm/min | ISO 178      | MPa   | 10800 / 7600 |
| Flexural strength, ISO 178            | 2 mm/min | ISO 178      | MPa   | 305 / 230    |
| Charpy impact strength, +23°C         | +23°C    | ISO 179/1eU  | kJ/m² | 92 / 95      |
| Charpy notched impact strength, +23°C | +23°C    | ISO 179/1eA  | kJ/m² | 14 / 18      |
| Izod notched impact strength, +23°C   | +23°C    | ISO 180/1A   | kJ/m² | 14 / 18      |

### TECHNICAL DATA SHEET

### TECHNYL STAR AF 218 V40 BK 21N

|  | Condition | Standard    | Unit | Value |
|--|-----------|-------------|------|-------|
| <b>Thermal properties</b>                |           |             |      |       |
| 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   |

### Burning behaviour

|                       |         |       |  |    |
|-----------------------|---------|-------|--|----|
| Flammability, 0.75 mm | 0.75 mm | UL 94 |  | HB |
|-----------------------|---------|-------|--|----|

\*: conditioned according to ISO 1110

### Processing conditions

|                               |              |
|-------------------------------|--------------|
| Drying temperature/time       | 80 °C        |
| Suggested max moisture        | 0.2 %        |
| Rear temperature              | 265 - 275 °C |
| Middle temperature            | 270 - 280 °C |
| Front temperature             | 280 - 290 °C |
| Recommended mould temperature | 60 - 90 °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

The information provided in this documentation corresponds to our technical knowledge at the date of its publication and do not constitute a specification. This information may be subject to revision at our discretion. Domo cannot anticipate all conditions under which this information and our products of other manufacturers in combination with our products may be used. Domo accepts no responsibility for results obtained by the application of this information or for the safety and suitability of our products alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes. Unless otherwise agreed in writing, Domo sells the product without warranties. Buyers and users assume all responsibility and liability for loss or damage arising from handling and use of our products, whether used alone or in combination with other products. Unless specifically indicated, the grades mentioned are not suitable for applications in the pharmaceutical/medical sector.