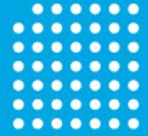


TECHNICAL DATA SHEET

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

| | | |
|-----------------------|---|--------------------------|
| Certifications | RoHS | EC 1907/2006 (REACH) |
| Polymer type | PA66 | |
| Feature | heat-aging stabilized very high flow | excellent surface finish |
| Applications | automotive applications pulleys | general purpose |
| Colors available | black | |
| Forms | pellets | |
| Processing technology | injection moulding | |

Product identification

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

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

Physical properties

| | | | | |
|------------------|-------------|----------|-------------------|-----------|
| Density | | ISO 1183 | g/cm ³ | 1.46 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 0.6 - 0.7 |

| | Condition | Standard | Unit | Value |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| 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/m ² | 92 / 95 |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m ² | 14 / 18 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m ² | 14 / 18 |

*: **conditioned according to ISO 1110**

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

| | Condition | Standard | Unit | Value |
|-------------------------------------|-----------|-----------|------|--------------|
| Burning behaviour | | | | |
| Flammability, 0.75 mm | 0.75 mm | UL 94 | | HB |
| Burning rate, FMVSS, Thickness 1 mm | | FMVSS 302 | | < 100 mm/min |

| | | | |
|-------------------------------|--------------|--|--|
| 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.