

TECHNICAL DATA SHEET

## TECHNYL D 238 V30 BK

### TECHNYL eXten D 238 V30 BLACK

TECHNYL D 238 V30 BK is a polyamide 6.10, reinforced with 30% of glass fibre, heat stabilized, impact modified, for injection moulding. Thi grade offers excellent chemical resistance, low water absorption, very good mechanical properties. It contains renewable contents.

#### General

|                       |  |   |
|-----------------------|--|---|
| Polymer type          | PA610  |   |
| Certifications        | RoHS   | EC 1907/2006 (REACH)                          |
| Feature               | heat-aging stabilized<br>chemical resistant<br>low moisture absorption | impact modified<br>contains renewable content |
| Applications          | automotive applications  | cooling system                                |
| Colors available      | black  | natural                                       |
| Forms                 | pellets  |   |
| Processing technology | injection moulding   |   |

#### Product identification

|                       |                       |
|-----------------------|-----------------------|
| ISO 1043 abbreviation | PA610-GF30            |
| ISO 16396 designation | PA610,GF30,MH,S14-070 |

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

#### Physical properties

|                              | Condition   | Standard        | Unit              | Value      |
|------------------------------|-------------|-----------------|-------------------|------------|
| Density                      |             | ISO 1183        | g/cm <sup>3</sup> | 1.25       |
| Water absorption             | 24 hr, 23°C | ISO 62          | %                 | 0.3 - 0.35 |
| Water absorption, saturation |             |                 | %                 | 1.9        |
| Molding shrinkage, parallel  |             | ISO 294-4, 2577 | %                 | 0.2 - 0.4  |
| Molding shrinkage, normal    |             | ISO 294-4, 2577 | %                 | 0.7 - 0.8  |

|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 7400 / 5100         |
| Stress at break                       |           | ISO 527-1/-2 | MPa               | 110 / 85            |
| Strain at break                       |           | ISO 527-1/-2 | %                 | 4 / 6.3             |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa               | 6500 / 4400         |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 150 / 115           |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 75 / 80             |
| Charpy impact strength, -30°C         | -30°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 80 / -              |
| Charpy impact strength, -40°C         | -40°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 85 / -              |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 20 / 25             |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 12 / -              |

\*: **conditioned according to ISO 1110**

|  | Condition | Standard    | Unit | Value |
|--|-----------|-------------|------|-------|
| <b>Thermal properties</b>                |           |             |      |       |
| Melting temperature, 10°C/min            |           | ISO 11357-1 | °C   | 222   |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa  | ISO 75      | °C   | 215   |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa  | ISO 75      | °C   | 195   |

|                                     | Condition | Standard  | Unit | Value |
|-------------------------------------|-----------|-----------|------|-------|
| <b>Burning behaviour</b>            |           |           |      |       |
| Burning rate, FMVSS, Thickness 1 mm |           | FMVSS 302 |      | <100  |

|                              |              |
|------------------------------|--------------|
| <b>Processing conditions</b> |              |
| Drying temperature/time      | 80 °C        |
| Suggested max moisture       | 0.15 %       |
| Rear temperature             | 240 - 250 °C |
| Middle temperature           | 245 - 255 °C |

## Processing conditions

|                               |              |
|-------------------------------|--------------|
| Front temperature             | 250 - 260 °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.