

**TECHNICAL DATA SHEET**

## TECHNYL C 216 V30 GY 7471

### DOMAMID 6G30 GY77471

Polyamide 6, 30% glass fiber reinforced, for injection moulding

**General**

|                       |                     |                   |  |
|-----------------------|---------------------|-------------------|--|
| Polymer type          | PA6                 |                   |  |
| Certifications        | RoHS                | UL listed product |  |
| Feature               | not heat stabilized |                   |  |
| Processing technology | injection moulding  |                   |  |

**Product identification**

|                       |                    |  |  |
|-----------------------|--------------------|--|--|
| ISO 1043 abbreviation | PA6-GF30           |  |  |
| ISO 16396 designation | PA6,GF30,M,S14-090 |  |  |

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

**Physical properties**

|                                    |                |                 |                         |           |
|------------------------------------|----------------|-----------------|-------------------------|-----------|
| Density                            |                | ISO 1183        | g/cm <sup>3</sup>       | 1.36      |
| Humidity absorption                | T=23°C, 50% RH | ISO 62          | %                       | 2.2 - 2.4 |
| Water absorption                   | 24 hr, 23°C    | ISO 62          | %                       | 1.4 - 1.5 |
| Water absorption, saturation       |                |                 | %                       | 6.1       |
| Molding shrinkage, parallel        |                | ISO 294-4, 2577 | %                       | 0.3 - 0.5 |
| Molding shrinkage, normal          |                | ISO 294-4, 2577 | %                       | 0.8 - 1.0 |
| Melt volume-flow rate, MVR, 5.0 kg | 275°C, 5kg     | ISO 1133        | cm <sup>3</sup> /10 min | 45.0      |
| Viscosity number                   | 96% H2SO4      | ISO 307         | cm <sup>3</sup> /g      | 145.0     |

|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 9500 / 6000         |
| Stress at break                       | 5 mm/min  | ISO 527-1/-2 | MPa               | 180 / 110           |
| Strain at break                       | 5 mm/min  | ISO 527-1/-2 | %                 | 3.5 / 6             |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa               | 8500 / 5000         |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 270 / 160           |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 90 / 105            |
| Charpy impact strength, -30°C         | -30°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 75 / 90             |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 15 / 25             |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 9 / 22              |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   | kJ/m <sup>2</sup> | 80 / 90             |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m <sup>2</sup> | 15 / 25             |
| Rockwell hardness                     |           | ISO 2039/2   | ScaleR            | 122 / -             |

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

|                                          | Condition    | Standard    | Unit | Value |
|------------------------------------------|--------------|-------------|------|-------|
| <b>Thermal properties</b>                |              |             |      |       |
| Melting temperature, 10°C/min            |              | ISO 11357-1 | °C   | 221   |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa     | ISO 75      | °C   | 220   |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa     | ISO 75      | °C   | 200   |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C   | 215   |

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

## Burning behaviour

|                                     |                                                                                                                 |                |    |              |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------|----|--------------|
| UL Yellow Card availability 1       | <b><u><a href="#">Click here to have access to the UL Yellow Card availability 1 -&gt; QMFZ2.E44716</a></u></b> |                |    |              |
| Flammability, 0.75 mm               | 0.75 mm                                                                                                         | UL 94          |    | HB           |
| Glow-wire flammability index, GWFI  | 1-3 mm                                                                                                          | IEC 60695-2-12 | °C | >= 650       |
| Burning rate, FMVSS, Thickness 1 mm |                                                                                                                 | FMVSS 302      |    | < 100 mm/min |

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

## Electrical properties

|                                |            |               |       |        |
|--------------------------------|------------|---------------|-------|--------|
| Volume resistivity             |            | IEC 62631-3-1 | ohm.m | 1.0E13 |
| Surface resistivity            |            | IEC 62631-3-1 | ohm   | 1.0E13 |
| Comparative tracking index     | Solution A | IEC 60112     | V     | 500.0  |
| CTI performance level category |            | Sol A         |       | PLC 1  |

## Processing conditions

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature  | 240 - 270 °C                                          |
| Recommended mould temperature | 90 - 100 °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.