

TECHNICAL DATA SHEET

TECHNYL C 216 WT R9000 XB

DOMAMID 6 605

Polyamide 6, 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 | | |
| ISO 16396 designation | PA6,M,S14-030 | | |

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

Physical properties

| | Condition | Standard | Unit | Value |
|------------------------------|----------------|-----------------|--------------------|-----------|
| Density | | ISO 1183 | g/cm ³ | 1.14 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 3.2 - 3.3 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 1.8 - 1.9 |
| Water absorption, saturation | | | % | 9.1 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.8 - 1.0 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 0.9 - 1.1 |
| Viscosity number | 96% H2SO4 | ISO 307 | cm ³ /g | 145.0 |

| | Condition | Standard | Unit | Value |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| Mechanical properties | | | | dam / cond.* |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 3100 / - |
| Strain at break | 50 mm/min | ISO 527-1/-2 | % | 40 / - |
| Yield stress | 50 mm/min | ISO 527-1/-2 | MPa | 85 / - |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 2900 / - |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 105 / - |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m ² | NB |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m ² | 4.5 / - |
| Izod impact strength, +23°C | +23°C | ISO 180/1U | kJ/m ² | NB |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m ² | 4.5 / - |

*: **conditioned according to ISO 1110**

| | Condition | Standard | Unit | Value |
|--|--------------|-------------|------|-------|
| Thermal properties | | | | |
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 221 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa | ISO 75 | °C | 180 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 65 |
| Vicat softening temperature | 50°C/h - 50N | ISO 306 | °C | 205 |

| | Condition | Standard | Unit | Value |
|-------------------------------------|---|-----------|------|--------------|
| Burning behaviour | | | | |
| UL Yellow Card availability 1 | <u>Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716</u> | | | |
| Flammability, 0.75 mm | 0.75 mm | UL 94 | | HB |
| Flammability, 3.0 mm | 3.0 mm | UL 94 | | HB |
| 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 | 600.0 |
| CTI performance level category | | Sol A | | PLC 0 |

Processing conditions

| | |
|-------------------------------|---|
| Drying temperature/time | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature | 230 - 250 °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 unfilled polyamides, Domo recommends the use of high alloy steel with a low chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 / 1.2343 (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.