

TECHNICAL DATA SHEET

TECHNYL SAFE A 402FC NC

TECHNYL A 402 NATURAL FA



TECHNYL SAFE A 402FC NC is a polyamide PA66, unfilled, very high viscosity, food contact approved for extrusion. Designed to offer higher impact resistance at low humidity levels, good rigidity and excellent compression resistance of extruded parts requiring also food contact compliance in industrial consumer good as well as appliance applications.

General

| | | |
|-----------------------|--|---|
| Polymer type | PA66 | |
| Certifications | RoHS | EC 1907/2006 (REACH) |
| Feature | food contact approved impact modified | high viscosity wear resistant |
| Applications | consumer applications building / construction | industrial applications transportation |
| Colors available | natural | |
| Forms | pellets | |
| Processing technology | extrusion | |

Product identification

| | |
|-----------------------|------|
| ISO 1043 abbreviation | PA66 |
|-----------------------|------|

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

Physical properties

| | Condition | Standard | Unit | Value |
|-----------------------------|-------------|-----------------|-------------------|-------|
| Density | | ISO 1183 | g/cm ³ | 1.14 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 1.5 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 1.7 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 1.7 |

| | Condition | Standard | Unit | Value |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| Mechanical properties | | | | dam / cond.* |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 3100 / 1300 |
| Stress at break | | ISO 527-1/-2 | MPa | 50 / 30 |
| Strain at break | | ISO 527-1/-2 | % | 30 / 150 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 2800 / 1050 |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 120 / 45 |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m ² | 7 / 30 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m ² | 5.5 / 20 |

*: **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, 0.45 MPa | 0.45 MPa | ISO 75 | °C | 190 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 65 |

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

| | Condition | Standard | Unit | Value |
|--------------------------------|------------|---------------|-------|--------|
| Electrical properties | | | | |
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1.0E13 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 1.0E14 |
| Comparative tracking index | Solution A | IEC 60112 | V | 600.0 |
| CTI performance level category | | Sol A | | PLC 0 |
| Dielectric strength | 1 mm | IEC 60243-1 | kV/mm | 22.0 |

Processing conditions

| | |
|--|--|
| Drying temperature/time | 8H at 80°C with dry air, dew point -35°C |
| Suggested max moisture | 0.08 % |
| Feed zone temperature for extrusion | 280 - 300 °C |
| Compression zone temperature for extrusion | 270 - 290 °C |
| Front zone temperature for extrusion | 270 - 290 °C |
| Die zone temperature for extrusion | 260 - 280 °C |
| Recommended extrusion temperature | 260 - 300 °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.