TECHNYL® SAFE
Food and water contact

DOMO
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TECHNICAL DATA SHEET

# TECHNYL SAFE C 226FC NC

## DOMAMID 6N1FC NC

TECHNYL SAFE C 226FC NC is a polyamide 6, unfilled, improved flowability, food contact approved for injection moulding. Designed for fast cycling injection moulding to be used in food contact in industrial consumer good as well as appliance applications.

### General

| | | |
|---|---|---|
| Polymer type | PA6 | |
| Certifications | Food contact EU | RoHS |
| Feature | food contact approved<br>nucleated<br>not heat stabilized | improved flowability<br>fast molding cycle |
| Applications | small appliance<br>industrial applications<br>building / construction | consumer applications<br>large appliance |
| Colors available | natural | |
| Forms | pellets | |
| Processing technology | injection moulding | |

### Product identification

| | |
|---|---|
| ISO 1043 abbreviation | PA6 |
| ISO 16396 designation | PA6,M,S14-040 |

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| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| **Physical properties** | | | | |
| Density | | ISO 1183 | g/cm³ | 1.13 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 3.3 - 3.4 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 1.9 - 2.0 |
| Water absorption, saturation | | | % | 9.1 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.95 - 1.15 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 0.85 - 1.05 |
| Melt volume-flow rate, MVR, 5.0 kg | 275°C, 5kg | ISO 1133 | cm³/10 min | 165.0 |
| Melt volume-flow rate, MVR, 2.16 kg | 275°C, 2,16 kg | ISO 1133 | cm³/10 min | 75.0 |
| Viscosity number | 96% H2SO4 | ISO 307 | cm³/g | 145.0 |

| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| **Mechanical properties** | | | | **dam / cond.*** |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 3600 / 1400 |
| Stress at break | 50 mm/min | ISO 527-1/-2 | MPa | 90 / 60 |
| Strain at break | 50 mm/min | ISO 527-1/-2 | % | 5 / 150 |
| Yield stress | 50 mm/min | ISO 527-1/-2 | MPa | 90 / 50 |
| Yield strain | 50 mm/min | ISO 527-1/-2 | % | 5 / 20 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 2800 / 1000 |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m² | NB |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m² | 5 / 20 |
| Charpy notched impact strength, -30°C | -30°C | ISO 179/1eA | kJ/m² | 3 / 3 |

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

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## Thermal properties

| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 221 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa | ISO 75 | °C | 156 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 66 |
| Vicat softening temperature | 50°C/h - 50N | ISO 306 | °C | 199 |

## Burning behaviour

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

## Electrical properties

| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1.0E13 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 1.0E14 |

## Processing conditions

| | |
|---|---|
| Drying temperature/time | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature | 240 - 280 °C |
| Recommended mould temperature | 60 - 80 °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.