

TECHNICAL DATA SHEET

TECHNYL PROTECT A 50X3 NC  
(Previously DOMAMID FR 66V0M)

Polyamide 66, heat-aging stabilized, halogen and red phosphorus free flame retardant, for injection moulding

General

|                       |                                |                                                 |
|-----------------------|--------------------------------|-------------------------------------------------|
| Feature               | UL V0<br>Heat-aging stabilized | Halogen and red phosphorus free flame retardant |
| Polymer type          | PA66 (Polyamide 66)            |                                                 |
| Processing technology | Injection molding              |                                                 |
| Certification         | RoHS                           | EC 1907/2006 (REACH)                            |

Product identification

|                       |                         |
|-----------------------|-------------------------|
| ISO 1043 abbreviation | PA66 FR(30)             |
| ISO 16396 designation | PA66,FR(30),M1H,S14-040 |

|                             | Condition | Standard        | Unit              | Value     |
|-----------------------------|-----------|-----------------|-------------------|-----------|
| Density                     |           | ISO 1183        | g/cm <sup>3</sup> | 1.17      |
| Molding shrinkage, parallel |           | ISO 294-4, 2577 | %                 | 1.1 - 1.3 |
| Molding shrinkage, normal   |           | ISO 294-4, 2577 | %                 | 1.1 - 1.3 |

Physical properties

Mechanical properties

dam / cond.\*

|                                       |           |              |                   |             |
|---------------------------------------|-----------|--------------|-------------------|-------------|
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 3700 / 1700 |
| Strain at break                       | 50 mm/min | ISO 527-1/-2 | %                 | 15 / 50     |
| Yield stress                          | 50 mm/min | ISO 527-1/-2 | MPa               | 85 / 50     |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa               | 3400 / 1600 |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 125 / 60    |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 75 / NB     |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 4 / 8.5     |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 3.5 / -     |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   | kJ/m <sup>2</sup> | 65 / 125    |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m <sup>2</sup> | 3.5 / 8     |

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

Thermal properties

|                                          |              |             |    |     |
|------------------------------------------|--------------|-------------|----|-----|
| Melting temperature, 10°C/min            |              | ISO 11357-1 | °C | 262 |
| Temp. of deflection under load, 0.45 MPa | 0.45 MPa     | ISO 75      | °C | 210 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa     | ISO 75      | °C | 80  |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C | 240 |

Electrical properties

|                                |            |               |       |        |
|--------------------------------|------------|---------------|-------|--------|
| Volume resistivity             |            | IEC 62631-3-1 | ohm.m | 1E+016 |
| Surface resistivity            |            | IEC 62631-3-1 | ohm   | 1E+014 |
| Comparative tracking index     | Solution A | IEC 60112     | V     | 600    |
| CTI performance level category |            | Sol A         |       | PLC 0  |

Burning behaviour

|                                      |         |                |    |              |
|--------------------------------------|---------|----------------|----|--------------|
| Flammability, 0.75 mm                | 0.75 mm | UL 94          |    | V0           |
| Flammability, 1.5 mm                 | 1.5 mm  | UL 94          |    | V0           |
| Glow-wire flammability index, GWFI   | 1-3 mm  | IEC 60695-2-12 | °C | 960          |
| Glow-wire ignition temperature, GWIT | 1-3 mm  | IEC 60695-2-13 | °C | 750          |
| Burning rate, FMVSS, Thickness 1 mm  |         | FMVSS 302      |    | < 100 mm/min |

Test run at 23°C if not differently specified, DAM state (dry as moulded), valid for natural colored products.  
\*: conditioned according to ISO 1110

Processing conditions

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Drying temperature/time       | 75-85°C / 2-4h (with dew point of dried air < -30 °C) |
| Recommended melt temperature  | 260 - 290 °C                                          |
| Recommended mould temperature | 60 - 80 °C                                            |

These parameters are typical of the product but should be related to the type of machinery used and to the type of moulded part.

Disclaimer

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