

## TECHNICAL DATA SHEET

**TECHNYL PROTECT A 50X3 GY R7035**  
**DOMAMID FR 66V0M GYR7035**


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

**General**

|                       |                                                                |                       |
|-----------------------|----------------------------------------------------------------|-----------------------|
| Certifications        | RoHS                                                           | EC 1907/2006 (REACH)  |
| Polymer type          | PA66                                                           |                       |
| Feature               | halogen and red phosphorus free<br>flame retardant<br>UL 94 V0 | heat-aging stabilized |
| Colors available      | black<br>grey                                                  | natural               |
| Forms                 | pellets                                                        |                       |
| Processing technology | injection moulding                                             |                       |

**Product identification**

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

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

**Physical properties**

|                             |  |                 |                   |           |
|-----------------------------|--|-----------------|-------------------|-----------|
| Density                     |  | ISO 1183        | g/cm <sup>3</sup> | 1.17      |
| Molding shrinkage, parallel |  | ISO 294-4, 2577 | %                 | 1.6 - 1.8 |
| Molding shrinkage, normal   |  | ISO 294-4, 2577 | %                 | 1.3 - 1.5 |

|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 3700 / 1700         |
| Strain at break                       |           | ISO 527-1/-2 | %                 | 10 / 30             |
| Yield stress                          |           | ISO 527-1/-2 | MPa               | 70 / -              |
| Flexural modulus, ISO 178             | 2 mm/min  | ISO 178      | MPa               | 3400 / 1600         |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 110 / -             |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | 65 / NB             |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 3 / 7.5             |
| Charpy notched impact strength, -30°C | -30°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 3 / -               |

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

|                                          | Condition    | Standard    | Unit | Value |
|------------------------------------------|--------------|-------------|------|-------|
| <b>Thermal properties</b>                |              |             |      |       |
| 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   |

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**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, 3.0 mm   |         |                | °C | 960          |
| Glow-wire flammability index, GWFI           | 1-3 mm  | IEC 60695-2-12 | °C | 960          |
| Glow-wire ignition temperature, GWIT, 3.0 mm | 3.0 mm  | IEC 60695-2-13 | °C | 750          |
| 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 |

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

**Electrical properties**

|                                |            |           |   |       |
|--------------------------------|------------|-----------|---|-------|
| 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  | 260 - 290 °C                                          |
| Recommended mould temperature | 60 - 80 °C                                            |