

## TECHNICAL DATA SHEET

**TECHNYL PROTECT C 52G2 GY 7504**  
**DOMAMID 6LVGT85 GY77504**


Polyamide 6 unfilled, for fire and electrical overall properties, with improved flowability, for injection moulding

**General**

|                       |                      |                   |
|-----------------------|----------------------|-------------------|
| Polymer type          | PA6                  |                   |
| Certifications        | RoHS                 | UL listed product |
| Feature               | improved flowability | UL 94 V2          |
| Processing technology | injection moulding   |                   |

**Product identification**

|                       |               |  |  |
|-----------------------|---------------|--|--|
| ISO 1043 abbreviation | PA6 FR(30)    |  |  |
| ISO 16396 designation | PA6,M,S12-030 |  |  |

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

**Physical properties**

|                                    |            |                 |                         |           |
|------------------------------------|------------|-----------------|-------------------------|-----------|
| Density                            |            | ISO 1183        | g/cm <sup>3</sup>       | 1.14      |
| Molding shrinkage, parallel        |            | ISO 294-4, 2577 | %                       | 0.8 - 1.0 |
| Molding shrinkage, normal          |            | ISO 294-4, 2577 | %                       | 1.0 - 1.2 |
| Melt volume-flow rate, MVR, 5.0 kg | 275°C, 5kg | ISO 1133        | cm <sup>3</sup> /10 min | 225.0     |
| Viscosity number                   | 96% H2SO4  | ISO 307         | cm <sup>3</sup> /g      | 125.0     |

|                                       | Condition | Standard     | Unit              | Value               |
|---------------------------------------|-----------|--------------|-------------------|---------------------|
| <b>Mechanical properties</b>          |           |              |                   | <b>dam / cond.*</b> |
| Tensile modulus                       | 1 mm/min  | ISO 527-1/-2 | MPa               | 3300 / -            |
| 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               | 2800 / -            |
| Flexural strength, ISO 178            | 2 mm/min  | ISO 178      | MPa               | 105 / -             |
| Charpy impact strength, +23°C         | +23°C     | ISO 179/1eU  | kJ/m <sup>2</sup> | NB                  |
| Charpy notched impact strength, +23°C | +23°C     | ISO 179/1eA  | kJ/m <sup>2</sup> | 4 / -               |
| Izod impact strength, +23°C           | +23°C     | ISO 180/1U   | kJ/m <sup>2</sup> | NB                  |
| Izod notched impact strength, +23°C   | +23°C     | ISO 180/1A   | kJ/m <sup>2</sup> | 4 / -               |
| Rockwell hardness                     |           | ISO 2039/2   | ScaleR            | 121 / -             |

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

|                                          | Condition    | Standard    | Unit | Value |
|------------------------------------------|--------------|-------------|------|-------|
| <b>Thermal properties</b>                |              |             |      |       |
| 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   | 70    |
| Vicat softening temperature              | 50°C/h - 50N | ISO 306     | °C   | 205   |

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

### Burning behaviour

|                                      |                                                                                                                  |                |    |              |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------|----|--------------|
| UL Yellow Card availability 1        | <b><u><a href="#">Click here to have access to the UL Yellow Card availability 1 -&gt; QMFZ2.E170540</a></u></b> |                |    |              |
| Flammability, 0.75 mm                | 0.75 mm                                                                                                          | UL 94          |    | V2           |
| Flammability, 1.5 mm                 | 1.5 mm                                                                                                           | UL 94          |    | V2           |
| Flammability, 3.0 mm                 | 3.0 mm                                                                                                           | UL 94          |    | V2           |
| Glow-wire flammability index, GWFI   | 1-3 mm                                                                                                           | IEC 60695-2-12 | °C | >= 850       |
| Glow-wire ignition temperature, GWIT | 1-3 mm                                                                                                           | IEC 60695-2-13 | °C | 725          |
| 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 | 1.0E16 |
| 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  |

### 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 | 40 - 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

All reinforced, flame retardant compounds generate some level of abrasion/corrosion to the steel processing equipment. These issues may be magnified by using incorrect processing conditions (temperatures, residence time, moisture level ...) during the moulding process. Therefore, Domo recommends you adhere to the processing conditions detailed in this technical data sheet. For equipment that comes into contact with molten flame retardant compounds, Domo advises you to use a steel with high chromium and high carbon content (having a minimum concentration of 16% chromium) to prevent corrosion and abrasion. For the correct reference of steel associated to flame retardant compounds' processing, please refer to your equipment manufacturers. In the case of high requirements on surface quality a mould temperature of up to 120°C can be

# TECHNYL<sup>®</sup> PROTECT

Flame retardants



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## Injection advice

considered.,The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design.