

# PA 6 FR



## POLYAMIDE 6 FR (FLAME RESISTANT, UL94 V0)

### Material description

PA 6 FR is a flame retardant, extruded polyamide. It has various approvals for use in the railway and aviation industries. It is halogen-free and has a very high oxygen index of 40% (LOI - Limiting Oxygen Index).

### Conformities

RoHS, REACH

| Physical properties | Test method       | Value                                                                                | Unit              |
|---------------------|-------------------|--------------------------------------------------------------------------------------|-------------------|
| Density             | DIN EN ISO 1183-1 | 1.17                                                                                 | g/cm <sup>3</sup> |
| Water absorption    | DIN EN ISO 62     | 3                                                                                    | %                 |
| Sliding friction    |                   |   |                   |
| Abrasion resistance |                   |  |                   |

| Mechanical properties         | Test method       | Value | Unit              |
|-------------------------------|-------------------|-------|-------------------|
| Yield stress                  | DIN EN ISO 527    | 82    | MPa               |
| Elongation at break           | DIN EN ISO 527    | 3     | %                 |
| Tensile modulus of elasticity | DIN EN ISO 527    | 3800  | MPa               |
| Notched impact strength       | DIN EN ISO 527    | 53    | kJ/m <sup>2</sup> |
| Ball indentation hardness     | DIN EN ISO 2039-1 | 190   | MPa               |

| Thermal properties               | Test method       | Value      | Unit                              |
|----------------------------------|-------------------|------------|-----------------------------------|
| Heat capacity                    | DIN 52612-1       | 1.7        | kJ/(kg*K)                         |
| Coefficient of thermal expansion | DIN 53752         | 90         | 10 <sup>-6</sup> *K <sup>-1</sup> |
| Operating temperature short term |                   | 160        | °C                                |
| Operating temperature long term  |                   | -20 bis 85 | °C                                |
| Heat deflection temperature      | DIN EN ISO 75 / A | 65         | °C                                |
| Flammability                     | UL 94, 3 mm       | V0         |                                   |

| Electrical properties            | Test method | Value            | Unit   |
|----------------------------------|-------------|------------------|--------|
| Volume resistivity               | IEC 60093   | 10 <sup>13</sup> | Ω * cm |
| Surface resistivity              | IEC 60093   | 10 <sup>15</sup> | Ω * cm |
| Comparative tracking index (CTI) | IEC 60112   | 600              | CTI    |

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.