

Technical Datasheet: Engineering plastic type CF

General notes

- PA66/CF30 polyamide 66 reinforced with 30 wt% carbon fibre
- heat stabilized
- very high rigidity, excellent tensile and flexural strength, fatigue and creep resistance
- low friction, self lubricating properties, excellent wear and abrasion resistance
- good heat capability
- good chemical resistance (oils, grease, fuels, non polar solvents); not resistant to strong acids, alkalis and hot water or steam
- ESD safe material, (avoid powder attraction, sparks generation, ignition sources).
- very low coefficient of linear thermal expansion
- typical applications include handling of sensitive components and devices (electronic components, micro-mechanical parts, glass and ceramic substrates, capillary, etc.)

Mechanical properties

| Flexural modulus +23°C: | 17000 MPa | ASTM D 790 |
|--------------------------------|-----------|------------|
| Flexural modulus +60°C: | 12000 MPa | ASTM D 790 |
| Flexural modulus +90°C: | 9800 MPa | ASTM D 790 |
| Flexural modulus +120°C: | 8000 MPa | ASTM D 790 |
| Tensile strength +23°C: | 210 MPa | ISO 527 |
| Tensile strength +60°C: | 159 MPa | ISO 527 |
| Tensile strength +90°C: | 134 MPa | ISO 527 |
| Tensile strength +120°C: | 117 MPa | ISO 527 |
| Rockwell hardness M: | >100 | ASTM D 785 |
| Izod-Impact strength (notched) | 70 J/m | ASTM D 256 |
| +23°C: | | |
| | 2 | |

Charpy-Impact strength (unnotched) 30 kJ/m² DIN 53453

+23°C:

| Thermal properties | |
|--|-----------|
| Temp. of defl. under load (1.80 MPa): 256 °C | ASTM D648 |
| Temp. of defl. under load (0.45 MPa): 260 °C | ASTM D648 |
| Vicat softening temperature (50°C/h 254 °C | ISO 306 |
| FONI). | |

Coef. of lin. therm expansion, normal: 2,80 E-5/°C ASTM D 696 Continuous Use Temperature 130°C 20'000 h Short Time Temperature 190°C

Electrical properties

| Surface resistivity | 10° Ohm | 100V |
|-----------------------------|------------|-----------|
| Comparative tracking index: | <100 Volts | IEC 112 |
| Decay time: | < 0.1 sec | 1000-10 V |

Other properties

| Density | 1.28 g/ccm | ISO 1183 |
|-----------------------------------|------------|----------|
| Water absorption in water 23°C (2 | 24h) 0.60% | ISO 62 |

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