

TECAMID 66 GF30 black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 66 (Polyamide 66)

Colour

black opaque

Density

1.34 g/cm³

Fillers

glass fibres

Data generated directly after machining (standard climate Germany).

Main features

- very high stiffness
- resistant to many oils, greases and fuels
- good wear properties
- very high strength
- high dimensional stability
- good heat deflection temperature
- good weldable and bondable

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|---|------------------|----------------------------------|----------------------|---|
| Tensile strength | 50mm/min | 91 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b |
| Modulus of elasticity (tensile test) | 1mm/min | 5500 | MPa | DIN EN ISO 527-2 | (1) (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 91 | MPa | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Elongation at yield (tensile test) | 50mm/min | 8 | % | DIN EN ISO 527-2 | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| Elongation at break (tensile test) | 50mm/min | 14 | % | DIN EN ISO 527-2 | (5) For Charpy test: support span 64mm, norm specimen. |
| Flexural strength | 2mm/min, 10 N | 135 | MPa | DIN EN ISO 178 | (2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 4700 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 25/46/104 | MPa | EN ISO 604 | (3) |
| Compression modulus | 5mm/min, 10 N | 4100 | MPa | EN ISO 604 | (4) |
| Impact strength (Charpy) | max. 7,5J | 97 | kJ/m ² | DIN EN ISO 179-1eU | (5) |
| Shore hardness | D | 86 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 48 | °C | DIN EN ISO 11357 | (1) |
| Melting temperature | | 254 | °C | DIN EN ISO 11357 | (2) |
| Service temperature | short term | 180 | °C | - | (2) |
| Service temperature | long term | 110 | °C | - | |
| Thermal expansion (CLTE) | 23-60°C, long. | 5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.2 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.39 | W/(K*m) | ISO 22007-4:2008 | |
| Electrical properties | parameter | value | unit | norm | comment |
| surface resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω | - | (1) |
| volume resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω*cm | - | (2) |
| Dielectric strength | 23°C, 50% r.h. | 35 | kV/mm | ISO 60243-1 | (3) |
| Resistance to tracking (CTI) | Platin electrode, 23°C, 50% r.h., solvent A | 550 / 475 | V | DIN EN 60112 | (3) Specimen in 1mm thickness |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.1 / 0.2 | % | DIN EN ISO 62 | (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | (+) | | - | (2) (+) limited resistance |
| Resistance to weathering | | (+) | | - | (3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Flammability (UL94) | corresponding to | HB | | DIN IEC 60695-11-10; | (3) |

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