

TECAMID 66 - Stock Shapes

Chemical Designation

PA 66 (Polyamide 66)

Colour

natural opaque

Density

1.15 g/cm³

Data generated directly after machining (standard climate Germany).

Main features

- good slide and wear properties
- electrically insulating
- good wear properties
- high strength
- good weldable and bondable
- resistant to many oils, greases and fuels
- high toughness

Target Industries

- mechanical engineering
- conveyor technology
- packaging and paper machinery
- electrical engineering
- automotive industry
- textile industry
- precision engineering

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|--------------------------|------------------|----------------------------------|----------------------|---|
| Modulus of elasticity (tensile test) | 1mm/min | 3500 | MPa | DIN EN ISO 527-2 | 1) (1) For tensile test: specimen type 1b |
| Tensile strength | 50mm/min | 85 | MPa | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 84 | MPa | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Elongation at yield | 50mm/min | 7 | % | DIN EN ISO 527-2 | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| Elongation at break | 50mm/min | 70 | % | DIN EN ISO 527-2 | (5) For Charpy test: support span 64mm, norm specimen. |
| Flexural strength | 2mm/min, 10 N | 110 | MPa | DIN EN ISO 178 | 2) n.b. = not broken |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 3100 | MPa | DIN EN ISO 178 | (6) Specimen in 4mm thickness |
| Compression strength | 1% / 2% 5mm/min, 10 N | 20 / 35 | MPa | EN ISO 604 | 3) |
| Compression modulus | 5mm/min, 10 N | 2700 | MPa | EN ISO 604 | 4) |
| Impact strength (Charpy) | max. 7,5J | n.b. | kJ/m ² | DIN EN ISO 179-1eU | 5) |
| Notched impact strength (Charpy) | max. 7,5J | 5 | kJ/m ² | DIN EN ISO 179-1eA | |
| Ball indentation hardness | | 175 | MPa | ISO 2039-1 | 6) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 47 | °C | DIN 53765 | 1) (1) Found in public sources. |
| Melting temperature | | 258 | °C | DIN 53765 | (2) Found in public sources. |
| Service temperature | short term | 170 | °C | | 2) Individual testing regarding application conditions is mandatory. |
| Service temperature | long term | 100 | °C | | |
| Thermal expansion (CLTE) | 23-60°C, long. | 11 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 12 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.5 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.36 | W/(K*m) | ISO 22007-4:2008 | |
| Electrical properties | parameter | value | unit | norm | comment |
| Surface resistance | | 10 ¹⁴ | Ω | DIN IEC 60093 | |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.2 / 0.4 | % | DIN EN ISO 62 | 1) (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | (+) | | | (2) 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. |
| Resistance to weathering | | - | | | |
| Flammability (UL94) | corresponding to | HB | | DIN IEC 60695-11-10; | 2) |

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