

TECAMID 6/3 TR natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6-3-T (Polyamide 6-3-T)

Colour

light yellow transparent

Density

1.12 g/cm³

Data generated directly after machining (standard climate Germany).

Main features

- high toughness
- good chemical resistance
- good machinability
- good heat deflection temperature
- sensitive to stress cracking
- high strength
- easy to polish

Target Industries

- electronics
- food technology
- mechanical engineering
- automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|--------------------------|------------------|----------------------------------|----------------------|---|
| Tensile strength | 50mm/min | 93 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b |
| Modulus of elasticity (tensile test) | 1mm/min | 2800 | MPa | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 93 | MPa | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Elongation at yield (tensile test) | 50mm/min | 7 | % | DIN EN ISO 527-2 | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| Elongation at break (tensile test) | 50mm/min | 49 | % | DIN EN ISO 527-2 | (5) For Charpy test: support span 64mm, norm specimen. |
| Flexural strength | 2mm/min, 10 N | 117 | MPa | DIN EN ISO 178 | n.b. = not broken |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 2800 | MPa | DIN EN ISO 178 | (6) Specimen in 4mm thickness |
| Compression strength | 1% / 2% 5mm/min, 10 N | 21 / 37 | MPa | EN ISO 604 | (3) |
| Compression modulus | 5mm/min, 10 N | 2400 | 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 | 7 | kJ/m ² | DIN EN ISO 179-1eA | |
| Ball indentation hardness | | 150 | MPa | ISO 2039-1 | (6) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 148 | °C | DIN EN ISO 11357 | (1) Found in public sources. |
| Melting temperature | | n.a. | °C | DIN EN ISO 11357 | (2) n.a. = not applicable |
| Service temperature | short term | 120 | °C | | (3) Found in public sources. |
| Service temperature | long term | 100 | °C | | Individual testing regarding application conditions is mandatory. |
| Thermal expansion (CLTE) | 23-60°C, long. | 12 | 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 | | 1.6 | 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 resistivity | | 10 ¹⁴ | Ω | - | |
| volume resistivity | | 10 ¹⁴ | Ω*cm | - | |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.3 / 0.6 | % | DIN EN ISO 62 | (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | (+) | | - | (2) (+) limited resistance |
| Resistance to weathering | | - | | - | (3) - poor resistance |
| Flammability (UL94) | listed (value at 0.88mm) | V2 | | DIN IEC 60695-11-10; | (4) 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. |

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