

TECAMID 6 FRT natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6 (Polyamide 6)

Colour

ivory opaque

Density

1.19 g/cm³

Fillers

flame retardant (halogen free)

Data generated directly after machining
(standard climate Germany).

Main features

- tested according to EN 45545
- flame retardant as per FAR 25.853
- flame retardant according to UL94 V-0
- resistant to many oils, greases and fuels
- good slide and wear properties
- high strength
- good machinability

Target Industries

- aircraft and aerospace technology
- transportation
- electronics
- mechanical engineering
- automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|--|----------------------------|-------------------|----------------------|--|
| Tensile strength | 50mm/min | 79 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b |
| Modulus of elasticity (tensile test) | 1mm/min | 3900 | MPa | DIN EN ISO 527-2 | 1) (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 79 | MPa | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Elongation at yield (tensile test) | 50mm/min | 3 | % | DIN EN ISO 527-2 | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| Elongation at break (tensile test) | 50mm/min | 3 | % | DIN EN ISO 527-2 | (5) For Charpy test: support span 64mm, norm specimen. |
| Flexural strength | 2mm/min, 10 N | 121 | MPa | DIN EN ISO 178 | 2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 3900 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% 5mm/min, 10 N | 15 / 34 | MPa | EN ISO 604 | 3) |
| Compression modulus | 5mm/min, 10 N | 3300 | MPa | EN ISO 604 | 4) |
| Impact strength (Charpy) | max. 7.5J | 53 | kJ/m ² | DIN EN ISO 179-1eU | 5) |
| Shore hardness | D | 81 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 45 | °C | DIN EN ISO 11357 | 1) |
| Melting temperature | | 221 | °C | DIN EN ISO 11357 | |
| Service temperature | short term | 160 | °C | | 2) |
| Service temperature | long term | 100 | °C | | |
| Electrical properties | parameter | value | unit | norm | comment |
| surface resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω | - | 1) (1) found in public sources |
| volume resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω*cm | - | (2) based on raw material data |
| Resistance to tracking (CTI) | | 600 | | DIN EN 60112 | 2) |
| Other properties | parameter | value | unit | norm | comment |
| Resistance to hot water/ bases | | (+) | | - | 1) (1) (+) limited resistance |
| Resistance to weathering | | - | | - | 2) (2) - poor resistance |
| Flammability (UL94) | raw material listed (value at 1.5mm) | V0 | | DIN IEC 60695-11-10; | (3) compliant, tested on 3 mm thick test specimen |
| Flammability | | R22 HL1 HL2, R23 HL3 | | EN 45545-2:2016 | (4) compliant, tested on 4 mm thick test specimen |
| Flammability | 60 sec. Vertical Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(i) | + | | FAR 25.853 | (5) compliant, tested on 4 mm thick test specimen |
| Flammability | 15 sec. Horizontal Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(iv) and (v) | + | | FAR 25.853 | (6) compliant, tested on 4 mm thick test specimen |
| Flammability | Heat Release, FAR Part 25, § 25.853 (d) and Appendix F, Part IV | + | | FAR 25.853 | (7) compliant, tested on 4 mm thick test specimen |
| Flammability | Smoke density FAR Part 25, § 25.853 (d) and Appendix F, Part V | + | | FAR 25.853 | |
| Flammability | Gas Toxicity, as per Airbus directive ABD 0031 | + | | AITM 3.0005 | |

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