

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

### Chemical Designation

PA 6 (Polyamide 6)

### Colour

ivory opaque

### Density

1.19 g/cm<sup>3</sup>

### 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     | (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%<br>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 <sup>2</sup> | 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 <sup>14</sup>           | Ω                 | -                    | (1) found in public sources                                            |
| volume resistivity                    | Silver electrode, 23°C, 12% r.h.                                                                   | 10 <sup>14</sup>           | 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) (+) limited resistance                                             |
| Resistance to weathering              |                                                                                                    | -                          |                   | -                    | (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<br>HL2, R23<br>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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