

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

### Chemical Designation

PA 6 (Polyamide 6)

### Colour

black 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
- 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  | 78                  | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b   |
| Modulus of elasticity (tensile test)  | 1mm/min   | 4200                | MPa                              | DIN EN ISO 527-2     | 1) (2) For flexural test: support span 64mm, norm specimen.  |
| Tensile strength at yield             | 50mm/min  | 78                  | MPa                              | DIN EN ISO 527-2     | (3) Specimen 10x10x10mm  |
| Elongation at yield (tensile test)    | 50mm/min  | 4                   | %                                | DIN EN ISO 527-2     | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.   |
| Elongation at break (tensile test)    | 50mm/min  | 4                   | %                                | DIN EN ISO 527-2     | (5) For Charpy test: support span 64mm, norm specimen.   |
| Flexural strength                     | 2mm/min, 10 N   | 124                 | MPa                              | DIN EN ISO 178       | 2)   |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N   | 3800                | MPa                              | DIN EN ISO 178       |  |
| Compression strength                  | 1% / 2% / 5%<br>5mm/min, 10 N   | 27/54/95            | MPa                              | EN ISO 604           | 3)   |
| Compression modulus                   | 5mm/min, 10 N   | 3000                | MPa                              | EN ISO 604           | 4)   |
| Impact strength (Charpy)              | max. 7.5J   | 62                  | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   | 5)   |
| Shore hardness                        | D   | 82                  |                                  | 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     | (1) Found in public sources.   |
| Service temperature                   | short term  | 160                 | °C                               |                      | (2) Found in public sources. Individual testing regarding application conditions is mandatory.   |
| Service temperature                   | long term   | 100                 | °C                               |                      | 2)   |
| Thermal expansion (CLTE)              | 23-60°C, long.  | 7                   | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Electrical properties                 | parameter   | value               | unit                             | norm                 | comment  |
| surface resistivity                   |   | 10 <sup>13</sup>    | Ω                                | DIN EN 61340-2-3     |  |
| volume resistivity                    |   | 10 <sup>14</sup>    | Ω*cm                             | DIN EN 61340-2-3     |  |
| Other properties                      | parameter   | value               | unit                             | norm                 | comment  |
| Resistance to hot water/ bases        |   | (+)                 |                                  | -                    | 1) (1) (+) limited resistance  |
| Resistance to weathering              |   | -                   |                                  | -                    | 2) (2) - poor resistance   |
| Flammability                          | 60 sec. Vertical Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(i) | +                   |                                  | FAR 25.853           | 3) (3) compliant, tested on 1 mm thick test specimen   |
| Flammability (UL94)                   | corresponding to  | V0                  |                                  | DIN IEC 60695-11-10; | 4) (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. |
| Flammability                          |   | R22 HL1,<br>R23 HL3 |                                  | -                    |  |

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