

## TECAMID 66 natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PA 66 (Polyamide 66)

### Colour

ivory opaque

### Density

1.15 g/cm<sup>3</sup>

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
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry

| Mechanical properties                 | parameter                     | value            | unit                             | norm                 | comment  |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|--|
| Tensile strength                      | 50mm/min                      | 85               | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b   |
| Modulus of elasticity (tensile test)  | 1mm/min                       | 3500             | MPa                              | DIN EN ISO 527-2     | 1) (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% / 5%<br>5mm/min, 10 N | 20/35/81         | 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 <sup>2</sup>                | DIN EN ISO 179-1eU   | 5)   |
| Notched impact strength (Charpy)      | max. 7,5J                     | 5                | kJ/m <sup>2</sup>                | 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 EN ISO 11357     | 1) (1) Found in public sources.  |
| Melting temperature                   |                               | 258              | °C                               | DIN EN ISO 11357     | (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 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)              | 23-100°C, long.               | 12               | 10 <sup>-5</sup> K <sup>-1</sup> | 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 resistivity                   |                               | 10 <sup>14</sup> | Ω                                | DIN IEC 60093        |  |
| volume resistivity                    |                               | 10 <sup>14</sup> | Ω*cm                             | 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) (2) (+) limited resistance  |
| Resistance to weathering              |                               | -                | -                                | -                    | 3) (3) - poor resistance   |
| Flammability (UL94)                   | corresponding to              | HB               |                                  | 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. |

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