TECAMID 12 natural - Stock Shapes (rods, plates, tubes)

**Chemical Designation**
PA 12 (Polyamide 12)

**Colour**
ivory opaque

**Density**
1.02 g/cm³

Data generated directly after machining (standard climate Germany).

**Main features**
- high toughness
- resistant to many oils, greases and fuels
- good wear properties
- high dimensional stability
- good slide and wear properties
- low density
- low moisture absorption
- good weldable and bondable

**Chemical Designation**
TECAMID 12 natural

**Mechanical properties**

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</table>
| Modulus of elasticity (tensile test) | 1800 | MPa  | DIN EN ISO 527-2 | (1) For tensile test specimen Ø ca. 50mm, h=13mm.
| Tensile strength at yield | 53   | MPa  | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen.
| Elongation at yield       | 9    | %    | DIN EN 527-2    | (3) Specimen 10x10x10mm, modulus range between 0.5 and 1% compression.
| Elongation at break       | 200  | %    | DIN EN 527-2    | (4) Corresponding means no indentation hardness.
| Flexural strength         | 68   | MPa  | DIN EN ISO 178 | (5) For Charpy test: support span 64mm, n.b., n.b.
| Modulus of elasticity (flexural test) | 1700 | MPa  | DIN EN ISO 178 |
| Compression strength      | 100  | MPa  | DIN EN ISO 604 | (6) Specimen in 4mm thickness.
| Compression modulus       | 1600 | MPa  | EN ISO 604     |
| Impact strength (Charpy)  | 7    | kJ/m²| DIN EN ISO 179-1eU |
| Notched impact strength (Charpy) | 7   | kJ/m²| DIN EN ISO 179-1eA |
| Ball indentation hardness | 105  | MPa  | ISO 2038-1     |

**Thermal properties**

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| Glass transition temperature | 37   | °C   | DIN EN ISO 11357 | (1) For tensile test specimen Ø ca. 50mm, h=13mm.
| Melting temperature        | 180  | °C   | DIN EN ISO 11357 | (2) For flexural test: support span 64mm, norm specimen.
| Service temperature        | 110  | °C   | DIN EN ISO 11357 | (3) Specimen 10x10x10mm, modulus range between 0.5 and 1% compression.
| Thermal expansion (CLTE)   | 15   | 10^3 K | DIN EN ISO 11359-1 | (4) Corresponding means no indentation hardness.
| Thermal conductivity       | 0.30 | W/(m*K) | ISO 22007-4:2008 | (5) For Charpy test: support span 64mm, n.b., n.b.

**Electrical properties**

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| Surface resistivity        | 10^14 | Ω    | DIN IEC 60093 | (1) For tensile test specimen Ø ca. 50mm, h=13mm.
| Volume resistivity         | 10^14 | Ω*cm | DIN IEC 60093 | (2) For flexural test: support span 64mm, norm specimen.
| Water absorption           | 0.04  | %    | DIN EN ISO 62 | (3) Specimen 10x10x10mm, modulus range between 0.5 and 1% compression.
| Resistance to hot water/ bases | +   | -   | DIN EN ISO 62 | (4) Corresponding means no indentation hardness.
| Resistance to weathering   | +    | -   | DIN EN ISO 62 | (5) For Charpy test: support span 64mm, n.b., n.b.
| Flammability (UL94)        | HB   | -   | DIN IEC 60995-11-10 | (6) Specimen in 4mm thickness.

**Target industries**
- aircraft and aerospace technology
- electronics
- food technology
- mechanical engineering
- automotive industry

**Other properties**

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| DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.

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