

TECAST L natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6 C (Cast polyamide 6)

Colour

ivory opaque

Density

1.13 g/cm³

Fillers

oil

Data generated directly after machining
(standard climate Germany).

Main features

- good slide and wear properties
- good wear properties
- electrically insulating
- high toughness
- resistant to many oils, greases and fuels
- high strength

Target Industries

- mechanical engineering
- automotive industry
- heavy duty industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|---|
| Tensile strength | 50mm/min | 69 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. n.n. = not broken |
| Modulus of elasticity (tensile test) | 1mm/min | 2900 | MPa | DIN EN ISO 527-2 | |
| Tensile strength at yield | 50mm/min | 66 | MPa | DIN EN ISO 527-2 | |
| Elongation at yield (tensile test) | 50mm/min | 8 | % | DIN EN ISO 527-2 | |
| Elongation at break (tensile test) | 50mm/min | 50 | % | DIN EN ISO 527-2 | |
| Flexural strength | 2mm/min, 10 N | 95 | MPa | DIN EN ISO 178 | (2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 2900 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 19/35/76 | 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 ² | DIN EN ISO 179-1eU | (5) |
| Notched impact strength (Charpy) | max. 7.5J | 5 | kJ/m ² | DIN EN ISO 179-1eA | |
| Shore hardness | D | 80 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 48 | °C | DIN EN ISO 11357 | (1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory. |
| Melting temperature | | 218 | °C | DIN EN ISO 11357 | |
| Service temperature | short term | 170 | °C | | (2) |
| Service temperature | long term | 100 | °C | | |
| Thermal expansion (CLTE) | 23-60°C, long. | 13 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 13 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.7 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.37 | W/(K*m) | ISO 22007-4:2008 | |
| Electrical properties | parameter | value | unit | norm | comment |
| surface resistivity | | 10 ¹⁴ | Ω | DIN IEC 60093 | |
| volume resistivity | | 10 ¹⁴ | 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) Ø ca. 50mm, h=13mm (2) (+) limited resistance (3) - poor resistance (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. |
| Resistance to hot water/ bases | | (+) | | - | |
| Resistance to weathering | | - | | - | |
| Flammability (UL94) | corresponding to | HB | | DIN IEC 60695-11-10; | |

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