

TECAPAI CM XP440 black-green - Stock Shapes (rods, plates, tubes)

Chemical Designation

PAI (Polyamide-imide)

Colour

black-green opaque

Density

1.46 g/cm³

Fillers

graphite, PTFE

production process: compression moulding

Main features

- excellent chemical resistance
- excellent wear properties
- very good thermal stability
- excellent dimensional stability
- good machinability

Target Industries

- oil and gas industry
- chemical and refinery industry
- chemical plant engineering
- process engineering
- aircraft and aerospace technology

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|------------------------|-----------|----------------------------------|----------------------|--|
| Modulus of elasticity (tensile test) | 1mm/min | 4300 | MPa | DIN EN ISO 527-2 | 1) (1) For tensile test: specimen type 1b |
| Tensile strength at break | 5mm/min | 82 | MPa | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen. |
| Elongation at break (tensile test) | 5mm/min | 4,7 | % | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Flexural strength | 2mm/min, 10 N | 134 | MPa | DIN EN ISO 178 | (4) For Charpy test: support span 64mm, norm specimen. |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 4000 | MPa | DIN EN ISO 178 | (5) Specimen in 4mm thickness |
| Compression strength | 1% / 2% / 5% | 13/33/87 | MPa | EN ISO 604 | 3) |
| Impact strength (Charpy) | max. 7,5J | 34 | kJ/m ² | DIN EN ISO 179-1eU | 4) |
| Ball indentation hardness | | 193 | MPa | ISO 2039-1 | 5) |
| Shore hardness | D scale | 88 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 283 | °C | DIN EN ISO 11357 | |
| Thermal expansion (CLTE) | 23-60°C, longitudinal | 3,5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, longitudinal | 3,5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Other properties | parameter | value | unit | norm | comment |
| Moisture absorption | 24h / 96h (23°C) | 0,3 / 0,5 | % | DIN EN ISO 62 | |
| Flammability (UL94) | 3,3 mm | V0 | | - | |

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