

TECAPAI® CM XP530 black-green - Stock Shapes (rods, plates, tubes)

Chemical Designation

PAI (Polyamide-imide)

Colour

black green

Density

1.61 g/cm³

Fillers

glass fibres

production process: compression moulding

Main features

- electrically insulating
- excellent strength and stiffness
- excellent dimensional stability
- very good thermal stability
- excellent chemical resistance

Target Industries

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

| Mechanical properties | condition | value | unit | test method | comment |
|---------------------------------------|------------------------|------------------|----------------------------|-------------|--|
| Modulus of elasticity (tensile test) | | 900,000 | psi | ASTM D 638 | |
| Tensile strength at break | | 16,700 | psi | ASTM D 638 | |
| Elongation at break (tensile test) | | 3.2 | % | ASTM D 638 | |
| Flexural strength | | 25,000 | psi | ASTM D 790 | |
| Modulus of elasticity (flexural test) | | 890,000 | psi | ASTM D 790 | |
| Compression strength | 1% strain | 5,800 | psi | ASTM D 695 | |
| Compression strength | 10% strain | 30,000 | psi | ASTM D 695 | |
| Compression modulus | | 550,000 | psi | ASTM D 695 | |
| Impact strength (Izod) | notched | 0.9 | ft-lbs/in | ASTM D 256 | |
| Shore hardness | D scale | 92 | | ASTM D 2240 | |
| Thermal properties | condition | value | unit | test method | comment |
| Glass transition temperature | | 529 | °F | ASTM D3418 | |
| Deflection temperature | @ 264 psi | 515 | °F | ASTM D 648 | |
| Thermal expansion (CLTE) | range -40 °F to 302 °F | 1.76 | *10 ⁻⁵ in/in/°F | ASTM E 831 | |
| Electrical properties | condition | value | unit | test method | comment |
| Dielectric strength | | 500 | V/mil | ASTM D 149 | |
| Dissipation factor | @ 1 MHz | 0.006 | | ASTM D 150 | |
| Surface resistivity | | 10 ¹³ | Ω/sq | ASTM D 257 | |
| Dielectric constant | @ 1 MHz | 3.8 | | ASTM D 150 | |
| Other properties | condition | value | unit | test method | comment |
| Moisture absorption | 24 hr immersion | 0.17 | % | ASTM D 570 | (1) Value obtained at steady state condition |
| Moisture absorption | saturation | 1.24 | % | ASTM D 570 | 1) |
| Flammability (UL94) | 3.2 mm | V-0 | | - | |

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Ensinger Inc. Headquarters
365 Meadowlands Boulevard
Washington, PA 15301, USA

Phone 800-243-3221 Sales
Phone 800-869-4029 Technical
Fax 724-746-9209
sales@ensingerusa.com

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