

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

Chemical Designation

PAI (Polyamide-imide)

Colour

black-green opaque

Density

1.62 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	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	5950	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength at break	5mm/min	116	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Elongation at break (tensile test)	5mm/min	3,6	%	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Flexural strength	2mm/min, 10 N	174	MPa	DIN EN ISO 178	(4) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (flexural test)	2mm/min, 10 N	5900	MPa	DIN EN ISO 178	(5) Specimen in 4mm thickness
Compression strength	1% / 2% / 5%	19/43/117	MPa	EN ISO 604	3)
Impact strength (Charpy)	max. 7,5J	40	kJ/m ²	DIN EN ISO 179-1	4)
Ball indentation hardness		246	MPa	ISO 2039-1	5)
Shore hardness	D scale	87		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		284	°C	DIN EN ISO 11357	
Thermal expansion (CLTE)	23-60°C, longitudinal	3,1	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, longitudinal	3,2	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, longitudinal	3,5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Electrical properties	parameter	value	unit	norm	comment
Dielectric strength		32	kV/mm	ISO 60243-1	1) (1) Specimen in 1mm thickness
Dissipation factor	@ 1 MHz	0,012		DIN 53 481	
Dissipation factor	@ 100 Hz	0,0054		DIN 53 481	
Dielectric constant	@ 1 MHz	3,57		DIN 53 481	
Dielectric constant	@ 100 Hz	3,80		DIN 53 481	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h (23°C)	0,12/0,28	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on compression moulded 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.