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

Chemical Designation
PAI (Polyamide-imide)

Colour
black-green opaque

Density
1.62 g/cm^3

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 (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) For Charpy test: support span 64mm, norm specimen. (5) Specimen in 4mm thickness
Tensile strength at break	5mm/min	116	MPa	DIN EN ISO 527-2		
Elongation at break (tensile test)	5mm/min	3,6	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	174	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	5900	MPa	DIN EN ISO 178		
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

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