

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

Chemical Designation

PAI (Polyamide-imide)

Colour

black green

Density

1.46 g/cm³

Fillers

graphite, PTFE

production process: compression moulding

Main features

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

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)		580,000	psi	ASTM D 638	
Tensile strength at break		9,300	psi	ASTM D 638	
Elongation at break (tensile test)		3.1	%	ASTM D 638	
Flexural strength		15,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)		580,000	psi	ASTM D 790	
Compression strength	10% strain	22,000	psi	ASTM D 695	
Compression strength	1% strain	4,500	psi	ASTM D 695	
Compression modulus		350,000	psi	ASTM D 695	
Impact strength (Izod)	notched	0.6	ft-lbs/in	ASTM D 256	
Shore hardness	D scale	88		ASTM D 2240	
Coefficient of friction	dynamic	0.18		ASTM D 1894	
Coefficient of friction	static	0.14		ASTM D 1894	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		529	°F	ASTM D3418	
Deflection temperature	@ 264 psi	500	°F	ASTM D 648	
Thermal expansion (CLTE)	-40 °F to 302 °F	1.94	*10 ⁻⁵ in/in/°F	ASTM E 831	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Limiting PV		9,300	psi-fpm	ASTM D 3702	1) (1) Calculated using a factor of safety of 4 with a testing speed 100 fpm.
Moisture absorption	saturation	1.6	%	ASTM D 570	
Moisture absorption	24 hr immersion	0.2	%	ASTM D 570	
Flammability (UL94)	3.3 mm	V-0		-	

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com.