

TECAPAI® CM XP730 black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PAI (Polyamide-imide)

Colour

black

Density

1.47 g/cm³

Fillers

carbon fibres

production process: compression moulding

Main features

very good thermal stability
excellent dimensional stability
excellent chemical resistance

Target Industries

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

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)		1,200,000	psi	ASTM D 638	
Tensile strength at break		24,000	psi	ASTM D 638	
Elongation at break (tensile test)		4.0	%	ASTM D 638	
Flexural strength		37,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)		1,300,000	psi	ASTM D 790	
Compression strength	10% strain	40,000	psi	ASTM D 695	
Compression strength	1% strain	6,500	psi	ASTM D 695	
Compression modulus		700,000	psi	ASTM D 695	
Impact strength (Izod)	notched	1.1	ft-lbs/in	ASTM D 256	
Shore hardness	D scale	94		ASTM D 2240	
Coefficient of friction	dynamic	0.13		ASTM D 1894	
Coefficient of friction	static	0.15		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	526	°F	ASTM D 648	
Thermal expansion (CLTE)	range -40 °F to 302 °F	1.62	*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		13,000	psi-fpm	ASTM D 3702	1) (1) Calculated using a factor of safety of 4 with a testing speed of 100 fpm
Moisture absorption	saturation	1.4	%	ASTM D 570	
Moisture absorption	24 hr immersion	0.2	%	ASTM D 570	
Flammability (UL94)	3.2 mm	V-0		-	

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