TECAPAI® CM XP440 black-green - Stock Shapes

Chemical Designation
PAI (Polyamide-imide)

Colour
black green

Density
1.46 g/cm^3

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

Mechanical properties	condition	value		test method	comment
Modulus of elasticity (tensile test)		580,000	psi	ASTM D 638	
Tensile strength at break		9,300	psi	ASTM D 638	
Elongation at break		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	1% strain	4,500	psi	ASTM D 695	
Compression strength	10% strain	22,000	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	static	0.14		ASTM D 1894	
Coefficient of friction	dynamic	0.18		ASTM D 1894	

Thermal properties	condition	value		test method	comment
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	

Other properties	condition	value		test method		comment
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		-		

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Date: 2019/04/29

Version: A1