

TECAPAI IM 4203 natural

Chemical Designation

PAI (Polyamide-imide)

Colour

yellow-brown

Density

1.42 g/cm³

Main features

high thermal resistance
 excellent wear properties
 excellent chemical resistance
 excellent impact strength
 high stiffness
 high strength

Target Industries

electronics
 electrical engineering
 aircraft and aerospace technology
 precision engineering
 mechanical engineering

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)		4480	MPa	ASTM D 638	1) (1) Resin data (2) Resin data
Tensile strength		152	MPa	ASTM D 638	2) (3) Resin data (4) Resin data
Elongation at break		7.6	%	ASTM D 638	3) (5) Resin data (6) Resin data
Flexural strength	@ 23°C	241	MPa	ASTM D 790	4) (7) Resin data (8) Resin data
Modulus of elasticity (flexural test)	@ 23°C	5030	MPa	ASTM D 790	
Compression strength		221	MPa	ASTM D 695	6)
Compression modulus		4000	MPa	ASTM D 695	7)
Notched impact strength (Izod)		140	J/m	ASTM D 256	8)
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		277			1) (1) DSC Resin data (2) Resin data
Deflection temperature	1.8 MPa, Unannealed	278	°C	ASTM D 638	2) (3) Resin data (4) Resin data
Thermal expansion (CLTE)	Flow	3.1 * 10 ⁻⁵	cm/cm/°C	ASTM E 831	
Thermal conductivity		0.26	W/(K*m)	ASTM C 177	4)
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Dielectric strength		23	kV/mm	ASTM D 257	1) (1) Resin data (2) Resin data
Dissipation factor	@ 1 MHz	0.031		ASTM D 150	2) (3) Resin data (4) Resin data
Dissipation factor	@ 60 Hz	0.026		ASTM D 150	3) (5) Resin data
Dielectric constant	@ 60 Hz	4.2		ASTM D 150	4)
Dielectric constant	@ 1 MHz	3.90		ASTM D 150	5)
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Moisture absorption	24 hr	0.33	%	ASTM D 570	1) (1) Resin data

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