

TECAMID® 612 natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 612 (Polyamide 612)

Colour

natural opaque

Density

1.06 g/cm³

Main features

- low moisture absorption
- good dimensional stability
- good wear resistance
- good mechanical properties

Target Industries

- heavy duty industry
- mechanical engineering
- conveyor technology
- power engineering

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	300,000	psi	ASTM D 638	(1) Public sourced data (2) Public sourced data
Tensile strength at yield	@ 73 °F	10,000	psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	40	%	ASTM D 638	
Flexural strength	@ 73 °F	14,000	%	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	350,000	psi	ASTM D 790	
Compression strength	@ 73 °F, 1% strain	2,400	psi	ASTM D 695	
Compression strength	@ 73 °F, 10% strain	11,500	psi	ASTM D 695	
Compression modulus	@ 73 °F	275,000	psi	-	
Impact strength (Izod)	@ 73 °F	0.9	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F, M scale (R scale)	70 (114)		ASTM D 785	
Coefficient of friction	Static	0.31		ASTM D 3702	1)
Wear (K) factor	Against Steel, 40 psi, 50 fpm	190*10 ⁻¹⁰	in ³ -min/ft-lbs-hr	ASTM D 3702	2)
Thermal properties	condition	value	unit	test method	comment
Melting temperature		422	°F	ASTM D 2133	(1) Public sourced data
Deflection temperature	@264 psi	142	°F	ASTM D 648	1) (2) Data obtained from public source
Service temperature	Long Term	185	°F	-	2) (3) public sourced data
Thermal expansion (CLTE)		5*10 ⁻⁵	in/in/°F	ASTM D 696	3) (4) public sourced data (5) public sourced data
Specific heat		0.45	BTU/lb-F°	-	4)
Thermal conductivity		1.53	BTU-in/hr-ft ² -°F	-	5)
Electrical properties	condition	value	unit	test method	comment
volume resistivity		10 ¹⁵	Ω*cm	ASTM D 257	1) (1) public source data
Dielectric strength		690	V/mil	ASTM D 149	2) (2) resin data
Dissipation factor	@ 60 Hz, 70 °F	0.02		ASTM D 150	3) (3) public sourced data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	4		ASTM D 150	4) (4) public source data
Dielectric constant	@ 1MHz	3.5		ASTM D 150	5) (5) public source data
Other properties	condition	value	unit	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.15	%	ASTM D 570	(1) 0.86 mm
Moisture absorption	@ saturation, 73 °F	3.0	%	ASTM D 570	
Flammability (UL94)		HB		-	1)

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