

TECAMID® 612 - Stock Shapes

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	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	@ 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, 10% strain	11,500 psi	ASTM D 695	
Compression strength	@ 73 °F, 1% strain	2,400 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 ⁻⁷ in ³ -min/ft-lbs-hr	ASTM D 3702	2)
Thermal properties	condition	value	test method	comment
Melting temperature		422 °F	ASTM D 2133	(1) Public sourced data
Deflection temperature	@ 264 psi	142 °F	ASTM D 648	(2) Data obtained from public source 1)
Service temperature	Long Term	185 °F	-	(3) public sourced data 2)
Thermal expansion (CLTE)		5*10 ⁻⁵ in/in/°F	ASTM D 696	(4) public sourced data 3)
Specific heat		0.45 BTU/lb-F°	-	(5) public sourced data 4)
Thermal conductivity		1.53 BTU-in/hr-ft ² -°F	-	5)
Electrical properties	condition	value	test method	comment
Volume resistivity		10 ¹⁵ Ω*cm	ASTM D 257	(1) public source data
Dissipation factor	@ 60 Hz, 70 °F	0.02	ASTM D 150	(2) public sourced data
Dielectric constant	@ 1MHz	3.5	ASTM D 150	(3) public source data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	4	ASTM D 150	(4) public source data
Other properties	condition	value	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)

→ Resin specification:
ASTM D6779-11 PA0513 and ASTM D4066-01a (Reapproved 2008) PA0613
Shapes specification:
ASTM D5989-11 S-PA0511

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