

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

### Chemical Designation

PA 612 (Polyamide 612)

### Colour

natural opaque

### Density

1.06 g/cm<sup>3</sup>

### 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 <sup>-7</sup> in <sup>3</sup> -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	1) (2) Data obtained from public source
Service temperature	Long Term	185 °F	-	2) (3) public sourced data
Thermal expansion (CLTE)		5*10 <sup>-5</sup> 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 <sup>2</sup> -°F	-	5)
Electrical properties	condition	value	test method	comment
Volume resistivity		10 <sup>15</sup> Ω*cm	ASTM D 257	1) (1) public source data
Dissipation factor	@ 60 Hz, 70 °F	0.02	ASTM D 150	2) (2) public sourced data
Dielectric constant	@ 1MHz	3.5	ASTM D 150	3) (3) public source data
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	4	ASTM D 150	4) (4) public source data
Other properties	condition	value	test method	comment
Moisture absorption	@ saturation, 73 °F	3.0 %	ASTM D 570	(1) 0.86 mm
Moisture absorption	@ 24 hrs, 73 °F	0.15 %	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

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at [www.ensingerplastics.com](http://www.ensingerplastics.com).