TECAMID® 66 natural - Stock Shapes (rods, plates, tubes)

Chemical Designation
PA 66 (Polyamide 66)

Colour
natural opaque

Density
1.14 g/cm^3

Main features
- very good slide and wear properties
- good machinability
- broad chemical compatibility
- resistent to cleaning agents

Target Industries
- agricultural machinery
- automotive industry
- business machines
- construction industry
- food engineering
- food processing
- conveyor technology
- heavy duty industry
- textile industry

Mechanical properties	condition	value	unit	test method		comment
Modulus of elasticity (tensile test)		350,000	psi	ASTM D 638		(1) Data obtained from public source (2) Data obtained from public source (3) Data obtained from public source (4) ASTM D732
Tensile strength at yield	@ 73 °F	12,000	psi	ASTM D 638		
Tensile strength at break	@ 73 °F	12,300	psi	ASTM D 638	1)	
Elongation at yield (tensile test)	@ 73 °F	7	%	ASTM D 638	2)	
Elongation at break (tensile test)	@ 73 °F	50	%	ASTM D 638		
Flexural strength	@ 73 °F	16,500	psi	ASTM D 790		
Modulus of elasticity (flexural test)	@ 73 °F	440,000	psi	ASTM D 790		
Compression strength	@ 73 °F, 1% strain	1,500	psi	ASTM D 695		
Compression modulus	@ 73 °F	392,000	psi	ASTM D 695	3)	
Impact strength (Izod)	@ 73 °F	1.0	ft-lbs/in	ASTM D 256		
Rockwell hardness	@ 73 °F M scale (R scale)	85 (108)		ASTM D 785		
Shore hardness	D scale	86		ASTM D 2240		
Coefficient of friction	Dynamic 40 psi, 50 fpm	0.26		ASTM D 3702		
Wear (K) factor	40 psi, 50 fpm	$200*10^{-10}$	in³-min/ft-lbs-hr	ASTM D 3702		
Shear strength	72 F	10,600		*** new ***	4)	

Thermal properties	condition	value	unit	test method		comment
Melting temperature		491	°F	ASTM D 2133	1)	(1) publicly sourced data (2) publicly sourced data (3) publicly sourced data (4) publicly sourced data (5) publicly sourced data (6) publicly sourced data
Deflection temperature	@264 psi	194	°F	ASTM D 648	2)	
Deflection temperature	@ 66 psi	450	°F	ASTM D 648	3)	
Service temperature	short term	300	°F	-	4)	
Service temperature	Long Term Short Term	185	°F	-	5)	
Thermal expansion (CLTE)		$4.5*10^{-5}$	in/in/°F	ASTM D 696	6)	
Specific heat		0.4	BTU/lb-F°	-		

Electrical properties	condition	value	unit	test method		comment
volume resistance		10^{15}	Ω*cm	ASTM D 257	1)	(1) publicly sourced data (2) publicly sourced data (3) publicly sourced data (4) publicly sourced data
Dissipation factor	@ 60 Hz, 70 °F	0.01		ASTM D 150	2)	
Dielectric constant	@ 60 Hz, 70 °F, 50% RH	4		ASTM D 150	3)	
Dielectric constant	@ 1 MHz	3.6		ASTM D 150	4)	

Other properties	condition	value	unit	test method		comment
Water absorption	@ 24 hrs, 73 °F	0.45	%	ASTM D 570		(1) publicly sourced data (2) 6.0 mm sample
Moisture absorption	@ saturation, 73 °F	8.5	%	ASTM D 570	1)	
Flammability (UL94)		V2		-	2)	

- Resin specification:
  ASTM D6779-23 PA0114 or ASTM D6779-12a PA0110 B54220 and ASTM D4066 PA0114 (Reapproved 2019)
  Shapes specification:
  ASTM D5989-18 S-PA0111 (only for Nylon shapes >0.062" thick)

Information about products and services sold by Ensinger, including without limitation information contained in this document do not constitute a warranty by Ensinger as to the quality and state or durability of products or services, or any guarantee of chemical resistance. Such information reflects the current state of our knowledge and is intended only to assist and advise the recipient. The recipient shall not be entitled to rely on Ensinger provided information and the recipient agrees to evaluate such information, to make an independent decision regarding the suitability of such information, products and services for its application, and only use such products, services and information pursuant to then current good product stewardship principles and all regulatory requirements applicable to the recipient's business. Values are 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. Data sheet values are subject to periodic review and the most recent update can be found at www.ensingerplastics.com

Ensinger Inc. Headquarters 365 Meadowlands Boulevard Washington, PA 15301, USA
Phone 800-243-3221 Sales Phone 800-869-4029
Technical Fax 724-746-9209
sales@ensingerusa.com
Date: 2023/11/17
Version: A4