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 D6779-11 PA0114 or ASTM D6779-11 PA0110B54420 and ASTM D4066-01a (Reapproved 2008) PA0110B54220 superseding ASTM D4066-98 PA0114
  Shapes specification:
  ASTM D5989-11 S-PA0111

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