

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

Chemical Designation

PA 66 (Polyamide 66)

Colour

natural opaque

Density

1.14 g/cm³

Main features

- very good slide and wear properties
- good machinability
- broad chemical compatibility
- resistant 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
Tensile strength at yield	@ 73 °F	12,000	psi	ASTM D 638	(2) Data obtained from public source
Tensile strength at break	@ 73 °F	12,300	psi	ASTM D 638	(3) Data obtained from public source
Elongation at yield (tensile test)	@ 73 °F	7	%	ASTM D 638	(4) ASTM D732
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	in ³ -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)
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)
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
Moisture absorption	@ saturation, 73 °F	8.5	%	ASTM D 570	(2) 6.0 mm sample
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

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