

TECAMID 6/3 TR natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6-3-T (Polyamide 6-3-T)

Colour

light yellow transparent

Density

1.12 g/cm³

Data generated directly after machining (standard climate Germany).

Main features

- high toughness
- good chemical resistance
- good machinability
- good heat deflection temperature
- sensitive to stress cracking
- high strength
- easy to polish

Target Industries

- electronics
- food technology
- mechanical engineering
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	93	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	93	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	49	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	117	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	2800	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
Compression strength	1% / 2% 5mm/min, 10 N	21 / 37	MPa	EN ISO 604	(3)
Compression modulus	5mm/min, 10 N	2400	MPa	EN ISO 604	(4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	(5)
Notched impact strength (Charpy)	max. 7,5J	7	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		150	MPa	ISO 2039-1	(6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		148	°C	DIN EN ISO 11357	(1) Found in public sources.
Melting temperature		n.a.	°C	DIN EN ISO 11357	(2) n.a. = not applicable
Service temperature	short term	120	°C		(3) Found in public sources.
Service temperature	long term	100	°C		Individual testing regarding application conditions is mandatory.
Thermal expansion (CLTE)	23-60°C, long.	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.36	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	-	
volume resistivity		10 ¹⁴	Ω*cm	-	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.3 / 0.6	%	DIN EN ISO 62	(1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)	-	-	(2) (+) limited resistance
Resistance to weathering		-	-	-	(3) - poor resistance
Flammability (UL94)	listed (value at 0.88mm)	V2	-	DIN IEC 60695-11-10;	(4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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