

TECAMID 6 - Stock Shapes

Chemical Designation

PA 6 (Polyamide 6)

Colour

natural opaque

Density

1.14 g/cm³

Data generated directly after machining (standard climate Germany).

Main features

- high toughness
- resistant to many oils, greases and fuels
- electrically insulating
- good wear properties
- good weldable and bondable
- good slide and wear properties
- high strength
- good machinability

Target Industries

- mechanical engineering
- conveyor technology
- packaging and paper machinery
- electrical engineering
- automotive industry
- textile industry

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	3300	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	78	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	130	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	100	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	24 / 41	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	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		155	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		45	°C	DIN 53765	1)
Melting temperature		221	°C	DIN 53765	
Service temperature	short term	160	°C		2)
Service temperature	long term	100	°C		
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.	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.37	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω*cm	DIN EN 61340-2-3	2)
Dielectric strength	23°C, 50% r.h.	31	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	600	V	DIN EN 60112	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.3 / 0.6	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)	-	-	2)
Resistance to weathering		-	-	-	3)
Flammability (UL94)	corresponding to	HB	-	DIN IEC 60695-11-10;	4)

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