

TECAMID 6 MO black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6 (Polyamide 6)

Colour

black opaque

Density

1.14 g/cm³

Fillers

molybdenum disulfide

Data generated directly after machining (standard climate Germany).

Main features

- good slide and wear properties
- high strength
- good wear properties
- high toughness
- resistant to many oils, greases and fuels
- improved surface hardness

Target Industries

- mechanical engineering
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	84	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3300	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	82	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	37	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	110	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	17/32/79	MPa	EN ISO 604	
Compression modulus	5mm/min, 10 N	2900	MPa	EN ISO 604	
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	
Notched impact strength (Charpy)	max. 7,5J	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	79		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		51	°C	DIN EN ISO 11357	(1) Found in public sources.
Melting temperature		220	°C	DIN EN ISO 11357	(2) Found in public sources.
Service temperature	short term	160	°C		Individual testing regarding application conditions is mandatory.
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	8	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
surface resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω	-	(1) Specimen in 20mm thickness
volume resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω*cm	-	(2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
Dielectric strength	23°C, 50% r.h.	30	kV/mm	ISO 60243-1	(3) Specimen in 1mm thickness
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) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)		-	(2) (+) limited resistance
Resistance to weathering		(+)		-	(3) Corresponding means no listing at UL (yellow card).
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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