

TECAMID 66 MO black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 66 (Polyamide 66)

Colour

black opaque

Density

1.15 g/cm³

Fillers

molybdenum disulfide

Main features

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

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- electronics
- automotive industry

Data generated directly after machining (standard climate Germany).

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	3200	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	83	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	10	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	40	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	114	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/38/86	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	5	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		168	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		52	°C	DIN EN ISO 11357	1)
Melting temperature		253	°C	DIN EN ISO 11357	(1) Found in public sources.
Service temperature	short term	170	°C		(2) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	long term	100	°C		2)
Thermal expansion (CLTE)	23-60°C, long.	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.5	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	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093	1)
volume resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093	(1) Specimen in 20mm thickness
Dielectric strength	23°C, 50% r.h.	35	kV/mm	ISO 60243-1	(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.
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	600	V	DIN EN 60112	(3) Specimen in 1mm thickness
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.4	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		-	(2) (+) limited resistance
Resistance to weathering		(+)			(3) 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.
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

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