

TECAMID 6 GF30 black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 6 (Polyamide 6)

Colour

black opaque

Density

1.36 g/cm³

Fillers

glass fibres

Data generated directly after machining
(standard climate Germany).

Main features

- very high strength
- resistant to many oils, greases and fuels
- good wear properties
- good weldable and bondable
- high dimensional stability
- good heat deflection temperature
- good machinability

Target Industries

- mechanical engineering
- electronics
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	98	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	5700	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	98	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	4	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	140	MPa	DIN EN ISO 178	(2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	5200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	21/42/107	MPa	EN ISO 604	(3)
Compression modulus	5mm/min, 10 N	4200	MPa	EN ISO 604	(4)
Impact strength (Charpy)	max. 7.5J	60	kJ/m ²	DIN EN ISO 179-1eU	(5)
Shore hardness	D	84		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		49	°C	DIN EN ISO 11357	(1)
Melting temperature		218	°C	DIN EN ISO 11357	(2)
Service temperature	short term	180	°C		(2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.41	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)
volume resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω*cm	-	(2)
Dielectric strength	23°C, 50% r.h.	32	kV/mm	ISO 60243-1	(3)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	550 / 475	V	DIN EN 60112	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.3	%	DIN EN ISO 62	(1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)		-	(2)
Resistance to weathering		(+)		-	(3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	(3)

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