

# TECAMID 6 GF30 black - Stock Shapes

## Chemical Designation

PA 6 (Polyamide 6)

## Colour

black opaque

## Density

1.36 g/cm<sup>3</sup>

## Fillers

glass fibres

## 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

Data generated directly after machining (standard climate Germany).

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	5700	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	98	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	98	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	5	%	DIN EN ISO 527-2	
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 <sup>2</sup>	DIN EN ISO 179-1eU	5)
Ball indentation hardness		232	MPa	ISO 2039-1	6)
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	
Service temperature	short term	180	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	6	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	10 <sup>-5</sup> K <sup>-1</sup>	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
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10 <sup>14</sup>	Ω	DIN IEC 60093	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h.	10 <sup>14</sup>	Ω*cm	DIN IEC 60093	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)
Resistance to hot water/ bases		(+)		-	2)
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

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