

TECAMID 66 CF20 black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 66 (Polyamide 66)

Colour

black opaque

Density

1.23 g/cm³

Fillers

carbon fibres

Main features

- very high stiffness
- no defined conductivity
- good wear properties
- good heat deflection temperature
- high dimensional stability
- resistant to many oils, greases and fuels
- good weldable and bondable

Target Industries

- mechanical engineering
- automotive industry

Data generated directly after machining
(standard climate Germany).

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	104	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	5100	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	104	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	12	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	13	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	135	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	16/33/89	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7.5J	116	kJ/m ²	DIN EN ISO 179-1eU	5)
Shore hardness	D	83		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		48	°C	DIN EN ISO 11357	1)
Melting temperature		251	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	9	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		1.4	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.72	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ⁴ -10 ¹²	Ω	DIN EN 61340-2-3	
volume resistivity		10 ³ -10 ¹²	Ω*cm	DIN EN 61340-2-3	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.1 / 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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