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

Chemical Designation
PA 66 (Polyamide 66)

Colour
black opaque

Density
1.23 g/cm^3

Fillers
carbon fibres

Data generated directly after machining (standard climate Germany).

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

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 (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (tensile test)	1mm/min	5100	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	104	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	12	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	13	%	DIN EN ISO 527-2		
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)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
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)	(1) Ø ca. 50mm, h=13mm (2) (+) limited resistance (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.
Resistance to hot water/ bases		(+)		-	2)	
Resistance to weathering		(+)				
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)	

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