

TECAST TM - Stock Shapes

Chemical Designation

PA 6 C (Cast polyamide 6)

Colour

black opaque

Density

1.15 g/cm³

Fillers

molybdenum disulfide

Main features

- good wear properties
- not electrically insulating
- resistant to many oils, greases and fuels
- high toughness
- good damping
- good slide and wear properties
- sensitive to stress cracking
- high strength

Target Industries

- conveyor technology
- mechanical engineering
- textile industry
- automotive industry
- clutch and engine manufacturing
- heavy duty industry

Data generated directly after machining (standard climate Germany).

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	82	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	80	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	55	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	102	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	22 / 38	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2800	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	4	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		170	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		43	°C	DIN 53765	1)
Melting temperature		217	°C	DIN 53765	
Service temperature	short term	170	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.33	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.5	%	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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