TECAST T MO black - Stock Shapes

Chemical Designation
PA 6 C (Cast polyamide 6)

Colour
black opaque

Density
1.15 g/cm^3

Fillers
molybdenum disulfide

Data generated directly after machining (standard climate Germany).

Main features
- good wear properties
- 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

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1)	(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. n.b. = not broken (6) Specimen in 4mm thickness
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)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
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		(1) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093	1)	

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.2 / 0.5	%	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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Date: 2011/11/29

Version: AA