

TECAST L black - Stock Shapes

Chemical Designation

PA 6 C (Cast polyamide 6)

Colour

black opaque

Density

1.14 g/cm³

Fillers

lubricant

Data generated directly after machining
(standard climate Germany).

Main features

- good slide and wear properties
- high toughness
- good wear properties
- resistant to many oils, greases and fuels
- high strength

Target Industries

- conveyor technology
- mechanical engineering
- packaging and paper machinery
- automotive industry
- clutch and engine manufacturing
- heavy duty industry

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	3100	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	70	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	68	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	50	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10N	95	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10N	2900	MPa	DIN EN ISO 178	n.b. = not broken
Compression strength	1% / 2% 5mm/min, 10N	21 / 37	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	ISO 2039/2	5)
Notched impact strength (Charpy)	max. 7,5J	5	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		150	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		42	°C	DIN 53765	1)
Melting temperature		216	°C	DIN 53765	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	170	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	10 ⁻⁵ *K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	13	10 ⁻⁵ *K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.7	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.37	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Surface resistance		> 10 ¹²	Ω	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.4	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)			(1) Ø ca. 50mm, h=13mm (2) 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 weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	2)

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