

## TECAST® T black - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PA 6 (Polyamide 6)

### Colour

black

### Density

1.15 g/cm<sup>3</sup>

### Main features

- good wear properties
- good mechanical properties
- high fatigue strength
- good damping
- high mechanical load capacity
- resistant to many oils, greases and fuels

### Target Industries

- construction industry
- gear manufacturing
- oil and gas industry
- conveyor technology
- agricultural machinery
- heavy duty industry
- mining industry

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	12,000	psi	ASTM D 638	(2) Data obtained from public source
Elongation at break (tensile test)	@ 73 °F	30	%	ASTM D 638	
Flexural strength	@ 73 °F	12,000	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	350,000	psi	ASTM D 790	
Compression strength	@ 1% strain	3,300	psi	ASTM D 695	
Compression strength	@ 10% strain	14,000	psi	ASTM D 695	
Compression modulus		350,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.20	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F R Scale	120		ASTM D 785	
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.26		ASTM D 3702	1)
Wear (K) factor	Against Steel, 40 psi, 50 fpm	200*10 <sup>-10</sup>	in <sup>3</sup> -min/ft-lbs-hr	ASTM D 3702	2)
Thermal properties	condition	value	unit	test method	comment
Melting temperature		428	°F	ASTM D 2133	(1) Data obtained from public source
Deflection temperature	@ 66 psi	370	°F	ASTM D 648	1)
Deflection temperature	@ 264 psi	200	°F	ASTM D 648	2)
Service temperature	Intermittent	300	°F	-	
Service temperature	Long Term	200	°F	-	
Thermal expansion (CLTE)		4.0*10 <sup>-5</sup>	in/in/°F	ASTM D 696	
Specific heat		0.40	BTU/lb-F°	-	
Thermal conductivity		1.67	BTU-in/hr-ft <sup>2</sup> -°F	-	
Electrical properties	condition	value	unit	test method	comment
surface resistivity		10 <sup>14</sup>	Ω/square	ASTM D 257	
Dielectric strength		500	V/mil	ASTM D 149	
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	3.7		ASTM D 150	
Other properties	condition	value	unit	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	1.2	%	ASTM D 570	(1) estimated
Flammability (UL94)		HB		-	1)

→ Resin specification:

Shapes specification:  
ASTM D5989-11 S-PA0211

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Date: 2018/12/07

Version: A1