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

Chemical Designation
PA 6 (Polyamide 6)

Colour
natural white

Density
1.14 g/cm^3

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
- food engineering
- food processing
- mining industry

Mechanical properties	condition	value	unit	test method		comment
Modulus of elasticity (tensile test)	@ 73 °F	400,000	psi	ASTM D 638		(1) Data obtained from public source (2) Data obtained from public source (3) Data obtained from public source
Tensile strength at yield	@ 73 °F	12,000	psi	ASTM D 638		
Elongation at yield (tensile test)	@ 73 °F	4	%	ASTM D 638	1)	
Elongation at break (tensile test)	@ 73 °F	30	%	ASTM D 638		
Flexural strength	@ 73 °F	12,500	psi	ASTM D 790		
Modulus of elasticity (flexural test)	@ 73 °F	350,000	psi	ASTM D 790		
Compression strength	@ 10% strain	14,400	psi	ASTM D 695		
Compression strength	@ 1% strain	3,400	psi	ASTM D 695		
Compression modulus	@ 73 °F	360,000	psi	ASTM D 695		
Impact strength (Izod)	@ 73 °F	1.4	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	2)	
Wear (K) factor	Against Steel, 40 psi, 50 fpm	200*10^{-10}	in³-min/ft-lbs-hr	ASTM D 3702	3)	

Thermal properties	condition	value	unit	test method		comment
Melting temperature		428	°F	ASTM D 2133		(1) Data obtained from public source (2) Data obtained from public source (3) 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^{-5} in/in/°F	ASTM D 696	3)	
Specific heat		0.40	BTU/lb-F°	-		
Thermal conductivity		1.67	BTU-in/hr-ft^2-°F	-		

Electrical properties	condition	value	unit	test method		comment
surface resistivity		1.0*10^{14}	Ω/square	ASTM D 257	1)	(1) Data obtained from public source (2) Data obtained from public source
volume resistivity		10^{14}	Ω*cm	ASTM D 257	2)	
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) Data obtained from public source (2) estimated
Moisture absorption	@ saturation, 73°F	5.5	%	ASTM D 570	1)	
Flammability (UL94)		HB		-	2)	

- Resin specification:
  none
  Shapes specification:
  ASTM D5989-18 S-PA0211

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