Turcite® B

THE GOLD STANDARD IN HIGH EFFICIENCY MACHINING

Turcite® B from Trelleborg Sealing Solutions is a polytetrafluoroethylene (PTFE) based bearing material with low friction for use in machine tool linear bearings.

Developed to meet the needs of machine tool manufacturers and their customers, Turcite® B is engineered to improve machine tool efficiency. Head-to-head material testing has shown that this bearing material outperforms other materials used in machine tool applications by significantly lowering friction.

The low friction technology of Turcite® B offers reduced stick-slip in machine transitions while maintaining positioning accuracy and vibration damping. This material is also resistant to virtually all media including cutting fluids and slide way oils. This, along with minimal abrasion, preventing damage to counter surfaces, and high wear resistance, extend product life.

Features and Benefits of Turcite® B

- Low friction without stick–slip for positional accuracy at different velocities, especially low speeds
- Low coefficient of friction in intermittent lack of lubrications
- Chemical resistant to a broad range of lubricants.
- Reduces machine tool vibration through damping characteristics
- Minimal abrasion of hardware, preventing damage to counter surfaces
- High wear resistance
- Thicknesses to meet design requirements
- Extended product life

Turcite® B Typical Properties

MECHANICAL PROPERTIES	TEST METHOD	VALUES
Specific Gravity	ASTM D792	2.0 – 2.4
Tensile Strength	ASTM D4745	13.8 MPa (2002 psi)
Tensile Elongation at Break	ASTM D4745	100%
Hardness	ASTM D2240	50–60 Type D
Peel Strength (Bonded to metal substrate using Waylock® II)	Trelleborg Internal	178 N/mm (40 lbf/in)
Compressive Strength	ASTM D695	
0.2% Offset		7.6 MPa (1102 psi)
1% Strain		6.1 MPa (885 psi)
5% Strain		13.2 MPa (1915 psi)
Young's Modulus		722 MPa (105 ksi)
Deformation Under Load	Trelleborg Internal	
2 kg/cm^2 @ 0.203 mm/min		0.016 mm
4 kg/cm^2 @ 0.203 mm/min		0.030 mm
6 kg/cm^2 @ 0.203 mm/min		0.043 mm
28 lb/in^2 @ 0.008 in/min		0.0006 in
57 lb/in^2 @ 0.008 in/min		0.0012 in
85 lb/in^2 @ 0.008 in/min		0.0017 in
THERMAL PROPERTIES		
Coefficient of Linear Thermal Expansion	ASTM E831	
25°C to 100°C		103.5 µm/m°C
100°C to 150°C		135.7 µm/m°C
77°F to 212°F		57.5 µin/in°F
212°F to 302°F		75.4 µin/in°F
Thermal Conductivity	TCi Thermal Analyzer	
23°C / 73.4° F		0.36 W/m-K
TRIBOLOGICAL PROPERTIES		
Wear Factor, K: Lubricated, Tonna V68 Way Oil	Trelleborg Internal	3.57 E-08 mm^3/Nm (2.47 E-13 in^3/lb-in)
Friction Coefficient: Lubricated, Tonna V68 Way Oil	Trelleborg Internal	0.034
COLOR DESCRIPTION		
		Turquoise Bronze

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