

Fact vs. Friction

THE TRUTH ABOUT LINEAR BEARINGS

The Latest Self-Lubricating Liner Material: igus® E7

The E7 material. E7 was engineered for optimized service life and low friction on case-hardened steel, hardened stainless steel, or 303/304/316.

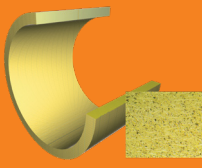
E7 plastic linear plain bearing



Injection-molded tribo-polymer bearing liner clipped into an aluminum adapter (shell)



microscopic view of igus® plastic bearing material

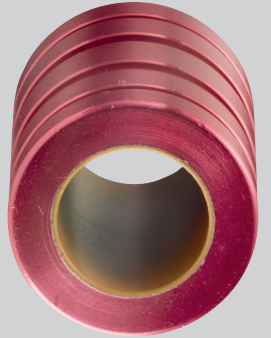


cross section of an igus® plastic bearing

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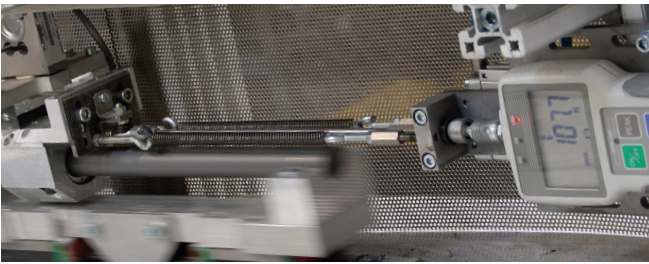
PTFE impregnated bearing

Polytetrafluoroethylene (PTFE) bearing comprised of a gold-colored bearing liner. Incorporates PTFE as its primary tribological feature, which is permanently bonded into an aluminum housing



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Lower wear and friction rates with E7

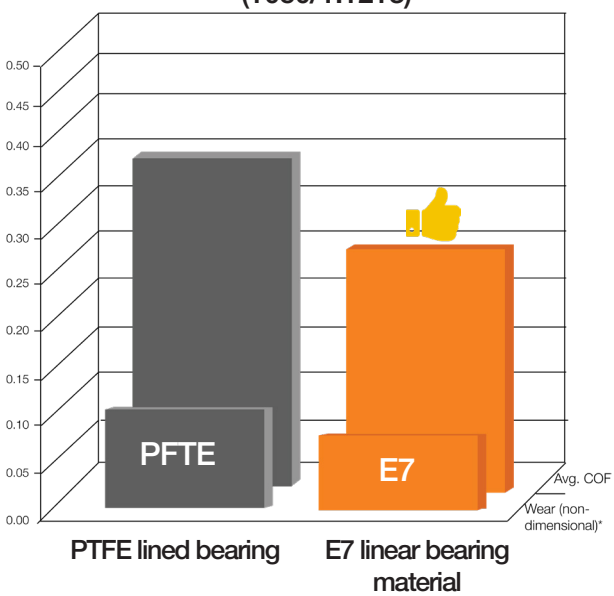


Testing at the igus® in-house laboratory

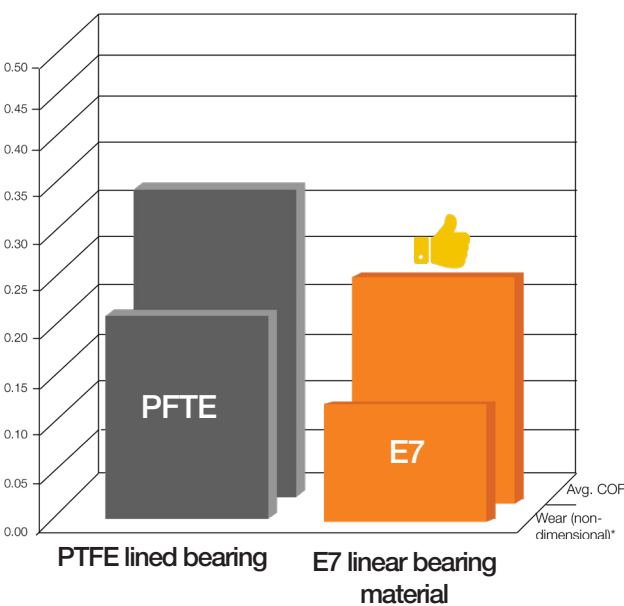
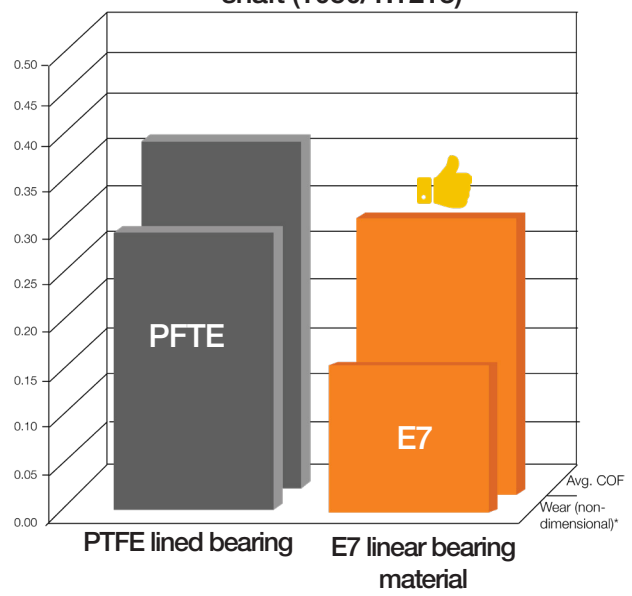
Test parameters

Materials Tested	1. Case Hardened Steel (1050/1.1213) 2. 316 Stainless Steel (316/1.4571) 3. Hardened Stainless Steel (440c/1.4245)
Shaft Size	Diameter = 20mm
Centric Load	400N (90 lbf)
Linear Speed	0.1 m/s (0.32 ft./s)

Linear bearing on case-hardened steel shaft (1050/1.1213)



Linear bearing on hardened stainless-steel shaft (1050/1.1213)



Case Hardened Shafting
E7 = 23% lower wear/29% lower friction

440C Stainless Shafting
E7 = 51% lower wear/18% lower friction

316 Stainless Shafting
E7 = 33% lower wear/24% lower friction

Test results prove that E7 has lower wear, lower friction and higher service life than PTFE-lined bearings.