

Coefficient of Friction - 3-Body Static

EternAloy® TCHP Grade: NL-3-2

Sample ID	Material	Temperature, °F (°C)	COF
Sample N1	NL-3-2	700 (370°C)	0.47
Sample N2	NL-3-2	700 (370°C)	0.40
Sample W1	WC-12Co	700 (370°C)	0.44
Sample W2	WC-12Co	700 (370°C)	0.40
Sample N3	NL-3-2	900 (482°C)	0.55
Sample W3	WC-12Co	900 (482°C)	0.59

- All substrates are Inconel 718 heat treated to AMS 5663M.
- All samples were HVOF sprayed and surface ground.
- The Crosshead Rate is 0.05 in/min (1.27mm/min), and the Clamp Force is 3,000 lbs (1360 kg).

The COF of TCHP NL-3-2 is comparable to a standard WC-12Co at two elevated temperatures of 700°F (370°C) and 900°F (482°C).

EternAloy® TCHP HVOF grades are manufactured by an exclusive patented process. Grade TL-3 contains Ti(C,N) core particles and grade NL-3-2 contains Al₂O₃ core particles. In both grades, the core particles are encapsulated with layers of WC and Co to create individual composite powder particles for producing wear resistant HVOF surface coatings.