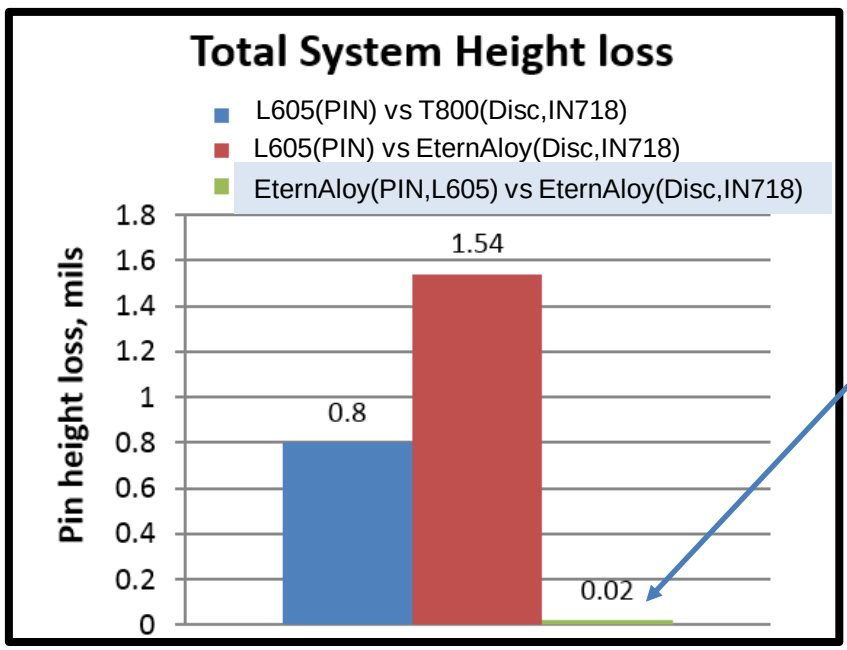
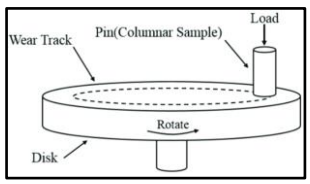
EternAloy® TCHP HVOF Sliding Wear Data

Pin-on-Disk Sliding Wear Tests
Elevated Temperature of 550°F (288°C)

EternAloy® TCHP Grade: TL-3





Self-mated EternAloy performed ***40x*** better than L605 vs T800 System

Measured wear on pin after pin-on-disk testing with thermal cycling tests at ~7Ksi and sliding velocity of 2 in/s (50 mm/s) for 19.7K inches (500m) at 150°F(66°C) followed by 19.7K inches (500m) at 550°F(288°C)

EternAloy TCHP TL-3 *surface coatings significantly outperform industry standard aerospace coatings in sliding wear applications at elevated temperatures.*

Data obtained in collaboration with GE Aviation

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 Al_2O_3 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.

www.eternaloy.us

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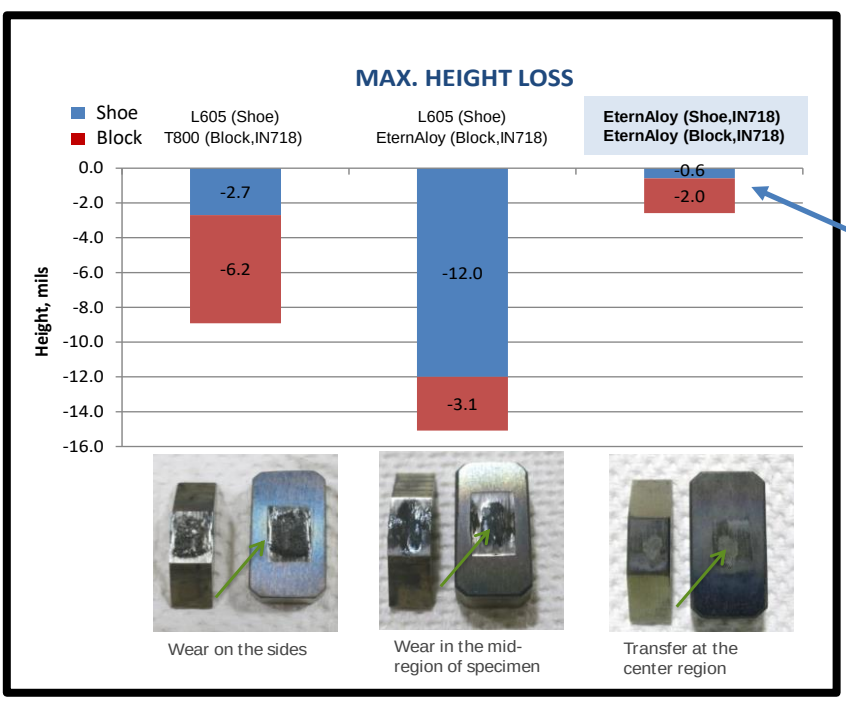
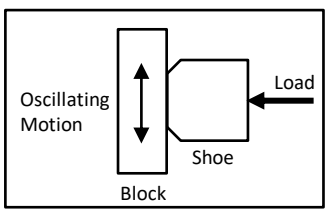
EternAloy® TCHP HVOF Sliding Wear Data

Block-on-Shoe Reciprocating Wear Tests
Elevated Temperature of 600°F (315°C)
[Representing Sliding wear with Stroke of 40 mils (1mm)]

EternAloy® TCHP Grade: TL-3





Self-mated EternAloy performed ***3.5x*** better than L605 vs T800 System

Measured wear on block and shoe at elevated temperature of 600°F (315°C), pressure of 2.5Ksi, displacement of 40 mils (1mm) peak-to-peak, and frequency of 35 Hz for 1,000,000 cycles

EternAloy TCHP TL-3 *surface coatings significantly outperform industry standard aerospace coatings in sliding wear applications at elevated temperatures.*

Data obtained in collaboration with GE Aviation

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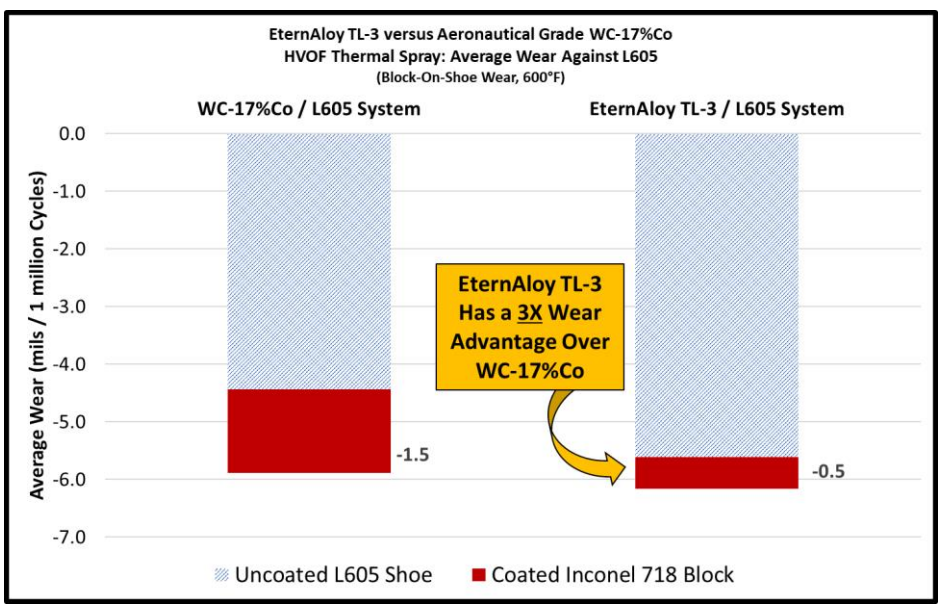
EternAloy® TCHP HVOF Sliding Wear Data

Block-on-Shoe Reciprocating Wear Tests
Elevated Temperature of 600˚F (315˚C)
[Representing Sliding Wear with Stroke of 50 mils (1.3mm)]

EternAloy® TCHP Grade: TL-3



Measured wear after reciprocating tests at 700psi stress, 50 mils (1.3mm) stroke, and frequency oscillation between 25 Hz/50,000 cycles and 1 Hz/20 cycles for 1,000,000 cycles at 600°F (315˚C)

3X Performance Advantage of EternAloy TL-3

EternAloy TCHP TL-3 *surface coatings outperform a typical tungsten carbide aerospace coating at elevated temperatures up to 600˚F (315˚C) in sliding wear applications and can be considered for coating high value parts where the mating surface is sacrificial. Increased benefits may be achieved at lower temperatures.*

Data obtained in collaboration with GE Aviation

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