

Extreme Surface Wear Requires Extreme Solutions

When a critical, sliding wear-resistant coating is a small portion of total system cost, but has a very large impact on total system performance, durability or safety.....

EternAloy® HNT Delivers Proven Superior Performance

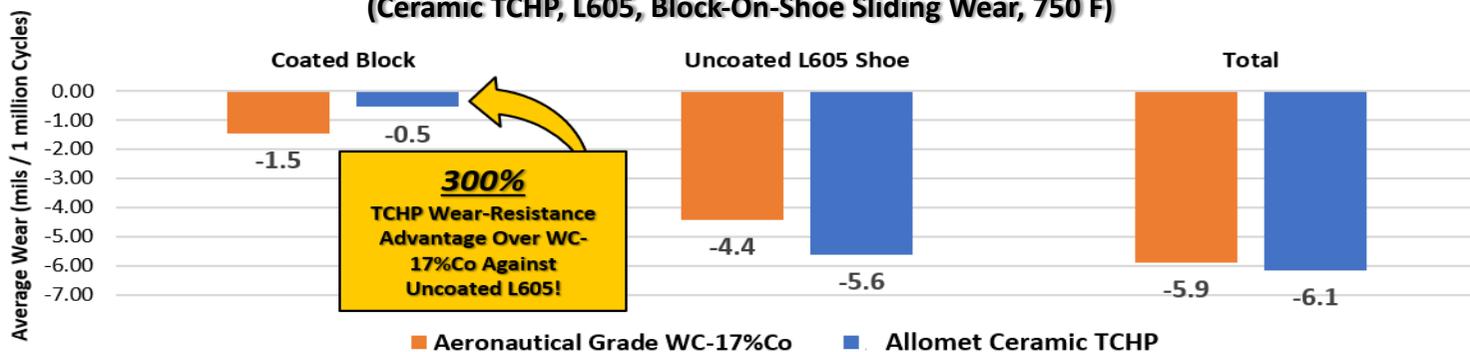
Advantages of HNT when compared to conventional materials include much greater wear-resistance, thinner coatings required to meet wear specifications, increased maximum deposition thickness, allowance for multi-layer overlap without cracking, low porosity, elevated temperature durability and customizable design flexibility for any application. HVOF, HVOF, HVOF, and Laser Metal

Deposition (LMD) methods can be used, along with alloy blends.

– Current mesh ranges include 20-53µm (HVOF, HVOF) and 53-106µm (Laser) –

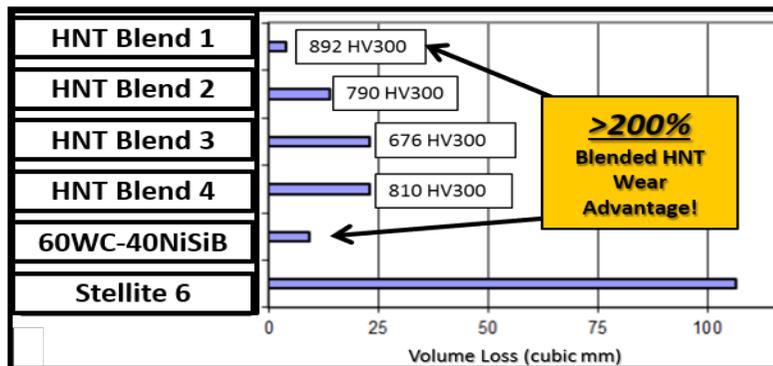
Aerospace Component – HNT Coating Performance Testing

HVOF Thermal Spray: Average Wear Against L605
(Ceramic TCHP, L605, Block-On-Shoe Sliding Wear, 750 F)



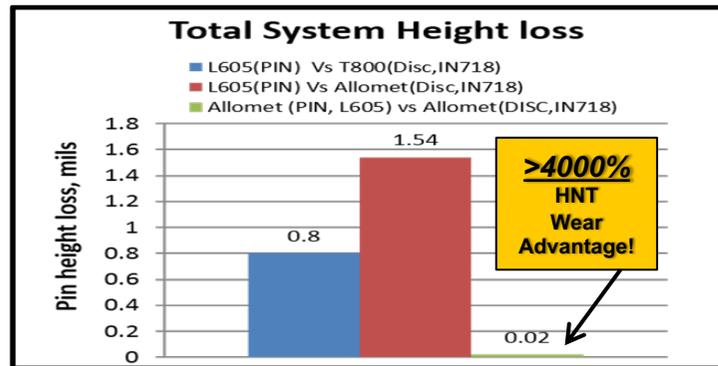
Laser Metal Deposition: ASTM G65 Abrasion Test

Abrasive Material Removal, Various Metal Matrix Blends With Ceramic HNT

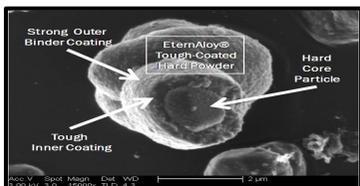


HVOF Thermal Spray: Pin-On-Disk Sliding Wear Test

Thermal cycling tests at ~7 Ksi, for 19.7K inches at 150 °F followed by 19.7K inches at 550 °F, Ceramic TCHP



EternAloy® Hard 'N Tough.....Taking Wear Resistance to the Extreme.™

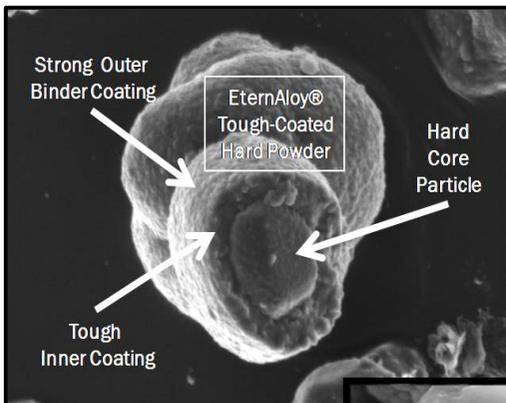
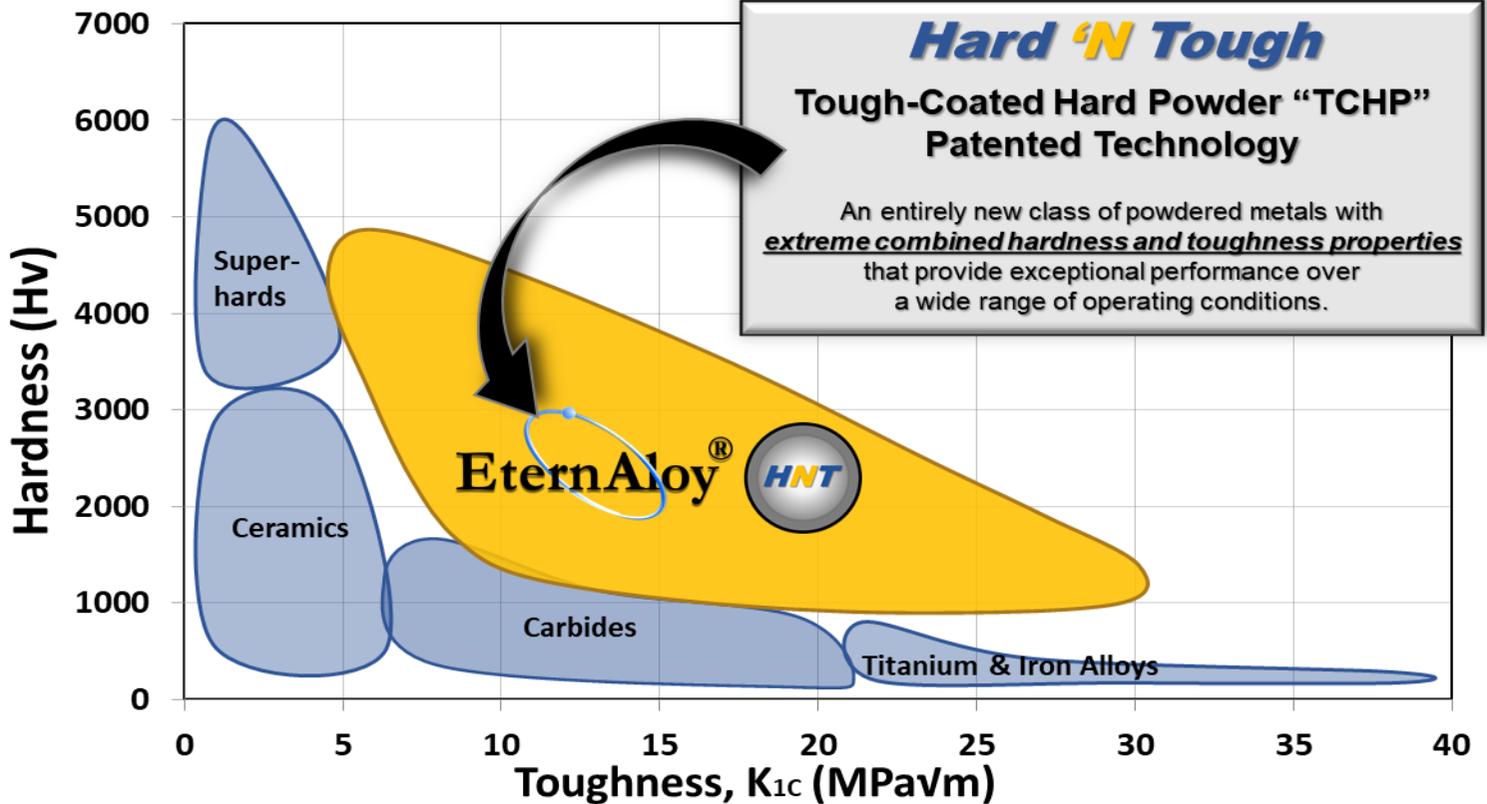


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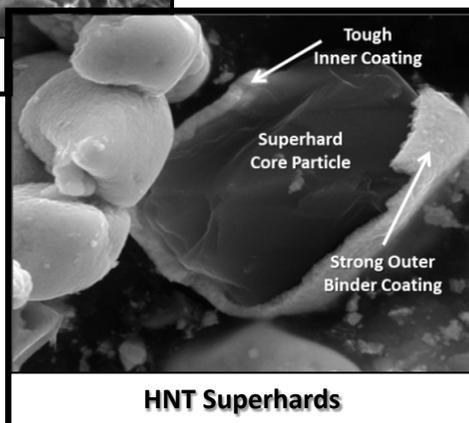


EternAloy[®] HNT.....An Extreme New Level of Wear-Resistance™



HNT Ceramics

(Note: EternAloy[®] HNT particles intentionally fractured to reveal structure of uniform protective shell)



HNT Superhard

- Allomet is the world's only designer and producer of nano-engineered EternAloy[®] HNT metallized powders, utilizing globally-patented Tough-Coated Hard Powder (TCHP) technology.
- HNT products consist of extremely hard core particles encapsulated in a very tough and uniform protective shell (and optional outer binder layer).
- HNT products can be pressed & sintered into solid shapes or applied as a surface coating to deliver exceptional wear-resistance and thermal management performance beyond other superhard, ceramics, or carbides.

- HNT grades can be provided as highly-flowable ready-to-press powders.
- HNT shrinkage during pressing and sintering is very similar to conventional carbide grades.
- HNT products have excellent adhesion with common PVD and CVD tool surface coatings.
- Custom-designed HNT development services are available from Allomet for unique applications.