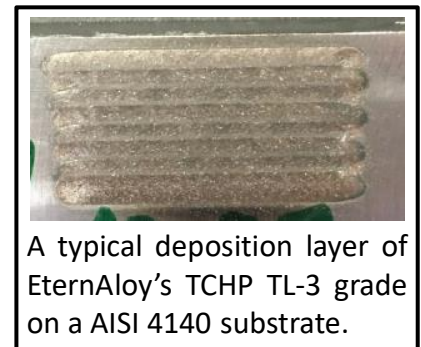
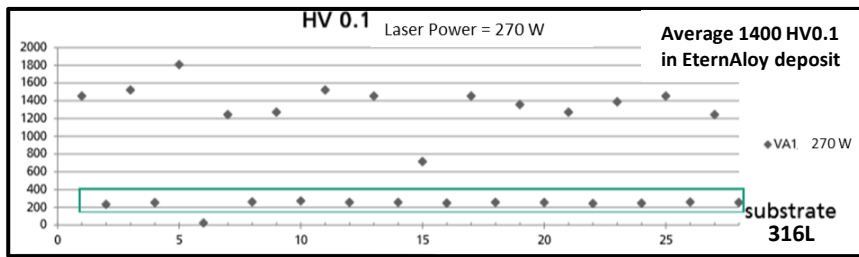


Development of EternAloy® TCHP for LMD (Laser Metal Deposition)

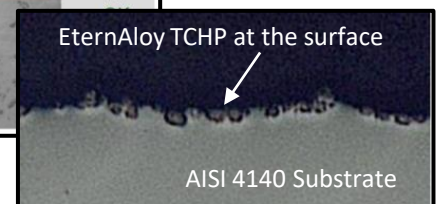
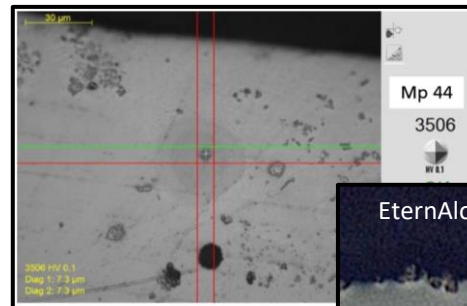
EternAloy Corporation has partnered with experts in the field of laser metal deposition for developing novel wear resistant protective surfaces utilizing EternAloy TCHP materials.

Preliminary Results

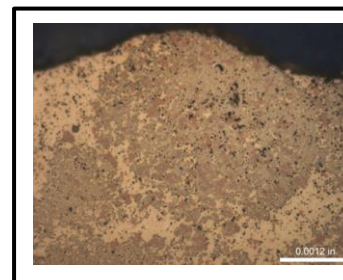
- Surface experiments using relatively low laser power (270 W) and a continuous co-axial powder feeding nozzle have yielded a deposit with microhardness measurements consistent at **~1400 HV0.1** across the cross-sectioned surface and relatively low dilution (20% compared to 80% in prior trials).



- Surface experiments using relatively low laser power (510 W) and a coaxial powder feed through three outlets have yielded extremely hard phases, **indicating that maintaining the TCHP particle integrity is possible**. Microhardness measurements range between **2600 and 3500 HV0.1**.



- EternAloy TCHP / metal matrix blends for LMD are possible and may provide unique properties.



Cross-section of a TCHP TL-3/metal matrix blend. TCHP particles and agglomerates survive the LMD process and remain intact.