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## Microstructure and mechanical characterisation of TiAl coated on Ti64

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### ABSTRACT:

In this study, TiAl alloy was coated on Ti64 using a 1074nm high power continuous-wave laser while varying the laser beam scanning speed. This was done in order to increase the thermo-mechanical properties of Ti64. Scanning electron microscopy (SEM), light optical microscopy, and Vickers' micro-hardness were used to characterise the clad for macrostructure, composition, and hardness respectively. The macro- and micrographs of the clads indicated a needle- and dendritic-rich structure for the clads and widmanstatten structure at the interface for all the scanning speeds. The overall hardness was found to be high at low scanning speed