

Tribological Characterization of ZrN Coatings on Titanium Modified Austenitic Stainless Steel

Authors : Mohammad Farooq Wani

Abstract : Tribological characterization of ZrN coatings deposited on titanium modified austenitic stainless steel (alloy D-9) substrates has been investigated. The coatings were deposited in the deposition temperature range 300–873 K, using the pulsed magnetron sputtering technique. Scratch adhesion tests were carried out using Rc indenter under various conditions of load. Detailed tribological studies were conducted to understand the friction and wear behaviour of these coatings. For all tribological studies steel and ceramic balls were used as counter face material. 3D-Surface profiles of all wear tracks was carried out using 3D universal profiler.

Keywords : ZrN, Surface coating, thin film, tribology, friction and wear

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