

# Accepted Manuscript

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PII: S0301-679X(17)30538-8

DOI: [10.1016/j.triboint.2017.11.023](https://doi.org/10.1016/j.triboint.2017.11.023)

Reference: JTRI 4963

To appear in: *Tribology International*

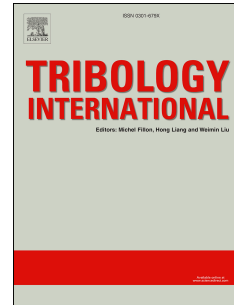
Received Date: 27 May 2017

Revised Date: 8 November 2017

Accepted Date: 13 November 2017

Please cite this article as: Vats V, Baskaran T, Arya SB, Tribo-corrosion study of nickel-free, high nitrogen and high manganese austenitic stainless steel, *Tribology International* (2017), doi: 10.1016/j.triboint.2017.11.023.

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**Tribo-corrosion study of nickel-free, high nitrogen and high manganese austenitic stainless steel**

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**Abstract**

The electrochemical corrosion and tribo-corrosion behaviors of nickel-free high nitrogen (HN SS) and high manganese containing austenitic stainless steel were studied in simulated body fluids such as Ringer's and artificial saliva solutions (ASS) using tribo-meter attached with the potentiostat. Type 316L SS used as reference alloy for comparison. Open circuit potential (OCP) and potentiodynamic polarization techniques were used to examine the passivation and corrosion behavior of both the stainless steels under the applied loads of 5 and 10 N at room temperature and also compared with the static condition of corrosion. Pitting resistance of HN SS was found to be significantly higher over type 316L SS.

*Keywords:* High nitrogen stainless steel, Biomaterials, Passivity, Tribo-corrosion, Pitting resistance

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