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PERFORMANCE OF A GASKETED BOLTED FLANGED PIPE JOINT UNDER BOLTUP, INTERNAL PRESSURE AND DYNAMIC (HARMONIC AND TRANSIENT) AXIAL LOADS



Author(s): **Muhammad Abid, Atta ur Rehman Shah**

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Abstract:

Studies regarding performance (strength and sealing) of the gasketed bolted pipe flanged joints under static loading are available in literature. However most operating conditions in the piping systems used in the industry are dynamic in nature such as harmonic (cyclic) loads with different harmonic frequencies and transient loads which are suddenly applied for a short period of time. In this study, performance of a gasketed flanged pipe joint using spiral wound gasket is analyzed under boltup, internal pressure and dynamic (harmonic and transient axial) loads. It is concluded that the harmonic axial loads are more challenging compared to the transient axial loading for the gasketed joint's strength and sealing.

For full paper, contact:

Prof Muhammad Masood Rafi

Editor, NED University Journal of Research

Ph: +92 (21) 99261261-8 Ext: 2413; Fax: +92 (21) 99261255

Email: NED-Journal@neduet.edu.pk

Website: <http://www.neduet.edu.pk/NED-Journal>