World Academy of Science, Engineering and Technology
International Journal of Civil and Architectural Engineering
Vol:16, No:10, 2022

Slip Limit Prediction of High-Strength Bolt Joints Based on Local Approach

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Abstract : In this study, the aim is to infer the slip limit (static friction limit) of contact interfaces in bolt friction joints by analyzing other bolt friction joints with the same contact surface but in a different shape. By using the Weibull distribution to deal with microelements on the contact surface statistically, the slip limit of a certain type of bolt joint was predicted from other types of bolt joint with the same contact surface. As a result, this research succeeded in predicting the slip limit of bolt joins with different numbers of contact surfaces and with different numbers of bolt rows.

Keywords : bolt joints, slip coefficient, finite element method, Weibull distribution
Conference Title : ICSBSSA 2022 : International Conference on Steel Bridge Structures and Structural Analysis
Conference Location : Paris, France
Conference Dates : October 27-28, 2022