عنوان مقاله:

Assessment of different methods for fatigue life prediction of steel in rotating bending and axial loading

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خلاصه مقاله:

Generally, fatigue failure in an element happens at the notch on a surface where the stress level rises because of the stress concentration effect. The present paper investigates the effect of a notch on the fatigue life of theHSLA100 (high strength low alloy) steel which is widely applicable in the marine industry. Tensile test was conducted on specimens and mechanical properties were obtained. Rotating bending and axial fatigue tests wereperformed at room temperature on smooth and notched specimens and S-N curves were obtained. Using the obtained S-N curve for smooth specimens, the fatigue strength factor for the notched specimens were predicted byWeibull s weakest-link, Peterson, Neuber, stress gradient and critical distance methods and compared with experimental results. It was found that the critical distance and also Weibull's weakest-link methods have the best agreement with experimental results.

کلمات کلیدی:

Fatigue failure, S-N curve, Rotating bending

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