

含缺口构件高周疲劳寿命的损伤力学封闭解法

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摘要 本文根据损伤力学建立含缺口板守恒积分、应力与应变集中系数公式以及疲劳裂纹形成寿命的封闭解法。对铝合金含缺口板寿命预估结果与实验结果基本一致。本方法节省机时并可代替大量实验, 具有一定的工程实用性。

关键词 [裂纹形成寿命](#) [损伤力学](#) [守恒积分](#) [小范围损伤](#) [广义Neuber公式](#) [封闭解](#)

分类号

A CLOSED FORM SOLUTION ABOUT HIGH CYCLE FATIGUE CRACK INITIATION LIVES OF NOTCHED PLATES BY METHODOLOGY OF DAMAGE MECHANICS

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Abstract

According to methodology of damage mechanics, the conservative integral, stress and strain concentration factors and closed form solution of fatigue crack initiation lives of notched plates are established. For aluminum alloy, the agreement between the results of theoretical predictions and those by experiments is satisfactorily good. This method is very time-saving and a lot of experimental work can be substituted. So this method is in engineering practice.

Key words [Crack initiation lives](#) [Damage mechanics](#) [Conservative integral](#) [Small scale damage](#) [Generalized Neuber's formula](#) [Closed form solution](#)

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