

Fatigue crack growth of 7475 T7351 under variable spectrum loadings

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The main aim of this paper is comparison the fatigue crack growth of 7475-T7351 aluminum alloy by the use of numerical models that describes the fatigue crack growth under variable amplitude and experimental tests under variable spectrum loadings. The spectrum loading was gotten by Genesis code, which was able to simulate TWIST and FALSTAFF flights. The numerical models were used by NASGRO 4.0 and AFGROW codes.

With the results is possible to adjust properly the models parameters to predict accurately the crack growth curves and the life in fatigue of 7475-T7351 aluminum alloy under variable amplitude loading for random load sequences, such as Twist, Falstaff and their minis.

Keywords: Fatigue crack growth, variable spectrum loading, numerical models.

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