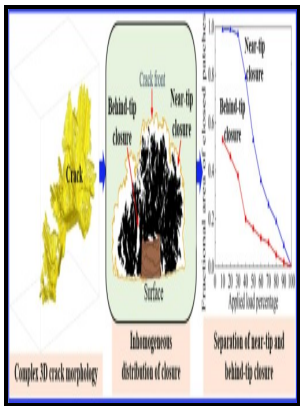
Influence of fatigue crack wake length and state of stress and on crack closure

National Aeronautics and Space Administration, Lewis Research Center - ASTM E647



Description: -
-
Tensile properties.
Stress intensity factors.
Fatigue (materials)
Crack closure.
Metals -- Fatigue.Influence of fatigue crack wake length and state of stress and on crack closure
-
NASA technical memorandum -- 87292.Influence of fatigue crack wake length and state of stress and on crack closure
Notes: Microfiche. [Washington, D.C. : National Aeronautics and Space Administration], 1986. 1 microfiche.
This edition was published in 1986

Tags: #The #Influence #of #Porosity #on #Fatigue #Crack #Initiation #in #Additively #Manufactured #Titanium #Components

Crack deflection: Implications for the growth of long and short fatigue cracks

The compressive σ yy stresses extend for an appreciative distance behind the crack tip, gradually increasing in intensity near the crack tip. Assuming the minimum load to be near zero, the misfit strain due to modulus mismatch can be neglected. Fatigue crack initiation location in sample x-600a - Slices of the CT data in: a x-y plane and b x-z plane.

Investigation Of Roughness Induced Crack Closure Effects In Fatigue

Stam G, van der Giessen E 1995 Effect of reversible phase transformations on crack growth.

Mechanics of Fatigue Crack Closure

In critical structure, loads can be recorded and used to predict the size of cracks to ensure maintenance or retirement occurs prior to any of the cracks failing.

Influence of Fatigue Crack Wake Length and State of Stress on Crack Closure

Ranking 4: Plastic stress-strain concentration. Normalised model-based processing diagrams for additive layer manufacture of engineering alloys. The agreement for the theory and regression-based stress intensity range is excellent.

Effects of strain hardening and stress state on fatigue crack closure

Load interaction effects differed depending upon the state of stress and were explained in terms of Δ K eff. Ren X, Miura N, Zhang J, Otsuka K, Tanaka K, Koiwa M, Suzuki T, Chumlyakov YI, Asai M 2001 A comparative study of elastic constants of Ti-Ni based alloys prior to martensitic transformation.

Influence of Fatigue Crack Wake Length and State of Stress on Crack Closure

All three ranking methods that take into account the local environment outperformed that based on size alone ranking 1 confirming the importance of local environment and in particular the importance of proximity to the surface. No assumption of isotropy or homogeneity around the crack is necessary. Turnbull, in , 2003 6.

CiteSeerX — Special Issue: Characterization of Crack Tip Stress Field

It has been found previously that approximately 97% of defects within Ti-6Al-4V samples manufactured via EBM are nearly spherical aspect ratio 1 that the pore is completely enclosed.

Numerical modelling of three

It is shown that the effect of the strain hardening exponent n on the opening stress ratio is small, less than 1. Mechanics of Solids and Fracture 2nd ed.

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