

# Inelastic strain analysis of solder joint in NASA fatigue specimen - final report

University of Maryland - A new experimental method to evaluate creep fatigue life of flip

Description: -

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Jesuits -- Controversial literature.

Jesuits -- Middle East.

Viscoplasticity.

Thermal cycling tests.

Solders.

Plastic properties.

Finite element method.

Fatigue life.

Fatigue (Materials)

Elastic properties.

Creep analysis.

Solder and soldering.

Strains and stresses. Inelastic strain analysis of solder joint in NASA fatigue specimen - final report

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NASA contractor report -- NASA CR-187864.

NASA-CR -- 187864. Inelastic strain analysis of solder joint in

NASA fatigue specimen - final report

Notes: Microfiche. [Washington, D.C.] : National Aeronautics and Space Administration, [1991]. 1 microfiche.

This edition was published in 1991



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Tags: #A #new #experimental #method #to #evaluate #creep #fatigue #life #of #flip

## A new experimental method to evaluate creep fatigue life of flip

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### A State

An efficient and systematic assessment was conducted to evaluate the reliability of indium solder under thermal fatigue and extended cold temperature mechanical fatigue conditions encountered in space exploration missions. Damage proxies have been correlated with residual life. In hot and humid climates thermal discomfort is a major problem to the occupants of many resident.

### A State

The partitioning equation is giving by where subscripts i and j are corresponding to p and c, respectively. The energy is a measure of the damage that is accumulated in the solder joint until a point at which it is enough to cause a fracture or crack in the solder joint. Generally, the damage models can be further classified into two categories: 1 linear damage cumulative theory and 2 nonlinear damage cumulative theory.

### Feature extraction and damage

Plastic Strain-Based Fatigue Model Failure in low-cycle fatigue LCF is mainly due to cyclic plastic deformation.

### Finite element analysis and simulation of adhesive bonding, soldering and brazing: A bibliography (1976

For most of the solder materials, creep develops in three stages: primary, secondary, and tertiary creep.

### **A new experimental method to evaluate creep fatigue life of flip**

This paper gives a bibliographical review of the finite element methods FEMs applied to the analysis and simulation of adhesive bonding, soldering and brazing processes. Since the basic fatigue mechanism for load interaction among various amplitudes has not been studied thoroughly, no prediction approaches related to this field provide sufficient accuracy.

### **Finite element analysis and simulation of adhesive bonding, soldering and brazing: A bibliography (1976**

The following topics are included: adhesive bonding - stress analysis of adhesive bonding in general, stress analysis and design of specific bonded joints, fracture mechanics and fatigue analysis, destructive and nondestructive evaluation of bonds, other topics; soldering - thermal stresses and deformation analysis of solder joints, fracture mechanics aspects and fatigue analysis of solder joints, solder joint reliability; and brazing - finite element analysis and simulation.

## Related Books

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- [Lean Times - Policies and Constraints.](#)
- [Search for America](#)
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