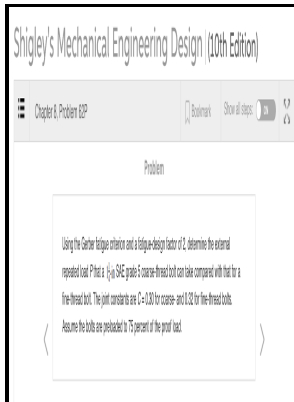


# Fatigue as a design criterion

## Macmillan - A New Criterion for Positive Mean Stress Fatigue Design



Description: -

- Bilingualism -- United States -- Abstracts.

Education, Bilingual -- United States -- Abstracts.

Caliphate

Muhammad, Prophet, d. 632 -- Companions.

Engineering design.

Strains and stresses.

Metals -- Fatigue. Fatigue as a design criterion

-Fatigue as a design criterion

Notes: Includes bibliographical references and indexes.

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### Fatigue Design Criterion

The original validation exercise was repeated recently and was extended to consider the CEN rules.

### Springs Fatigue Design

A significant contrast between these stresses and the principal stress is that they are scalar quantities of unknown direction.

### Factors Affecting Fatigue Behaviour

The selection of various steel types and welding processes are considered to be secondary influences on the fatigue strength.

### Fatigue design criterion for welded structures

These all refer generally to fatigue or fatigue design of welded structures. Design curves are typically two standard deviations of log N below the mean, representing 95% survival probability with 75% confidence, or better, in most cases. FSFT requirements: As mentioned in Section 1.

### Factors Affecting Fatigue Behaviour

This is important because the commencement of fatigue cracking is primarily surface-influenced and therefore greatly dependent on small surface discontinuities inherent to component production, as well as any surface-connected discontinuities inherent to the material. Thus, in common with most other design rules for welded structures, the CEN and BS rules are based on fatigue test results obtained from actual welded specimens.

### Comparing ASME, BS and CEN Fatigue Design Rules

Suitable adjustment of the cycle counting method could be a way to ensure that Miner's rule is always safe. They both adopt the commonly used approach of extrapolating the S-N curve beyond the fatigue limit at a shallower slope.

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