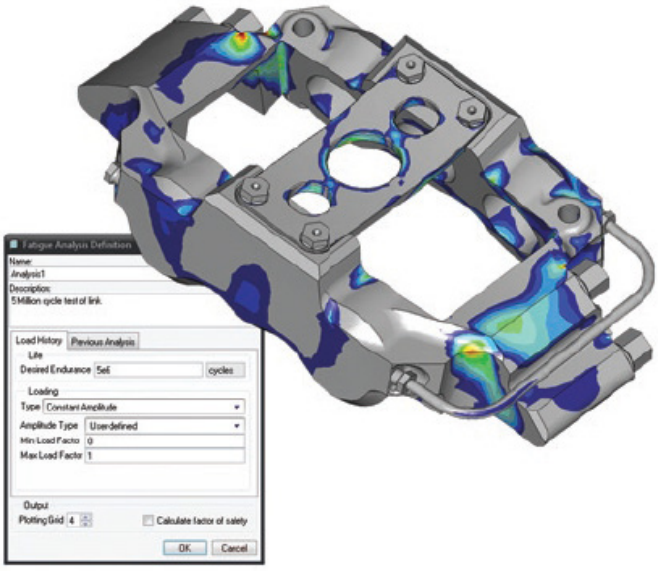
Data Sheet

# PTC® Creo® Fatigue Advisor Extension

PTC Creo Fatigue Advisor Extension expands the capabilities of PTC Creo Simulate and allows the evaluation of product design for durability. Using PTC Creo Fatigue Advisor Extension, you can predict the life of metal structures that are prone to fatigue failure under cyclic loading and investigate the impact that design changes have on their endurance.

PTC® Creo® Simulate™ and PTC Creo Fatigue Advisor Extension have the same user interface, workflow and productivity tools that are standard throughout the PTC Creo family. The combination of PTC Creo Simulate and PTC Creo Fatigue Advisor can be used as a standalone application or as an extension of PTC® Creo® Parametric™.




With PTC Creo Fatigue Advisor Extension, you can easily estimate the number of load cycles your model can sustain before failure.

## Features and Specifications

Includes all the features of PTC Creo Simulate, plus the following:

### Formulation

- Focus on Crack Initiation
- Strain – Life Analysis (EN)
- Effective for low and high cycle fatigue regions
- Consideration of plasticity
  - Neuber
- Mean Stress correction
  - Smith-Watson-Topper
  - Morrow
- Surface treatment and Finish correction
- Bi-axiality correction
  - Klann-Tipton-Cordes
  - Hoffman-Seeger

### Material Library

- Unified Material Law for Unalloyed steels, Low Alloy Steels, Titanium Alloys, Aluminum Alloys
- Surface Finish: Polished, Machined, Hot Rolled, Cold Rolled, Forged, Cast, Water Corroded, Sea Water Corroded, Nitrided, Shot Peened

### Load History

- Constant Amplitude
  - Peak-Peak
  - Zero-Peak
  - User Defined
- Variable Amplitude
  - Load Factor Table
  - 2nd Order Rainflow Counting

### Results

- Number of cycles to failure (Life)
- Factor of Safety
- Confidence of Life based on specified desired number of cycles
- Results display on model
  - Use of the full PTC Creo Simulate post-processing environment
- Results recorded as Measures

### Design Studies

- Fatigue Measures as dependent variables of PTC Creo Simulate Design Studies
  - Local Sensitivity
  - Global Sensitivity
  - Optimization

With the confidence of life plot, you can quickly examine the ratio between the calculated life and the target design life.

### Language Support

- English
- German
- French
- Japanese
- Russian
- Simplified Chinese

### Platform Support and System Requirements

Visit the PTC support page for platform support and system requirements.

To learn more visit: **PTC.com**/product/creo



J2444–PTC-Creo-Fatigue-Advisor-Extension–DS–EN–0713