

MultiFat

Fatigue & Damage Tolerance Engineering Consultancy



www.multiphysics.com

MultiFat is an independent engineering consultancy providing **high-level expertise in fatigue, damage tolerance and structural integrity**, with a strong focus on **aerospace and certification-driven applications**.

Founded and led by a senior aerospace engineer with more than 30 years of international experience, **MultiFat** supports **OEMs and engineering companies** in addressing complex fatigue and durability challenges, from early design phases to certification and in-service assessments. The consultancy combines deep theoretical knowledge, extensive hands-on industrial experience, and a pragmatic, certification-oriented engineering approach.

MultiFat operates as an **expert boutique**, offering direct access to senior-level competence, flexibility, and technical rigor.

Areas of Expertise

MultiFat provides consulting services in the following areas:

- Fatigue and Damage Tolerance of aerospace structures (fixed wing and rotorcraft)
- Aerospace F&DT certification reports (CS-23, CS-25, CS-27)
- Fatigue life evaluations based on FEM and stress analysis
- Definition and assessment of fatigue loads and spectra
- Preparation, execution and post-processing of fatigue test activities
- Vibration fatigue and random loading analysis
- Low-cycle and high-cycle fatigue
- Probabilistic fatigue, scatter, reliability and safety factors
- Damage tolerance, crack propagation and fracture mechanics
- Definition of inspection thresholds and intervals
- Aircraft retirement lives and in-service fatigue assessments
- Design against fatigue and durability-driven design support
- Fatigue of joints (bolted, riveted, welded) and fretting fatigue
- FEM-based and hand-calculation stress analysis
- Engineering Tools

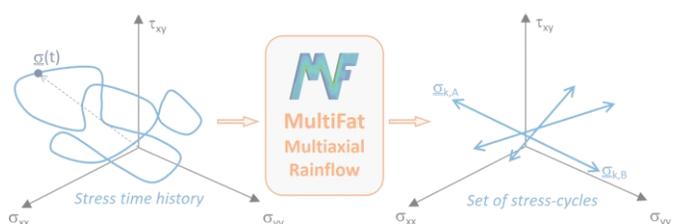
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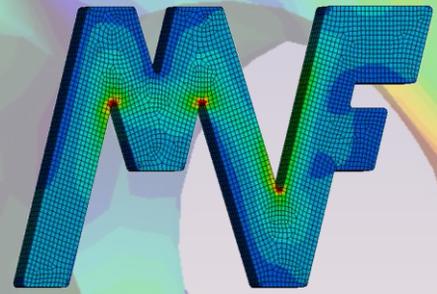
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The MultiFat Software



www.multiaxialfatigue.com

MultiFat is a powerful and robust fatigue-life calculator to solve any type of stress-history in the multiaxial domain for isotropic metallic materials

MultiFat offers full flexibility since it can potentially work with all types of S-N curves and mean stress corrections. The tool is based on an MS-Windows executable file and simple I/O text files.

The *MultiFat* Team will be glad to satisfy requests to adapt the software to the specific Users needs: *MultiFat* is submitted to constant improvement, to reach the greatest possible ease of use and the simplest applicability in everyday industrial problems.

The *MultiFat* Team is more than happy to receive any kind of comment, or suggestion: this will allow us to improve our work.

The commitment of the *MultiFat* Team is to keep the tool available at an extremely low cost. *MultiFat* is offered in different versions in order to best fulfill the needs of the Customers: see our page on www.patreon.com/multifat

The MultiFat team also offers service and consulting in the field of fatigue assessments and analyzes, design against fatigue, preparation of fatigue tests, definition of loads and fatigue spectra. Do not hesitate to contact us!

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