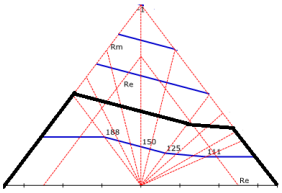
Invitation to our winLIFE Seminar



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FKM-Guideline

Computer-Aided Fatigue Life Calculations for Engineering Components

in Niederstotzingen-Stetten near Ulm

Steinbeis-Transfer Center
Traffic Engineering.Simulation.Software
Tel.: 07325 3306
Fax.: 07325 4992
http://www.stz-verkehr.de

Aims:
The FKM Guideline has been issued by the German Forschungskuratorium Maschinenbau e.V. (FKM) for calculated durability proof for machine components and has become established as a quasi-standard.

The aim of the seminar is to understand the FKM Guideline and be able to use it. The fatigue durability and the static strength verification for non-welded components are discussed with regard to the FKM Guideline.

To make this clearer, examples from the FKM Guideline are re-calculated, mainly using the program winLIFE.

Requirements:
Basic knowledge of fatigue calculation, mechanical engineering and use of MS-Windows.

Program:

Computers for all participants will be provided. If a participant wishes he can bring his own computer. The practical examples are done by all participants. The data necessary is installed on each computer and the participant will be shown the key issues of the problem.

Seminar Program

9.00 Welcome and introduction

9:15 The make-up of the FKM Guideline

9:45 Static strength verification for non-welded components

10:30 Practical Examples

11:00 Break

11:15 Fatigue Life strength verification for non-welded components
Analysis according to the nominal stress concept for non-welded components, materials, temperature, loading, form factor, stress gradient, surface quality, technology influence, component size, mean stress sensitivity, safety, capacity utilization.

12:00 Practical Example

12:30 Lunch Break

13:30 Static Durability verification for welded components

14:00 Practical Example

14:30 Break

14:45 Fatigue durability proof for machine parts for welded components,
Basics, concepts, nominal stress, notch stress, structure stress concept, various influencing factors, FAT-classes, plate thickness, edge layer factors

16:00 Practical Example

16.30 Discussion Time
17.00 Official End: Further possibilities for individual questions if required.

Organisational Details:

Time: from 9 AM to 5.15 PM

Place: Hotel Zum Mohren, Familie Dörflinger, Oberdorfstrasse 31, 89168 Niederstotzingen-Stetten, Tel. +49 (0)7325 92247-11, Fax.: +49 (0)7325 92247-12, info@lonetalhotel.de, www.lonetalhotel.de

It is also possible to reach us by train. The nearest railway station is Niederstotzingen.

There are enough PCs for all the participants.

Cost: 680 € + VAT

Registration: Due to limited space, we can only accept a maximum of 10 participants. All applications are binding. As soon as we have received your application, we will send you confirmation and an invoice which we would ask you to pay as soon as possible.

Accommodation: We recommend the conference hotel where the course is held: Zum Mohren, Oberdorfstrasse 31, 89168 Niederstotzingen-Stetten, Tel. +49 (0)7352 92247-11, Fax +49 (0)7325 92247-12, info@lonetalhotel.de, www.lonetalhotel.de

Lecturer: Prof. Dr.-Ing. G. Willmerding

Aims: To provide the participants with knowledge of fatigue life calculations of dynamically loaded components with multiaxial loads. We cover the basic theory of multiaxial fatigue life analysis and calculate examples using winLIFE. Test results exist for all the calculation examples we do and this enables the participant to assess the accuracy.

Requirements*:* The knowledge gained in the winLIFE-BASIC Seminar is essential for this course. This Seminar is therefore only recommended for participants who have already attended the winLIFE-BASIC Seminar.

Seminars:
Three times a year:
- winLIFE–BASIC (2 x German, 1 x English)
- winLIFE-MULTIAXIAL (2 x German, 1 x English)

Once a year
- FKM-guideline: static strength and dynamic fatigue proof (German, English on request)
- Power-User: Effective use of winLIFE for complex problems (German, English on request)
- Crack Growth and Random Fatigue (German, English on request)

The -Modules

The **-Modules** can be used in conjunction with finite element programs such as *NASTRAN* for Windows, *IDEAS, SAMCEF, WTP 2000* and, with the help of *FEMAP,* with all standard FE programs. Measured data can be transferred from several programs (*LMS Roadrunner, winEVA*). The interfaces are documented in such a way that they can be programmed by the customer.

FKM QUICKCHECK static strength analysis and fatigue analysis according to FKM-guideline for non-welded components, welded components can be analysed by a hot spot search (not according to FKM).

BASIC is for the basic procedures of fatigue life analysis.

MULTIAXIAL is for calculating special problems where the direction of principal stress is not consistent. This program is an extension to the BASIC module and is for solving the most difficult of problems.

GEARWHEEL&BEARINGS is for calculating gear wheels and bearings according to standard calculation procedures without finite elements. It is designed to transfer data from the program to our drive train simulation program winEVA and the measuring programs winADAM and DIANA.

CRACKGROWTH You can calculate the crack growth of a component according to established theories.

RANDOM FATIGUE Based on a given acceleration of a component in g2/Hz (PSD-spectrum) the stress PSD is calculated and a fatigue calculation performed.

Applications

has been sold to more than 250 customers and is used in the automobile, military and engineering industries, ship building, wind energy, mining industry, planning and universities.

Short Description / Demo-Version

http://www.stz-verkehr.de

Steinbeis-TZ Verkehrstechnik, Rosenstr. 5, 89168 Niederstotzingen
Tel.: 07325 3306 - email: info@stz-verkehr.de

Registration

Please send this page by post to: Steinbeis Transfer Center
Rosenstr. 5, 89168 Niederstotzingen
or fax to: +49 (0)7325 4992
or e-mail to: info@stz-verkehr.de

Registration for the Seminar

Computer-Aided Fatigue Life Calculations with winLIFE
FKM Guideline

on _____

This application is binding.

After receiving the registration confirmation and the invoice, the applicant agrees to transfer the seminar fee of 680 € + VAT to our bank account at the VR-Bank Langenau-Ulmer Alb eG, DE71 6306 1486 0102 0350 08, BIC Code: GENODES1LBK

When we receive your registration form we will send you confirmation within three days.

Surname_____

First name_____

Title_____

Company_____

Dept._____

Street_____

Post code _____Town_____

Tel_____

Fax_____

Email_____

Date_____Place_____

Signature _____

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