



ANALYTICAL STRENGTH ASSESSMENT  
**WIAM<sup>®</sup> FATIGUE RIFEST – THEORY AND  
PRACTICE WITH THE FKM-GUIDELINE**

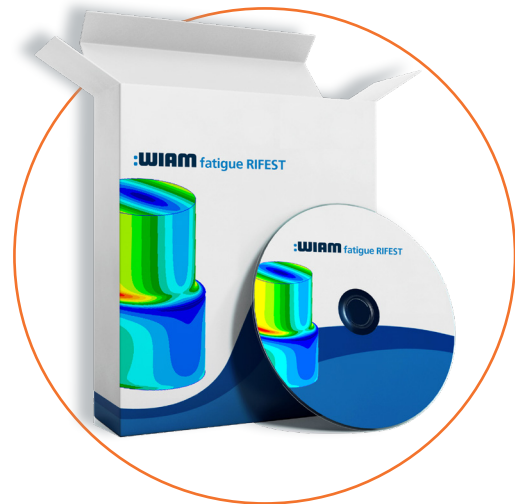
We are the partner you can contact when it comes to strength assessment. Determine this by calculation with the WIAM<sup>®</sup> fatigue RIFEST software according to the FKM-Guideline.

# SOFTWARE WIAM<sup>®</sup> fatigue RIFEST

WIAM fatigue Rifest uses the 7th edition of the FKM-Guideline, published in 2020. Engineers and designers from various fields will benefit from the theoretical knowledge and practical know-how of the IMA experts in dealing with the FKM-Guideline.

WIAM fatigue Rifest allows the users to apply the complex algorithm of the FKM-Guideline to their engineering designs based on calculated stresses from finite element simulations or measured stresses from strain gauge measurements.

This enables the users to perform a strength assessment according to the state of the art.



## PROGRAMME CONTENTS

### BASIC EDITION

- Static strength assessment
- Fatigue strength assessment for constant amplitudes and variable amplitudes
- Strength assessment for several assessment points on the basis of existing local elastic stresses (e.g. of FEM-calculation or strain gauges measurements)
- For volumetric non-welded components (base material)
- Comprehensive database for non-welded machine components: rolled steel, iron casting materials, aluminium materials (incl. material characteristics)
- Normal and increased temperature
- Updates, support and maintenance
- German or English version

### PREMIUM EDITION

The package Premium offers in addition:

- Shell-shaped welded components
- Comprehensive database for welded machine components
- Comprehensive presentation of the results in report form

### SERVER LICENSE VERSION

External on-demand server

- Worldwide access independent of location
- More flexibility during usage
- Low IT effort
- Automatic software maintenance
- Constant availability
- Shorter, more flexible terms
- Cushioning of high loads

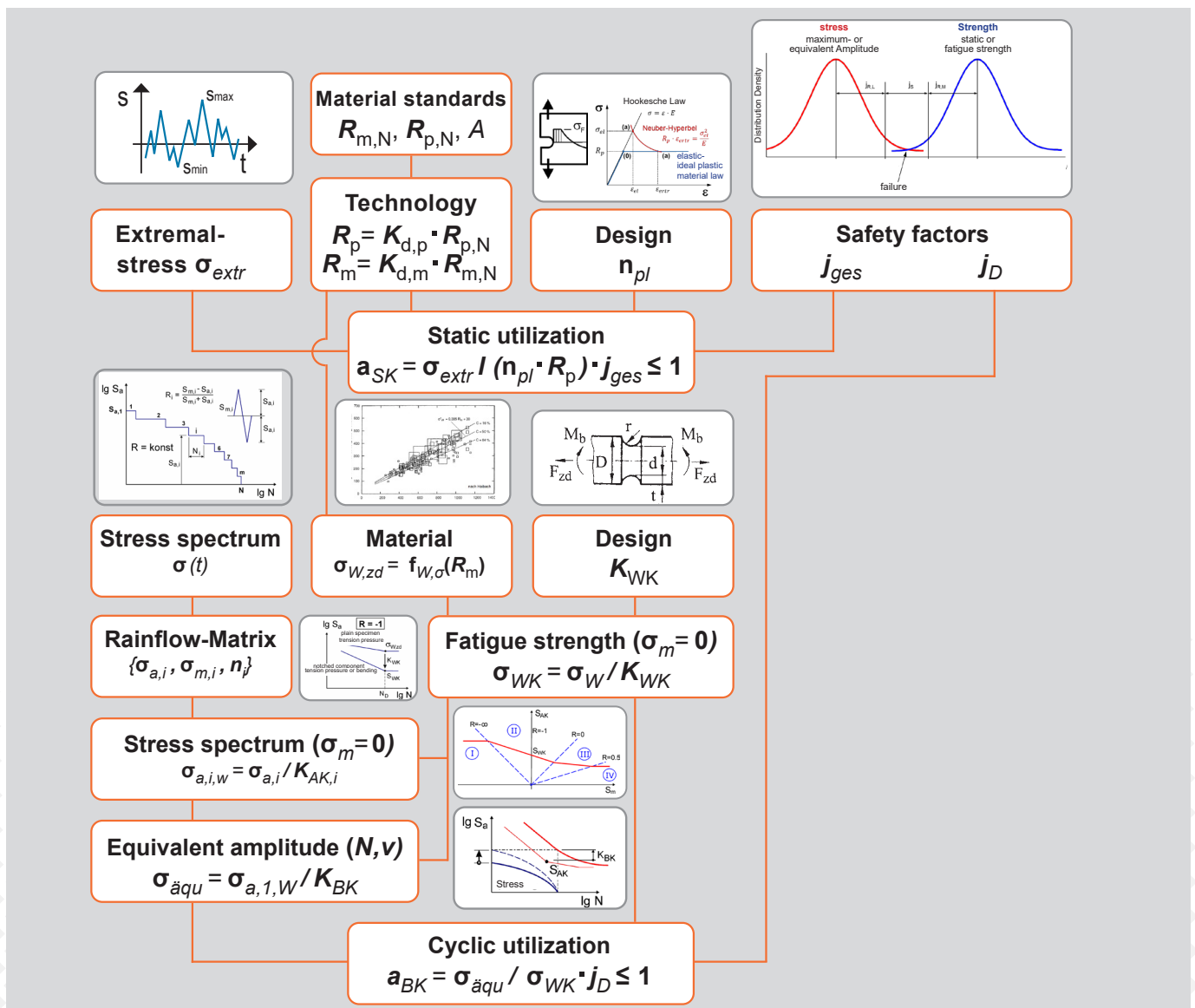
### BOOKABLE OPTIONS

- Server version
- Site license model
- Group licence model
- Floating license
- Updates, support and maintenance after the first year
- Competent IMA consulting for FKM-Guideline
- Buying or rental license

# ANALYTICAL STRENGTH ASSESSMENT

The FKM-Guideline “Analytical strength assessment for components” has been published by the Forschungskuratorium Maschinenbau e.V. (FKM). The first issue of FKM-Guideline was published in 1994. IMA Materialforschung und Anwendungstechnik GmbH is significantly involved in the development of the guideline. The 7th edition of the FKM-Guideline published on November 2020 is the latest version.

The FKM-Guideline contains a calculation algorithm with a consistent structure for all cases of application. The algorithm consists of procedures, equations, tables and graphs.



## TRAINING FKM-GUIDELINE



### TRAINING CONTENTS

1. Introduction to FKM-Guideline
2. Non-welded components
3. Welded components
4. Acquisition of input values for strength assessment
5. Individual points of interest

We train you to the FKM-Guideline online, on site or in our house. The training explains the methods and background information of the analytical strength assessment according to FKM-Guideline.

## TRAINING WIAM<sup>®</sup> fatigue RIFEST

We provide trainings about the calculation programme and the FKM-Guideline. Please contact us to arrange a meeting – either at our facilities or directly at your site.

### TEST VERSION

You can test WIAM fatigue Rifest with a test version. Please contact us to get your login for a free trial.

Visit for more information:

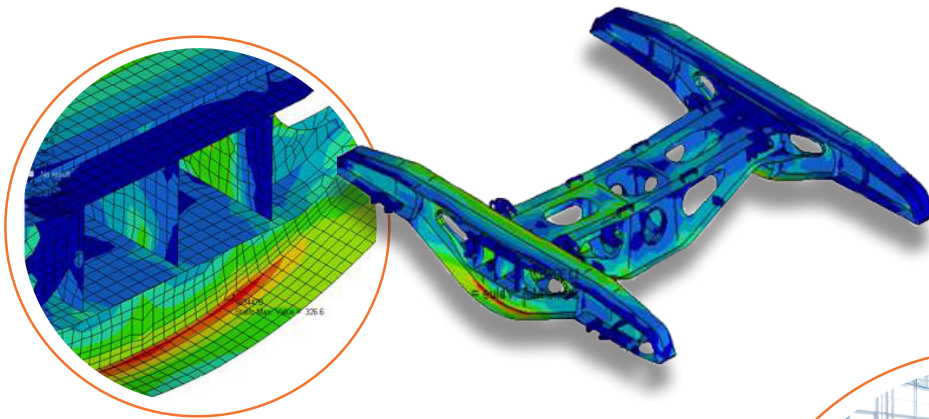


**View of the user interface**

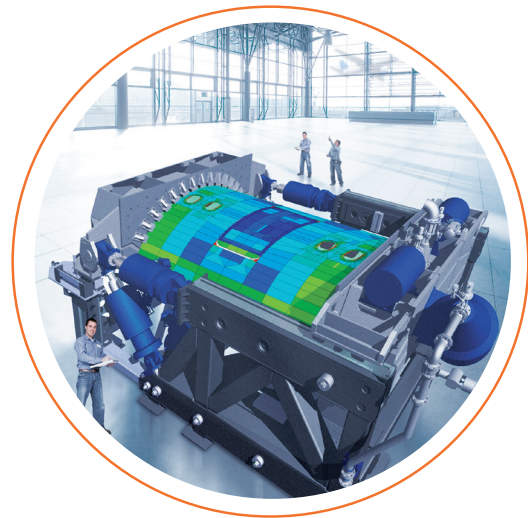
**Output using Rain Flow Matrix as an example**

# SIMULATION AND COMPUTATION

- Development and elaboration of concepts for the analytical strength assessment for practical applications under consideration of our knowledge from several fields of industrial application
- Solution to urgent component strength issues through methodical support, engineering services, and constructive consultancy
- Analytical strength assessments based on measured stresses, also for extraordinary problems



- Development and implementation of customer-specific software for analytical strength assessment and measurement data analysis
- Work on research and development projects to analytical and experimental strength assessments



## CONTACT

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## BENEFIT FROM THE COMPETENCE OF APPLUS+ IMA

Applus+ IMA is an internationally certified and accredited test center for manufacturers and the entire supplier's industry all around the qualification, validation and monitoring of materials, components and structures.

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