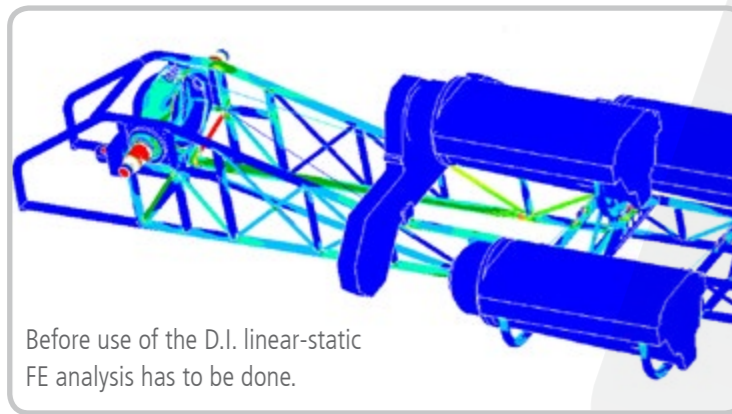


Reliable thing - fatigue analysis with Durability Inspector

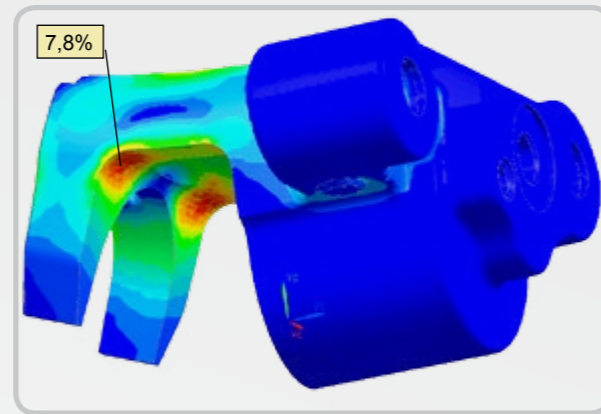
Durability Inspector is a sure basis of your success. This tool makes reliably fatigue analysis and at the same time fatigue check, according to well-known FKM Guideline, as easy as a game. Durability Inspector ist the program which gives important priorities in many tasks: from evaluation of dynamical stresses to graphical result presentation. In addition Durability Inspector fulfils the quality check of analysis results which is the „must“ to be sure in excellent results.



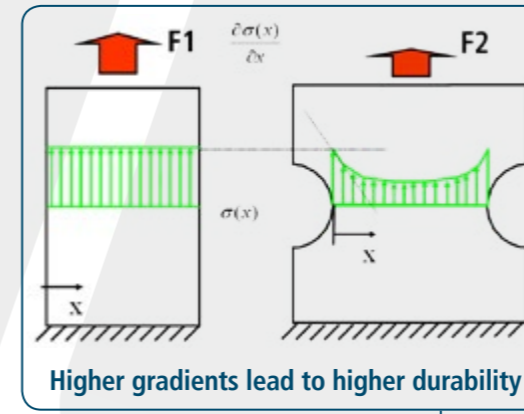


Before use of the D.I. linear-static FE analysis has to be done.

Example: Claas Green Monster - maine frame „Tractor Pulling“



Pic. Case of a disc brake



MOST IMPORTANT ADVANTAGES OF DURABILITY INSPECTOR ARE USES OF DIVERSE INFLUENCE FACTORS WHICH HAVE POSITIVE EFFECTS ON DURABILITY.

THE REAL FATIGUE SOFTWARE

Previously just a manual evaluation of one part only took some days. Nowadays, thanks to the automation and the integration of Durability Inspector the evaluation can be fulfilled in one hour. Fatigue checks for entire FE model can be safely and effectively compiled. They are based on linear-elastic stresses. All kind of FE stresses are transferred to Durability Inspector and all results are restored to FE-postprocessor by one keystroke. **It is your benefit!** Results can be presented in FE postprocessor as images or as detailed node reports. As rare software for fatigue check Durability Inspector offers a reliable results quality check.

No translators - seamless integration to FEM-software

- Seamless integration to FEM-software
- Ansys Workbench
- NX-Nastran (from V. 7.5)
- FEMAP
- Ideas

VARIOUS ANALYSIS POSSIBILITIES

Welded and unwelded component:

- fatigue strength
- time limited strength
- static strength
- loading groups
- dynamic stresses (mean stresses, amplitude stresses)

The most requested results by statistic are:

- stress magnitudes and amplitudes
- static loading factor
- cyclic loading factor

Simple to use

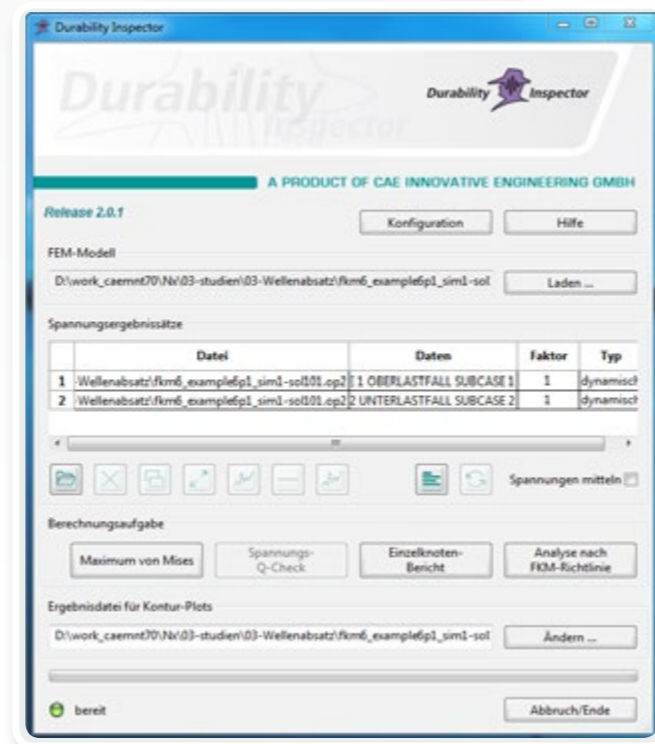
- Surface Quality and Treatment Wizard
- No new additional definitions: the knowledges of FKM Guideline are enough for intuitive usage
- Just few inputs are needed

Important analysis factors:

Material data. You can select material type from material groups menu corresponding to FKM Guideline.

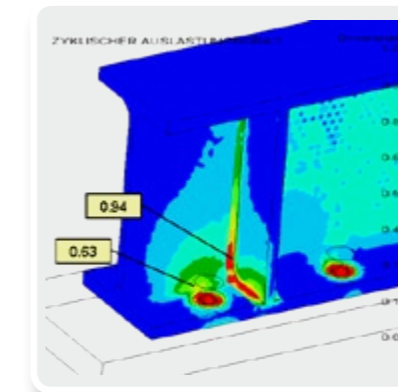
There are:

- Quenched and tempered, nitrite, structural and fine grained steels
- cast iron
- stainless steels
- aluminium casting alloy
- user-defined materials



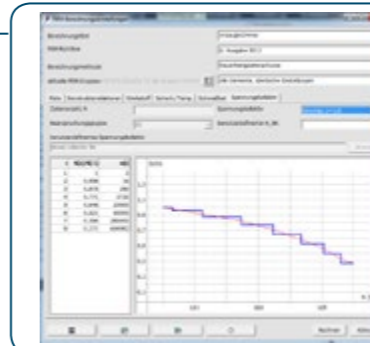
These are:

- stress gradient
- surface treatment
- wall thickness
- surface roughness
- temperature
- load collectors

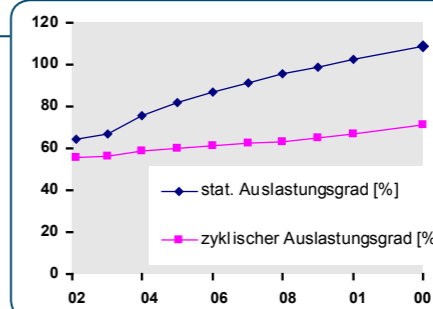


DATA OUTPUT

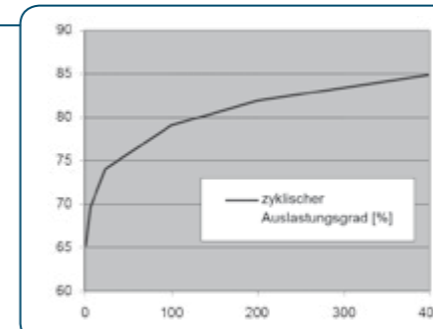
Intermediate and finite results can be shown as a contour plot in FE postprocessors. You can create reports for selected sections which can be integrated into your special document templates. Quickness and quality speak for themselves.



Surface treatment | Tests have shown that rough surfaces have shorter life time than smooth ones (roughness = user entry). Such kind of surface treatment as nitriding, carbonitriding, case hardening, shot peening, inductive and thermal hardening is considered by request. **Surface treatment prolongs life time of product.**



Wall thickness | Increasing wall thickness worsens material properties regarding durability. Computing an appropriate size factor is available, estimated on suitable wall thickness. **Small wall thickness stands for prolonged life time.**



Load Collector | The previously calculated stress field works long-term permanently (single step load collector) or load amplitudes decrease with increasing quantity. Load reduction can be defined by predetermined norm collectors. **Each collector extends durability in comparison to single step load collector.**

CONCLUSION

You can be sure with Durability Inspector. Thanks to comprehensive quality check, with the tool of CAE Innovative Engineering you have an assurance of 100% reliable result. Get the benefit by our efficient and flexible software solution. Durability Inspector gives confidence of sure basis for your products.



ACHIEVING MORE TOGETHER: YOUR PARTNER – CAE INNOVATIVE ENGINEERING GMBH

The CAE Innovative Engineering GmbH supports you from design and construction up to simulation and testing in all areas which enable you to gain the decisive edge. If desired, we can accompany you along the full path from the concept to the product – or provide you with decisive stimuli with critical points of your project.

In any case, we always have the same objective: that you achieve your goals faster with us.

**Always a good idea:
Contact us now!**



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