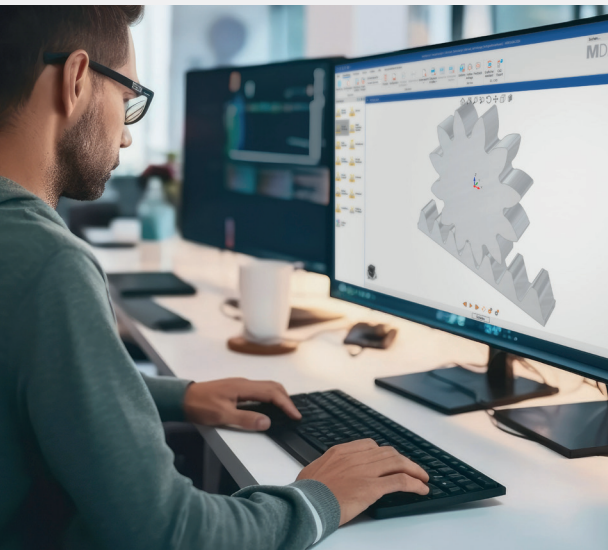


MDESIGN Seminar

FROM GEARWHEEL TO GEARBOX – EVALUATING CALCULATIONS AND VERIFICATIONS

These topics await you...

- Overview & introduction to gear geometry
- Evaluation of load-bearing capacity verifications according to DIN and ISO standards
- Introduction to advanced detection: Flank fracture and gray spotting
- Properties and advantages of new gear materials



GEAR & GEARBOX

Objectives of the seminar

Performance optimization

Improvement of gearboxes by applying current guidelines

Cost efficiency

Material and cost savings through optimized design practices

Increase safety

Optimization methods also increase detection reliability

Practical examples

Independent assessment and optimization of new tasks

KNOWLEDGE UPDATE

Use your advantages

- ✓ **Personal certificate**
Documentation of your newly acquired knowledge after attending the seminar
- ✓ **Good integration into everyday working life**
Compact seminar content spread over 2 days
- ✓ **Flexible choice of dates**
Several seminar dates per year
- ✓ **Online & Live**
Seminars from anywhere and ask our experts questions interactively
- ✓ **Seminar documents**
We also provide you with all the relevant information for „afterwards“ for reference

Target group

Engineers and specialists from the fields of development, design and calculation, teachers from educational institutions, experts from research institutions and testing companies.

GEAR & GEARBOX

Content & Details



Introduction: Gear geometry

- ✓ Overview of different types of gearing (non-evolutionary; evolutionary)
- ✓ Generation and determinants of the involute
- ✓ Gear production and deviations from the ideal
- ✓ Geometry



Calculation: Evaluation of energy efficiency and optimization

- ✓ Influences on the efficiency
- ✓ Macroscopic and microscopic correction variables
- ✓ Special features of gearbox optimization



Safety: Parameters and procedures for load-bearing capacity verification

- ✓ Geometric gearing sizes
- ✓ Required material characteristics
- ✓ Evidence for tooth root, tooth flank and galling
- ✓ New detection methods
- ✓ Use of plastic gears: Advantages and special features



Proof: From gearwheel to gearbox

- ✓ Overview of types of gearboxes and gear drives
- ✓ Areas of application and suitability of various gearboxes
- ✓ Verification of the gearbox components
- ✓ Consideration as an overall system and interaction with the individual verifications
- ✓ Numerical analysis methods (FEM, MKS)



Practice: Practical part with the MDESIGN gear libraries

- ✓ Modeling and calculation of a hybrid/electric drive
- ✓ Optimization of a spur gear



More info on
[mdesign.de](https://www.mdesign.de)

