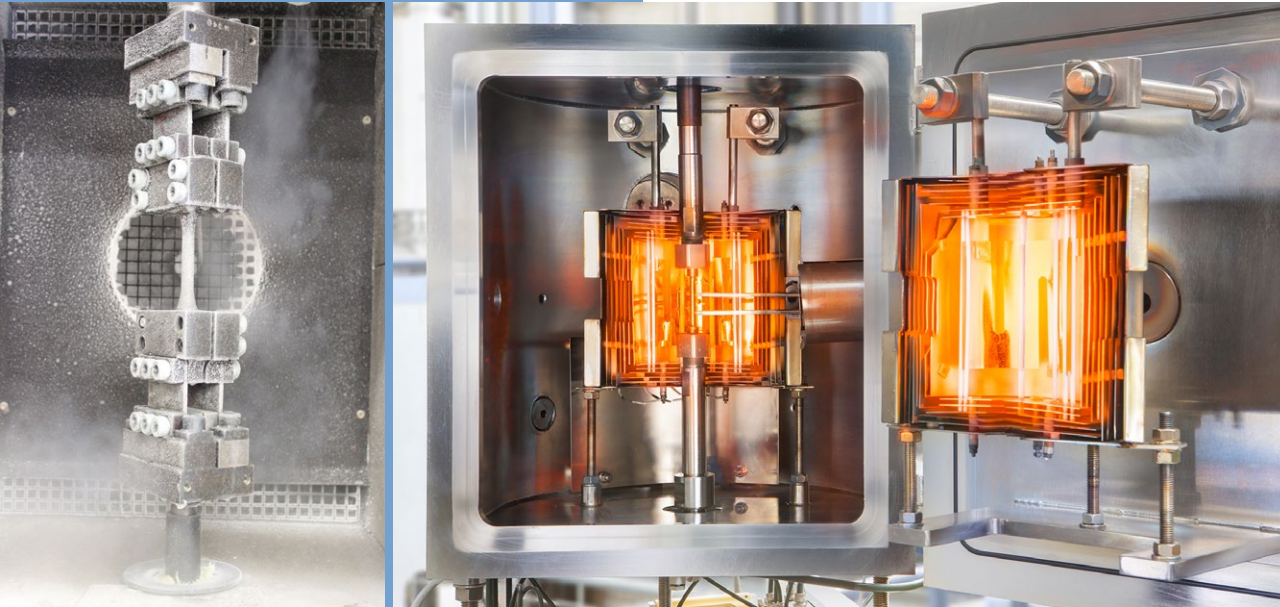
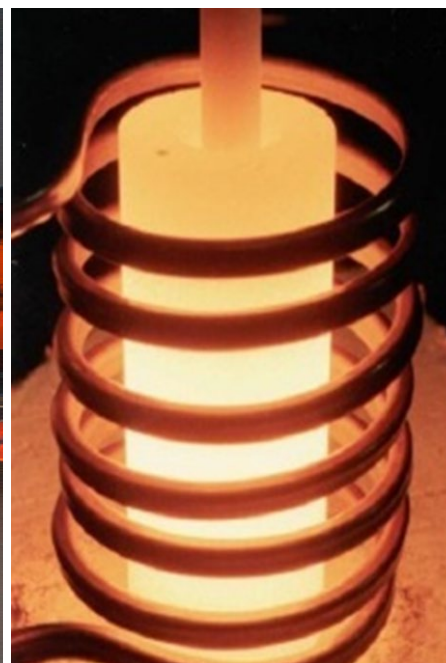
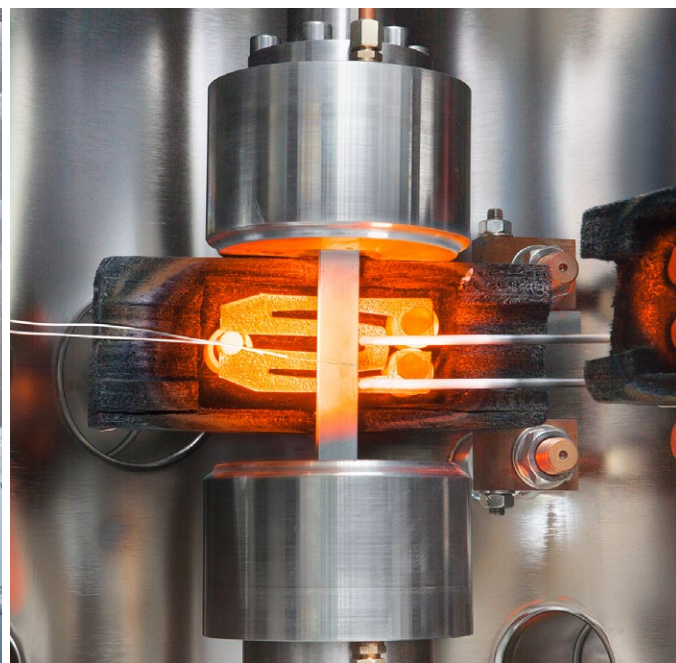
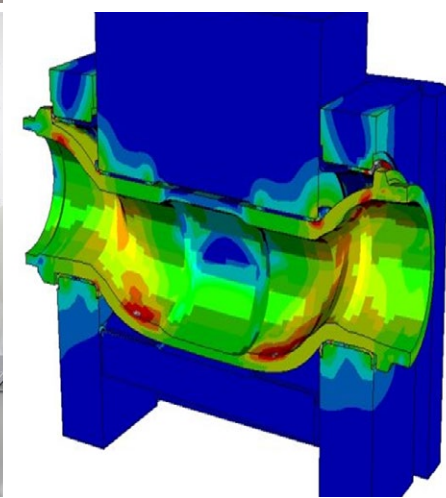
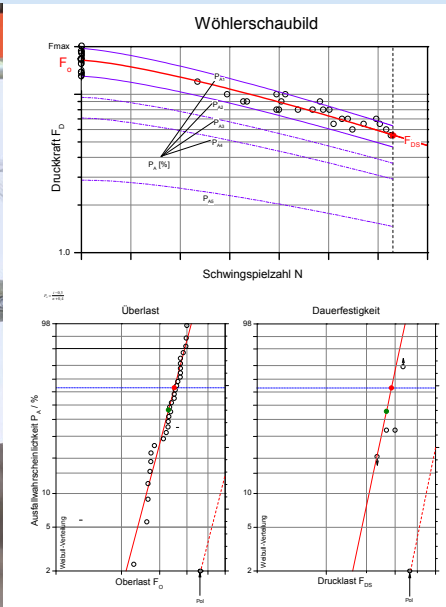
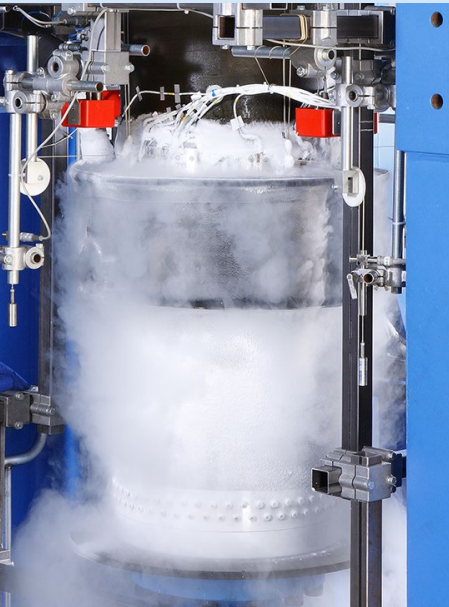


Materials Testing



**Accredited fatigue strength
testing laboratory**

iABG



Examination of material properties between -190°C and $2,000^{\circ}\text{C}$

Up to only a few years ago calculating the fatigue strength of materials was based mainly on tensile strength or yield strength. The continuing trend of higher materials utilization capacity, coupled with increasing demands for operational safety, requires testing concepts that are even more precise and which take into account the complex local load situation in the components.

Therefore, IABG incorporates computer-based and experimental methods in its accredited laboratories for materials and components testing. Through permanent further development of our testing and calculating procedures and their adaptation to new requirements and conditions, we provide our customers with tailor-made solutions for each of their specific needs.

The accredited IABG fatigue strength testing laboratory accompanies and supports its customers for the complete product life cycle – from the beginning of development to the finished component. We focus on competent consulting and problem solving always in accordance with the processes of our partners.

Services

- Analysis of the load situation and development of corresponding test concepts
- Manufacture and preparatory treatment of samples (thermal treatment, conditioning and surface work hardening)
- Testing in the accredited fatigue strength testing lab in compliance with current standards (DIN, ISO, ASTM):
 - static single-axis and multi-axis tests (tension, pressure, torsion, creep, relaxation, ...)
 - cyclic single-axis and multi-axis tests (LCF, IST, MST, HCF, VHCF, TMF, TMF/HCF, ...)
 - fracture-mechanics analysis and crack measurement on brittle and ductile materials
 - variable types of load (axial load, flat bending and rotating bending, torsion, internal pressure, etc.)
 - temperature range between -190°C and $2,000^{\circ}\text{C}$
 - optional in vacuum or under corrosion influence
 - tests in compliance with DIN EN ISO/IEC 17025
- Statistical planning and evaluation of test runs
- Development of test procedures, technology and systems
- Derivation of test standards and specifications
- Optical deformation measurements
- Creation of material cards for standard FEM tools
- Analysis and calculation of component strength
- Development of deformation and damage models
- Material quality analysis and material optimisation support

Customer Benefits

- Independent, neutral and accredited test laboratory
- Solutions for complex problems through the combination of calculated and experimental methods from a single source
- Competent consulting throughout the complete product life cycle
- Short response times and rapid handling thanks to extensive resources

Customers

- Automotive industry
- Rail vehicle manufacturing and rail transport
- Power engineering and power industry
- Mechanical and plant engineering
- Steel manufacturers and foundries



AUTOMOTIVE



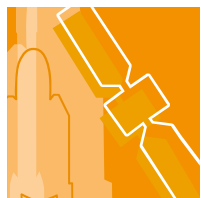
INFOCOM



MOBILITY, ENERGY & ENVIRONMENT



AERONAUTICS



SPACE



DEFENCE & SECURITY

About IABG

IABG offers integrated, ground-breaking solutions in the sectors Automotive • InfoCom • Mobility, Energy & Environment • Aeronautics • Space • Defence & Security. We provide independent and competent consulting. We implement with future viability and target orientation. We operate reliably and sustainably. Our success is based on an understanding of market trends and requirements, on our staff's technological excellence and a fair relationship with our customers and business partners.

In our role as development partner we take on the tasks of technical qualification and solve problems arising from the fields of functional efficiency, quality, design and materials.

We offer a broad spectrum of products and services, ranging from numerical analysis and experimental testing to the realisation of turnkey, customised test systems that we operate for the customer.

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