

KIT Steel and Lightweight Construction

Research centre for steel, wood and stone

About this organisation

Machine translation

This organisation has been machine-translated based on data provided in German.

During its 100 years of existence, the research centre has achieved a leading position as a nationally and internationally renowned research and testing institute as well as a powerful partner for industry. This is demonstrated by the numerous scientific publications and dissertations that have emerged from its circle, as well as its involvement in numerous national and international committees.

The service area of KIT Steel and Lightweight Construction covers all tasks that focus on thin-walled components made of steel and aluminium alloys. The interaction between the fasteners and the component often plays an important role. The load-bearing and fatigue behaviour of the following components, structural elements and construction systems can be investigated:

- Trapezoidal profiles and cassettes
- Cold-formed lightweight profiles
- Mullion-transom constructions
- Solar fasteners
- Cable tension members
- Tension rod systems
- Fasteners (mechanical and in the form of bonds)

Otto-Ammann-Platz 1
76131 Karlsruhe
Baden-Württemberg
Germany
[✉ stahl.vaka.kit.edu](mailto:stahl.vaka.kit.edu)

KARLSRUHER INSTITUT FÜR TECHNOLOGIE



VERSUCHSANSTALT
FÜR STAHL, HOLZ & STEINE
WWW.VERSUCHSANSTALT.DE

Organisation type
University or higher education institution

Sectors
 

Employees
50 up to 249

Turnover
€2m - €10m

Funding

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Main areas covered	Building products, Lightweight components, Adhesive bonds, Mechanical fasteners, Tension members
Infrastructure	Testing machines (up to 26 MN pressure), Testing machines (up to 15 MN tension)
Certifications	DIN EN 17025, Certification body (CE) 0769, Recognised body (LBO) BWU02, Accreditation (DAkkS)
Keywords	
Memberships	

Overview of lightweighting expertise

Machine translation

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Software & databases, Materials	✓	✓	
Services & consulting Training, Consulting, Testing and trials, Standardisation, Validation, Simulation, Technology transfer, Approval	✓	✓	

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Hybrid structures, Lightweight material construction	✓	✓	
Functional integration Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), System analysis, Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	
Modelling and simulation Loads & stress, Life-cycle analysis, Optimisation, Structural mechanics, Materials	✓	✓	
<i>Plant construction & automation</i>			
Recycling technologies Downcycling, Upcycling	✓	✓	

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing 3D printing, Deposition welding	✓	✓	
<i>Coating (surface engineering)</i>			
<i>Fibre composite technology</i>			
<i>Forming</i>			
Joining Adhesive bonding, Screwing, Welding	✓	✓	
Material property alteration Mechanical treatment	✓	✓	
<i>Primary forming</i>			
<i>Processing and separating</i>			
<i>Textile technology</i>			

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials Wood	✓	✓	
Cellular materials (foam materials) Closed-pore	✓	✓	
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP)	✓	✓	
Fibres Glass fibres, Carbon fibres	✓	✓	
<i>Functional materials</i>			
Metals Aluminium, Steel	✓	✓	
Plastics Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
<i>Structural ceramics</i>			
<i>(Technical) textiles</i>			

Contacts

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Contacts

Mr Dr.-Ing. Daniel Ruff

Managing Director / Head of Department

daniel.ruff@kit.edu

Mr Dr.-Ing. Philipp Weidner

Head of department

philipp.weidner@kit.edu