

## Civil Engineering



The Materials Testing Institute University of Stuttgart is a central facility of the university of Stuttgart. The institute operates successfully in materials testing and research in almost all areas of mechanical and plant engineering as well as civil engineering.

### Contact

Prof. Dr.-Ing. Harald Garrecht

Phone: +49 711 685 63323

Fax: +49 711 685 67681

e-mail: [harald.garrecht@mpa.uni-stuttgart.de](mailto:harald.garrecht@mpa.uni-stuttgart.de)

Internet: <http://www.mpa.uni-stuttgart.de>



**University of Stuttgart**  
Germany



## Mineral Building Materials

- Concrete Technology, Rehabilitation
- Material Behavior and Modelling
- Building Envelope, Energy Efficiency, Floor Construction

The department is involved in the study of diverse mineral building materials especially binders, admixtures, additions, concrete, masonry units, mortar, natural stone, ceramics, plaster and rendering, glass fibres, plastics, and thermal insulation products. Our clients are manufacturers, distributors and users of building materials, mainly in Germany and Europe. In addition we provide on site supervision as partners for the German Institute for Civil Engineering (DIBt) Berlin, the German Standards Committee (DIN) and the European Committee for Standardisation CEN, the Federal Highway Research Institute (BAST), the Road and Transportation Research Association (FGSV) and the Associations for Quality Protection.

### Contact

Dr.-Ing. Michael Stegmaier  
Phone: +49 711 685 62256  
e-mail: michael.stegmaier@mpa.uni-stuttgart.de

## Building Preservation

- Building Protection and Restoration of Historical Monuments
- Non-Destructive Testing and Building Monitoring
- Corrosion and Sealing Buildings

The department focuses on the impacts of environmental influences and other loads on civil engineering structures. The emphasis lies on the deterioration of the building materials on the surface and of the structure in its entirety. This includes corrosion, deformation, cracking, material disintegration and many more. We apply the latest analysis and monitoring technology for the preservation of historic and contemporary structures. We offer laboratory analysis for the characterization of your materials, for the assessment of deterioration processes and for the identification of damage causes. We inspect your civil engineering structures with non-destructive test methods and continuously track changes with the possibilities of building monitoring.

### Contact

Dr. rer. nat. Jürgen Frick  
Phone: +49 711 685 63381  
e-mail: jurgen.frick@mpa.uni-stuttgart.de

## Timber Constructions

- Timber Structures, Composite Constructions, Wood Protection
- Solid Wood Products, Panel Materials, Renewable Materials
- Joining Technology, Adhesives, Metallic Fasteners

This department covers the total range of timber construction. The department deals especially with investigations and developments for Technical Approvals of new construction products, testing and surveillance of wood products with regard to their agreement with building rules as well as the certification of manufacturing plants. The research activities are based on intensive, theoretical and application-oriented research/ competence with focus on numerical simulation, non-destructive testing and destructive testing of construction materials and composite constructions in view of their fitness for use and their load bearing capacity.

### Contact

Dr.-Ing. Gerhard Dill-Langer  
Phone: +49 711 685 62280  
e-mail: gerhard.dill-langer@mpa.uni-stuttgart.de

## Building Construction and Component Testing

- Metal Construction, Welding Technology
- Concrete Construction, Composite Construction, Fastening Technology
- Lightweight Construction, Glass Construction, Facades

The department investigates metal constructions, reinforced and unreinforced concrete structures, composite constructions, lightweight constructions, glass structures, facades and fastening technology. It determines load capacities and deformation behaviour as well as the suitability, reliability and durability of constructions and their members. Tests are performed also on elements of connection and fastening technology and on welded joints. Besides the determination of the load capacities and the deformations of building constructions, examinations of the environmental and climatic impacts on the load bearing behaviour and the durability of constructions.

### Contact

Dr.-Ing. Dieter Lotze  
Phone: +49 711 685 63585  
e-mail: dieter.lotze@mpa.uni-stuttgart.de

## Fire Safety

- Reaction to Fire
- Fire Resistance
- R&D-Structural Hazard Engineering

MPA fire safety-department is mainly concerned with testing, experimental assessment and research of the reaction to fire and fire resistance of building products.

MPA's fire testing department is accredited fire testing laboratory acc. to EN ISO/IEC 17025 and product certification body acc. to DIN EN ISO/IEC 17065, notified body acc. to article 39 CPR (EU) No. 305/2011 as test laboratory for essential characteristics Reaction to fire, Resistance to fire and External fire performance, as well as notified by Wirtschaftsministerium Baden-Württemberg and Deutsches Institut für Bautechnik (DIBt) in Berlin as testing-, third-party-control and certification body (PÜZ-Stelle) and as testing institute for fire approvals, too.

### Contact

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Phone: +49 711 685 63323  
e-mail: harald.garreht@mpa.uni-stuttgart.de

## R&D-Satellite Civil Engineering

- Climate, Comfort, Pollution
- Transport Infrastructure
- Green Engineering

Resource scarcity and climate change require a re-orientation of the materials management towards sustainable production processes. In an age of increasingly scarce resources, we have a great responsibility to develop sustainable products that protect our environment. Therefore, it is important in future to focus on renewable resources, circular economy and energy-efficient processes.

With thought leaders, visionaries and selected scientists the Materials Testing Institute faces these new challenges and thus sends the right signals to the industrial partners.

### Contact

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