

About this organisation

Machine translation

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

For over 35 years, the IMB has been conducting research in the field of load-bearing and deformation behaviour as well as the structural design of reinforced concrete, prestressed concrete and composite structures. Both basic and application-orientated projects are carried out.

In addition to clarifying open questions arising from the further and new development of construction and composite materials (e.g. high-performance concretes, textile-reinforced concrete), the focus in future will be on integral building concepts and sustainable construction principles, which also require interdisciplinary cooperation in research. The following key areas of research at the IMB are particularly noteworthy: - Development of design and dimensioning rules for reinforced concrete and prestressed concrete components of all kinds - Sustainable design and construction of buildings - Durability and fatigue strength of solid construction elements - Development and application of non-metallic reinforcement for new construction, renovation and strengthening - Composite structures in building and bridge construction - Reinforcement and strengthening of structures (building in existing structures) - Numerical modelling at macro and meso level

Mies-van-der-Rohe Straße 1
52074 Aachen
North Rhine-Westphalia
Germany
www.imb.rwth-aachen.de/



Organisation type

University or higher education institution

Sector



Employees

50 up to 249

Turnover

n/a

Funding

About this organisation

Main areas covered Reinforced and prestressed concrete, Carbon concrete, Composite constructions, robot-supported production, Reinforcement and upgrading

Infrastructure

Certifications

Keywords Solid construction, Reinforced concrete, Carbon concrete, Non-metallic reinforcement, 3D printing

Memberships

Overview of lightweighting expertise

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

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
<i>Design & layout</i>			
Functional integration Sensor technology, Material functionalisation	✓	✓	
Measuring and testing technology Component and part analysis, Materials analysis, Destructive analysis, Non-destructive analysis	✓		
Modelling and simulation Loads & stress, Optimisation, Structural mechanics, Materials, Reliability validation	✓	✓	
<i>Plant construction & automation</i>			
Recycling technologies Recycling	✓		

Overview of lightweighting expertise

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

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials Biocomposites, Wood	✓	✓	
Cellular materials (foam materials) Closed-pore, Open-pore	✓		
Composites Glass-fiber reinforced plastics (GFRP), Carbon-fiber reinforced plastics (CFRP), Short fibre-reinforced concrete, Textile-reinforced concrete	✓		
Fibres Basalt fibres, Glass fibres, Carbon fibres, Metal fibres, Natural fibres	✓		
<i>Functional materials</i>			
<i>Metals</i>			
<i>Plastics</i>			
<i>Structural ceramics</i>			
(Technical) textiles Yarns, rovings, Meshes, Laid webs, Woven fabrics	✓		

Contacts

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Contacts

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