Institute for Solid Construction

About this organisation

Machine translation

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

The Institute of Concrete Structures (IMB) is one of eleven institutes at the Faculty of Civil Engineering at the Technical University of Dresden. We deal with the mechanical properties of reinforced concrete in all its facets - different reinforcements, concretes from lightweight to high-strength, stresses from static permanent load to highly dynamic, new and existing buildings - in experiments and theory at material level through to the complete structure.

For example, in SPP1542 we are working on componentspecific basic research. The entirety of possible constructible structures is divided into shell structures, flat or slightly curved plates and discs, bar-shaped load-bearing elements and fractal structures. The design of force fields or force systems forms the basis of ideally weight-minimised concrete structures. We find clues for efficient load-bearing structures in nature with the help of bionics. Another focus is the Collaborative Research Centre/Transregio 280, which is researching new construction strategies for carbon concrete. The aim is for the new material composite carbon concrete not only to replace the previous material reinforced concrete, but also to find new ways of construction that are specially tailored to the properties of carbon concrete in order to utilise the full performance potential of carbon concrete.

August-Bebel-Str. 30/30A 01219 Dresden Saxony Germany

☑ www.tu-dresden.de/bu/bauingenieurwesen/imb/



Organisation type

University or higher education institution

Sector



Employees

50 up to 249

Turnover

n/a

Funding

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About this org	ganisation				
Main areas covered	Carbon concrete, Textile concrete, Reinforcement of buildings, Material development, Support with DIBt approvals				
Infrastructure	Otto Mohr Laboratory, Falltum for impact, Textile and carbon concrete testing In-situ load tests, Trials Recalculation guideline				
Certifications					
Keywords	Carbon concrete, New construction methods / reinforcement, Construction strategies, Collaboration in standardisation and approval, Impact				
Memberships	C3-Carbon Croncrete Composite e.V., TUDALIT				

Overview of lightweighting expertise

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	Research	N Development	fanufacturing & Supply
Offer			
Products			
Services & consulting Training, Consulting, Testing and trials, Engineering, Standardisation, Prototyping, Validation, Simulation, Technology transfer, Approval	✓	✓	

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Overview of lightweighting expertise **Machine translation** This organisation has been machine-translated based on data provided in German. Manufacturing & Supply Research Development Field of technology Design & layout Lightweight construction concepts **Functional integration** Sensor technology, Thermal activation Measuring and testing technology Component and part analysis, System analysis, Materials analysis, Destructive analysis, Nondestructive analysis Modelling and simulation Loads & stress, Life-cycle analysis, Optimisation, Structural mechanics, Materials Plant construction & automation Recycling technologies Manufacturing process Additive manufacturing Coating (surface engineering) Fibre composite technology **Forming** Joining Material property alteration Primary forming Processing and separating Textile technology

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Overview of lightweighting expertise Machine translation This organisation has been machine-translated based on data provided in German.						
Material						
Biogenic materials						
Cellular materials (foam materials)						
Composites Short fibre-reinforced concrete, Textile-reinforced concrete, Others (Non-metallic reinforcements)	✓	~				
Fibres Basalt fibres, Glass fibres, Carbon fibres	✓					
Functional materials Shape memory materials	✓					
Metals						
Plastics						
Structural ceramics						
(Technical) textiles Laid webs, Others (Non-metallic reinforcements)	✓					

Contacts

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