

About this organisation

Machine translation

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

The research and teaching focus of the institute is on the influence of forming technology on the material and the interaction between forming technology and property development in the formed material. This holistic approach, which does not just focus on materials or plant technology, enables the investigation and development of new, modern forming technologies.

Magnesium is one of the lightest construction materials with high specific strength and high availability on earth. Its formability at room temperature is low, which is why the production of thin strips is generally cost-intensive due to the numerous reheating stages - but not with the casting-rolling plant at the IMF! A combination of casting and rolling allows up to 2 mm thin strips of magnesium and its alloys to be produced on an industrial scale in a single process stage. The characterisation of the properties and forming process design are among the strengths of the institute and can also be realised for other materials (aluminium, titanium, steel, etc.) in addition to magnesium, both on a laboratory scale and on industrial-scale plant technology.

Bernhard-von-Cotta-Straße 4
09599 Freiberg
Saxony
Germany
www.imf.tu-freiberg.de



Organisation type

University or higher education institution

Sectors

No specific sector

Employees

10 up to 49

Turnover

n/a

Funding



[Projects in the funding catalogue](#)

About this organisation



Main areas covered

Magnesium strip casting-rolling technology, Magnesium wire rod technology, Magnesium materials, Aluminium materials, Titanium materials

Infrastructure

Casting-rolling line (strip and wire), Continuous rolling mill (strip and wire), Forging press, Testing devices for forming parameters, Metallography (SEM, light microscope)

Certifications

Keywords

Magnesium, Casting rollers, Materials technology, Metallic material composites, Process simulation

Memberships

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Semi-finished parts, Software & databases, Materials	✓	✓	✓
Services & consulting Training, Consulting, Testing and trials, Validation, Simulation, Technology transfer	✓	✓	
Field of technology			
Design & layout Hybrid structures, Lightweight material construction	✓	✓	
<i>Functional integration</i>			
Measuring and testing technology Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis	✓		
Modelling and simulation Materials	✓		
<i>Plant construction & factory automation</i>			
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
Additive manufacturing			
Coating (surface engineering)			
Fibre composite technology			
Forming Bending, Impact extrusion, Compression moulding, Forging, Extrusion moulding, Stretch forming, Thermal converting, Deep-drawing, Rolling, Others: null	✓	✓	
Joining			
Material property alteration Mechanical treatment, Thermomechanical treatment, Heat treatment	✓	✓	
Primary forming Others: null	✓	✓	
Processing and separating			
Textile technology			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Others: null	✓	✓	✓
Fibres			
Functional materials			
Metals			
Aluminium, Magnesium, Steel, Titanium	✓	✓	
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

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Contacts

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