

mageba products – at a glance

Infrastructure & industrial structure products



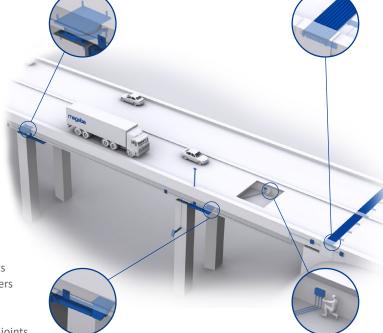
Structural bearings

- Pot bearings
- Spherical bearings
- Elastomeric bearings
- Cylindrical bearings
- Disc bearings
- ILM bearings
- Deformation bearings
- Special bearings



Seismic devices / Structural protection

- Hydraulic dampers
- Shock transmission units
- Preloaded spring dampers
- Friction pendulum
- Rubber isolators
- Fuse-Box for expansion joints





Expansion joints

- Single gap joints
- Modular expansion joints
- Sliding finger joints
- Cantilever finger joints
- Mat joints
- Railway joints
- Flexible plug joints



Structural Monitoring & Services

- Structural health monitoring
- Inspections
- Refurbishments
- Tests

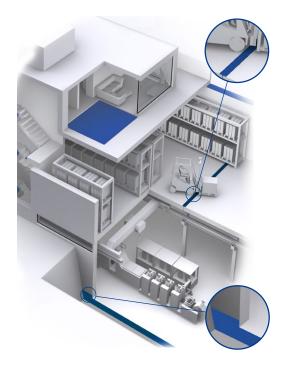
Building products



Structural bearings

- Separation bearings
- Sliding bearings
- Deformation bearings
- Elastomeric bearings
- Heat insulating bearings







Expansion joints

- Heavy duty joints
- Watertight joints
- Standard joints
- Compression joints
- Seismic joints
- Flexible plug joints



Structural Monitoring

mageba –

Team and highlights

People at the heart of everything we do

Those who manufacture important components for bridges or buildings carry a large responsibility to society. In our daily work we strive to exercise this responsibility and to effect positive change for each other, our customers and the wider society.

mageba's employees are the foundation on which the success of the company rests. We are proud to have many of the industry's most knowledgeable and capable individuals in our team. They expertly serve our customers' often very particular needs, and ensure that the quality of our products and services remains at the high level expected.

mageba highlights in a nutshell

- Since its founding over 50 years ago, mageba has equipped well over 20,000 bridges worldwide with its quality products.
- The mageba team offers the expertise and competence of around 1,000 employees worldwide, including over 100 engineers.
- Strong global network with 18 subsidiaries, 70 licensees, and agents in more than 50 countries.
- A distinct spirit of pioneering and innovation, long-term experience, and continual improvement of products and services make mageba a technological leader worldwide.
- Honoured in 2009 with an award for sustainability, reflecting outstanding performance under the headings Economy, Ecology, and Social.
- Finalist at the 2012 "Entrepreneur of the Year" awards for Switzerland's best companies.

- In 2013, the year of the company's 50th anniversary, honoured at the Prix SVC awards as one of the three best SMEs (small and medium enterprises) in the Zurich economic area.
- Through the acquisition and integration of the RW Sollinger Hütte GmbH group of companies in 2014, mageba continues to grow internationally.
- With the acquired business operations of Ludowici Engineered Rubber Products by mageba (Australia) in 2015, mageba can now offer the full range of products and services at competitive pricing throughout Australia and New Zealand.
- In 2016, the new AISC-certified production facility in Pottstown, USA was established.
- Establishment of SISMALAB (Shanghai) in cooperation with SISMALAB Srl. in Italy for testing of anti-seismic devices. Foundation of mageba Slovakia and establishemnt of production facilty.















Structural bearings

mageba structural bearings versatile, strong and long-lasting



Support you can depend on

Bridge bearings transfer forces from the bridge deck to its support pillars or abutments. They can be designed as fixed, guided sliding or free sliding, to suit the movement requirements of the bridge



mageba offers many types of bearing to satisfy bridge-specific requirements: Pot bearings, spherical bearings, elastomeric bearings, horizontal force bearings, linear rocker bearings, lifting and measuring bearings, pendulum bearings, incremental launch bearings and seismic bearings. In the production of these bearings, only highquality materials are used. These include ROBO®SLIDE, a sliding material with exceptional qualities, and the POM sealing chain which has proven its worth over several decades in sealing the elastomeric pad at the heart of a pot bearing.





Elastomeric bearing

Linear rocker bearing



Spherical bearing



Lifting and measuring bearing



(ILM) bearing





High quality as standard

Bearings are manufactured in accordance with EN1337 unless otherwise specified. The CE-label declares conformity with the standard's requirements.



- Assembly of a RESTON®SPHERICAL bearing.
- Cut view of a free-sliding RESTON®POT bearing.
- Reading of the force acting on a RESTON®POT LIFT-CONTROL lifting and measuring bearing, using a portable device.
- RESTON®POT LIFT-CONTROL bearings permanently display loads and can also be used to lift the structure.

Highlights - mageba bridge bearings

- RESTON®POT bearings are among mageba's core products, with over 50,000 delivered to date. One of these set a new world record in 2007 with its ability to carry 21,000 tonnes.
- RESTON®SPHERICAL is a spherical bearing which, especially together with ROBO®SLIDE, offers exceptional durability. It is particularly suitable for large rotations and low temperatures.
- LASTO®BLOCK is an elastomeric bearing which, when using CR elastomer, is highly resistant to ageing, UV light
- RESTON®POT LIFT-CONTROL is a pot bearing which allows the load from a structure to be monitored. It can also be used as a jack to lift the structure if necessary.







Expansion joints

mageba expansion joints – for lasting driver comfort

Ensuring a smooth driving surface

Expansion joints play a vital role on almost any bridge, because the bridge deck moves as a result of temperature and other influences. The movement gap at each end of the bridge deck must be bridged with a flat and even driving surface: the expansion joint. As bridge technology improves, and the spans of new bridges continue to increase, the demands on bridge expansion joints also increase.

Wide and well-proven range

mageba supplies a wide range of expansion joint types, including single gap joints, modular joints, cantilever joints and sliding finger joints, mat joints, railway joints, sliding plate joints and flexible plug joints. Worthy of special mention is the modular expansion joint, which was invented by mageba several decades ago and has been continually developed ever since. This exceptional type of joint has been installed on over 5,000 bridges around the world.

Highlights - mageba expansion joints

- TENSA®MODULAR (Type LR) is an exceptionally flexible and durable joint with optional features such as noise-reducing surface plates, special sliding material, anti-skid coating and earthquake protection.
- TENSA®FINGER (Type RSFD) is a cantilever finger joint which offers high driving comfort.
- POLYFLEX®ADVANCED PU is a flexible plug joint system, based on elastic polymers. Its key benefits include driver comfort, no additional noise emissions and watertightness.
- TENSA®CRETE (Type RE) is a single gap joint consisting of steel edge profiles anchored in high-strength polymer concrete.

Single gap joint



Cantilever finger joint



Mat ioint



Modular joint



Sliding finger joint



Flexible plug joint









- 1 A TENSA® MODULAR joint (type LR24, with 1,920 mm movement capacity) during installation.
- 2 Removal of asphalt and cutting of support ribs in preparation for the installation of a POLYFLEX®ADVANCED PU expansion joint.
- $\label{eq:continuous} 3 \qquad \text{Installation of a TENSA} ^{\circ}\text{FLEX} \ (\text{Type RC}) \ \text{sliding} \\ \text{finger joint. The modular nature of the joint allows} \\ \text{installation with minimal impact on traffic.}$
- 4 The TENSA®CRETE SILENT (Type RE-LS) joint is particularly suited to replacement of old joints in busy roads. It normally requires no breaking out of concrete and its special polymer concrete cures in only a few hours.





Seismic devices

mageba seismic devices – damping, absorbing and protecting

Growing demand for seismic protection

Bridges, buildings and other structures can be subjected to extreme movements and vibrations during an earthquake. This can cause a structure to fail if suitable protection has not been detailed. The demand for seismic protection features, especially for key buildings and transportation routes, continues to grow strongly.

Protecting bridges and buildings

In addition to supplying infrastructure and building products, mageba also specialises in reliable solutions for the protection of structures. A wide range of products are offered, including Fuse-Box protection for modular joints, hydraulic and spring dampers, lead rubber bearings, and vibration isolation products for buildings.

Customised solutions

mageba is also pleased to assist in the development of specialised solutions for any particular set of requirements, and of sustainable solutions with consideration of durability, long life and future needs.





Lead rubber bearings



Hydraulic dampers



Precompressed bearings









- Hydraulic dampers, Shock Transmission Units (STU) and preloaded spring dampers absorb and dissipate excessive energy during dynamic events such as earthquakes.
- Spring disc dampers are particularly valued for their reliability, top-quality materials, and durability.
- Lead Rubber Bearings (LRB) constitute the world's most widespread solution for the protection of bridges and buildings during earthquakes.
- Fuse-Box The Fuse-Box feature ensures that a modular joint will disconnect from the main structure in a controlled way during an earthquake.
 This prevents major damage to the bridge or expansion joint.
- 1 RESTON® hydraulic dampers. mageba dampers offer an economical means of strengthening a structure. They can be expected to function for well over 50 years.
- 2 Thorough testing of a spring disc damper at the independent testing laboratory EMPA (Switzerland).
- 3 Lead Rubber Bearings have proven their worth in many earthquakes around the world.
- 4 A modular expansion joint featuring Fuse-Box seismic protection (on the left), before installation on a bridge.











Structural monitoring

mageba monitoring & services – control and safety at all times



Data Communication Application Server Web Interface





The increasing need for control

The ability of engineers to design, construct and maintain structures has greatly improved in recent decades. The need for structural health monitoring has also grown accordingly.

Real-time monitoring

mageba monitoring systems provide realtime information on any desired characteristic of a structure – for example forces, movements, vibrations, crack widths or temperature. This increases confidence in the structural integrity of a structure, and ensures that safety measures can be implemented in good time, if necessary.

"Smart" expansion joints



Integrated system for structural bearings



Crack monitoring



Functionality test



Online monitoring via Internet (24hr)



Rock anchor monitoring



- 1 mageba has over 50 years of experience in the conventional inspection of structures.
- 2 ROBO®CONTROL is a fully automated monitoring system that makes measured data available via the Internet.
- 3 A ROBO®CONTROL Box the heart of mageba's structural health monitoring system.
- 4 Low energy systems enable ROBO®CONTROL to be installed in even the most remote locations.

Highlights – mageba monitoring & services

- ROBO®CONTROL a modern and flexible system which offers quick, efficient and inexpensive health checking of any type of structure.
- Inspections a vital part of any structure's maintenance plan. Done properly and professionally, they can ensure that possible problems are identified in good time.
- mageba can provide complete testing of any bridge product.



Building products

mageba building products – engineering connections®

Leading supplier of building products

Although mageba is best known around the world for its bridge products, the company has also supplied building products for over 40 years and has in the last decade taken a leading position in the competitive Swiss building products market.

Solutions for movements

Residential and industrial buildings, hospitals, stadiums, airports, railway stations and countless other buildings have been fitted with mageba products such as bearings and expansion joints. These can be specified to fulfil a wide range of purposes, including efficient transmission of forces, earthquake protection, and to allow controlled movements between sections of a building.

Reinforced elastomeric bearings



Flexible plug expansion joints

Point bearings with

PTFE sliding surface

Unreinforced deformation bearings



Metal expansion joints





Compression seal joint profiles









- The POLYFLEX®SLIM PU plug-type expansion joint offers excellent flexibility, reliability and watertightness, even at a material thickness of just 40 mm.
- TENSA®COMPRESS A expansion joints facilitate longitudinal, vertical and transverse movements of one part of a building relative to another. The joint's inner ribbing ensures that it retains its form in any state of compres-
- The MIGUTRANS product range comprises a user-oriented, highly developed and sophisticated range of expansion joint solutions that meet all functional and aesthetic demands of innovative architecture.
- POLYFLEX®SLIM PU plug expansion joints based on Polyurethane (PU) flexible material for the specific requirements of buildings.
- RESTON®SPHERICAL bearings are suitable for use in structures with medium to high loads, and structures with limited space for bearings to be installed.
- MIGUTRANS heavy duty all-metal expansion joints for high traffic loads, e.g. in industrial or warehouse facilities.
- TENSA®COMPRESS Type A expansion joints are simple and quick to install, making them an attractive choice for a range of building purposes.







mageba quality and know-how – for lasting and reliable products

Systematic Quality Management

- First company in its field to have its quality assurance system certified in accordance with ISO 9001 (in 1991).
- Extensive experience in quality management and assurance. Experienced quality specialists and welding engineers (IWE/CWI), and certified inspectors in all manufacturing facilities.
- Systematic control of all business processes ensured by mageba's constantly

developing and improving quality system

- Product testing at external, independent institutions such as universities and material testing bodies.
- Close cooperation in the fields of external quality control and research and development with the Universities of Stuttgart and Karlsruhe (Germany) and Innsbruck (Austria).



















Technical Excellence

- Experience over many years with movements and transfer of forces in structures, and with damping of impacts, seismic protection and insulation against sound and vibration.
- Inventor of the modern modular expansion joint and holder of a number of patents in the areas of structural bearings and expansion joints.
- Active collaboration in international committees and contribution to the development of international standards (CEN / EN / EOTA) for structural bearings and expansion joints.
- Cooperation with internationally recognised experts and institutions such as ETH Zurich and Lausanne, MPA Stuttgart and University of Karlsruhe.







mageba – worldwide success for over 50 years



Gateway bridge, Australia



Europa bridge, Austria



Chongming bridge, China



Krka bridge, Croatia



Oparno bridge, Czech Republic



Öresund bridge, Denmark



Pont de Normandie, France



Köhlbrand bridge, Germany



Pentele bridge, Hungary



Wazirabad bridge, India



Infiernillo bridge, Mexico



Tacitus bridge, the Netherlands



Sotschi Olympic Station, Russia



Geoga bridge, South Korea



Viaduct de Chillon, Switzerland



West bypass Zürich, Switzerland



Third Bosporus bridge, Turkey



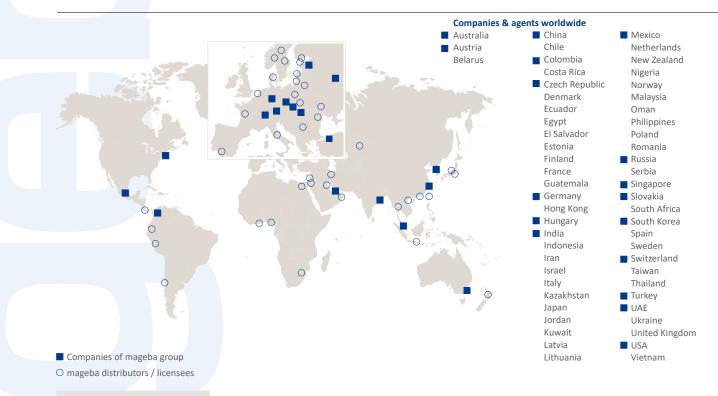
Queensferry Crossing, United Kingdom



Bayonne bridge, USA



engineering connections® - since 1963



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