



Building products

Civil products



engineering connections®

**mageba**  
Switzerland [www.mageba.ch](http://www.mageba.ch)

# mageba products – at a glance

## Bridge products



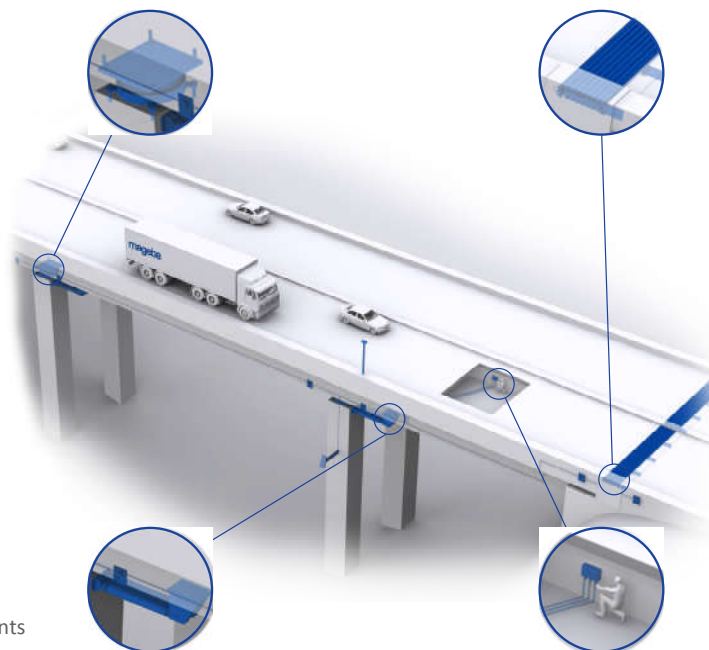
### Bridge bearings

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



### Seismic protection / Structural protection

- Hydraulic dampers
- Shock transmission units
- Preloaded spring dampers
- Spring disc dampers
- Lead rubber bearings
- Fuse-Box for expansion joints



### Expansion joints

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



### Monitoring & Services

- Structural health monitoring
- Inspections
- Refurbishments
- Tests

## Building products



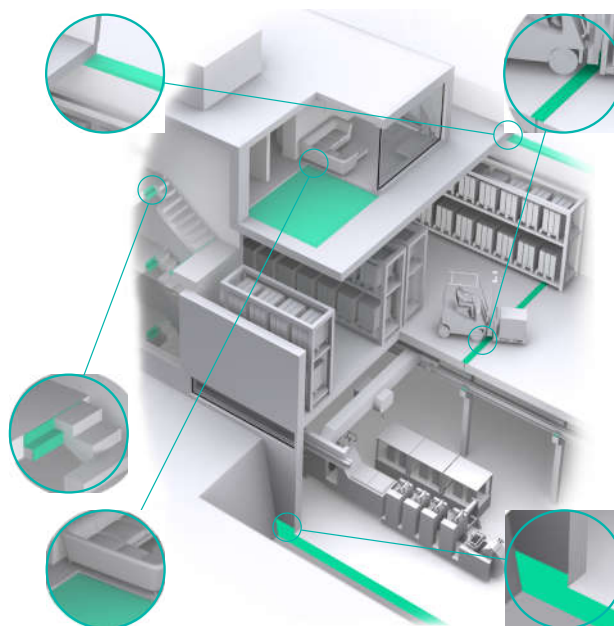
### Bearings

- Slab bearings
- Wall bearings
- Separation bearings
- Sliding bearings and foils
- Deformation bearings
- Elastomeric bearings



### Vibration isolation

- Vibration isolation bearings
- Impact sound insulation
- Staircase bearings
- Pedestal bearings
- Vibration isolation connectors



### Expansion joints

- Floor profiles for indoor and outdoor
- Facade profiles
- Wall and ceiling profiles
- Profiles for slabs and tiles



### Special products

- Sealing membranes
- Hydrophilic rubber seals
- Adhesive and sealing compounds
- Shear connectors
- Insulated cantilever connectors

# mageba – Team and highlights

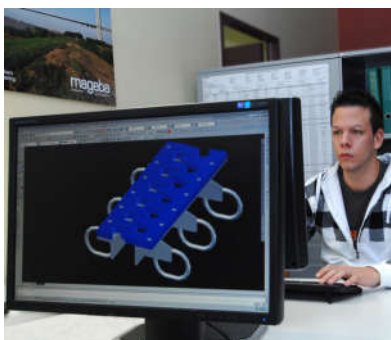
## People at the heart of everything we do

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

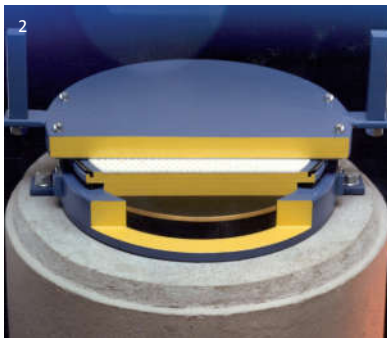
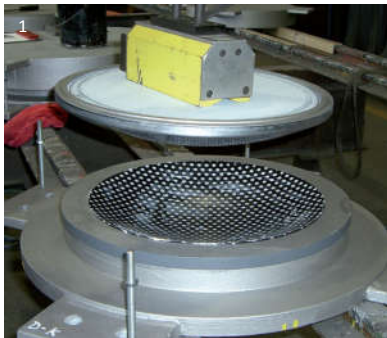
- Since its founding over 45 years ago, mageba has equipped well over 10,000 bridges worldwide with its quality products.
- The mageba team offers the expertise and competence of more than 300 employees worldwide, including over 50 engineers.
- Strong global network with 4 subsidiaries, 10 licensees, and agents in more than 45 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.





## Bridge bearings

# mageba bridge 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 deck.

### Wide range of high-quality bearings

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 high-quality 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.

### High quality as standard

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

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

### Elastomeric bearing



### Pot bearing



### Linear rocker bearing



### Spherical bearing



### Lifting and measuring bearing



### Incremental launch bearing (ILM) bearing



### 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 and ozone.
- 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.



Assembly of a RESTON® POT bearing.



Final assembly works before installation of a large TENSA®MODULAR expansion joint.



## 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 and sliding plate 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.
- TENSA®FLEX (Type RC) is a sliding finger joint which offers minimum noise and maximum driving comfort. It is easy to install and can accommodate small vertical movements.
- TENSA®CRETE (Type RE) is a single gap joint consisting of steel edge profiles anchored in high-strength polymer concrete.

Single gap joint



Modular joint



Cantilever finger joint



Sliding finger joint



Mat joint



Railway joint



1 A TENSA®MODULAR joint (type LR24, with 1,920mm movement capacity) during installation.

2 Installation of a TENSA®FINGER (Type RSFD) cantilever finger joint with 240mm movement capacity.

3 Installation of a TENSA®FLEX (Type RC) sliding finger joint. The modular nature of the joint allows 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 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 civil engineering 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.

STUs



Hydraulic dampers



Lead rubber bearings



Precompressed bearings



### Highlights – mageba seismic devices

- Hydraulic dampers 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).

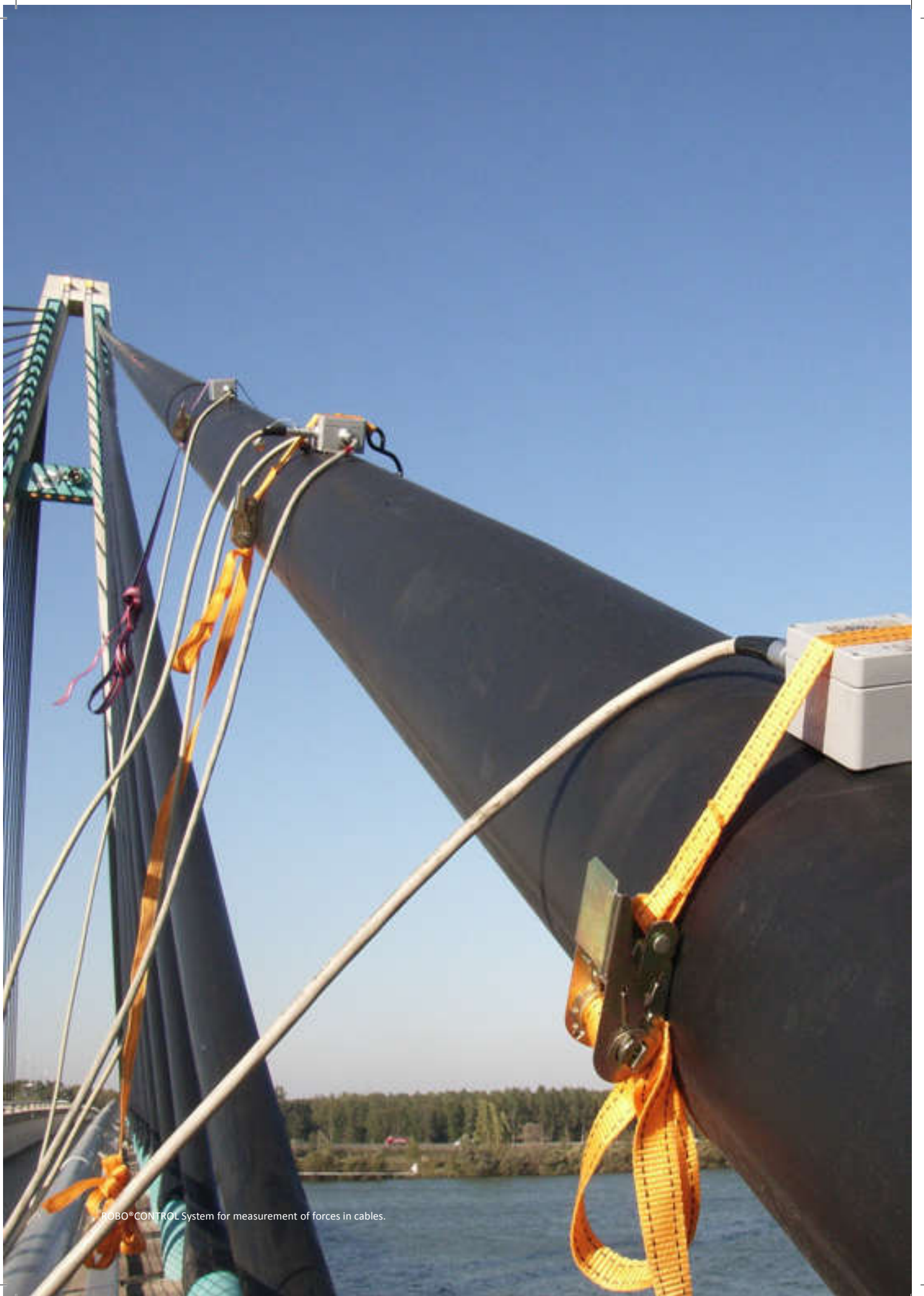
3 Lead Rubber Bearings have proven their worth in many earthquakes around the world.

4 A modular expansion joint featuring Fuse-Box seismic protection (on the left), before installation on a bridge.





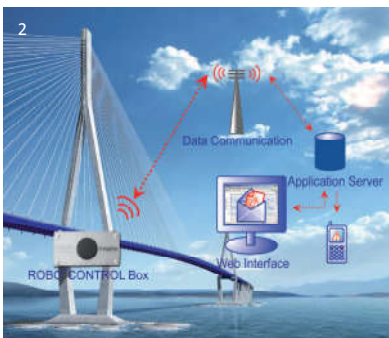
A TENSA® MODULAR expansion joint featuring Fuse-Box during installation.



ROBO®CONTROL System for measurement of forces in cables.



# mageba monitoring & services – control and safety at all times



## 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 real-time 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.

## ROBOCONTROL Box



## Installation of a solar panel



## Crack monitoring



## Functionality test



## Online monitoring via Internet (24hr)



## Rock anchor monitoring



## Highlights – mageba monitoring & services

- ROBOCONTROL - 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.

1 mageba has over 40 years of experience in the conventional inspection of structures.

2 ROBOCONTROL is a fully automated monitoring system that makes measured data available via the Internet.

3 A ROBOCONTROL Box - the heart of mageba's structural health monitoring system.

4 Low energy systems enable ROBOCONTROL to be installed in even the most remote locations.



## 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 30 years and has in the last decade taken a leading position in the competitive Swiss building products market.

### Solutions for movements, vibrations and noise

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 noise and vibration isolation, efficient transmission of forces, and earthquake protection, and to allow controlled movements between sections of a building.

#### LASTO®KORK



#### LASTO®STRIP



#### LASTO®MEGAMAT



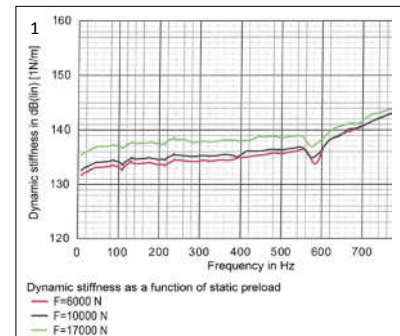
#### TENSA®GRIP Typ RB



#### LASTO®TRELA



#### TENSA®ACME



### Highlights – mageba building products

- LASTO®STRIP linear strip bearings accommodate forces, movements and rotations, preventing damage and thus extending the life of the building.
- TENSA®ACME 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 compression.
- LASTO®TRELA stair bearings are used to dampen vibrations from foot traffic on stairs, significantly reducing the resulting noise.
- TENSA®GRIP SILENT is a strong and very elegant expansion joint for use both internally and externally. It is waterproof, and its surface profiles offer excellent over-rolling comfort while also reducing noise to a minimum.

1 mageba building products are continually reviewed and further developed. The diagram shows the current measured values of the dynamic stiffness of LASTO®ISOBLOCK bearings.

2 LASTO®STRIP linear strip bearings are easy to install, and can be provided with a PTFE strip, sliding sheet and silicone grease to facilitate sliding movement.

3 TENSA®ACME expansion joints are simple and quick to install, making them attractive for many building purposes.

4 Final installation of LASTO®MEGAMAT and LASTO®GREI G8. Placed under machines in industrial or residential buildings, this greatly reduces vibrations and noise.



Positioning of pre-cast concrete elements on the prepared LASTO®ISOBLOCK vibration bearings at EMPA in Dübendorf.

# 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. Expert in-house quality and welding engineers (IWE).
- 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 bridge 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 40 years



Gateway Bridge, Australia



Golden Ears Bridge, Canada



Chongming Bridge, China



Krka Bridge, Croatia



Lillebaelt Bridge, Denmark



Öresund Bridge, Denmark/Sweden



Pont de Normandie, France



Wallerbach Bridge, Germany



Convention Center, Hong Kong



Tsing Ma Bridge, Hong Kong



Bandra-Worli Sea Link, India



Vasco da Gama Bridge, Portugal



Aescher Tunnel, Switzerland



Paul Klee Museum, Switzerland



Pont de la Poya, Switzerland



Stade de Suisse, Switzerland



Western Bypass, Zürich, Switzerland



Galata Bridge, Turkey

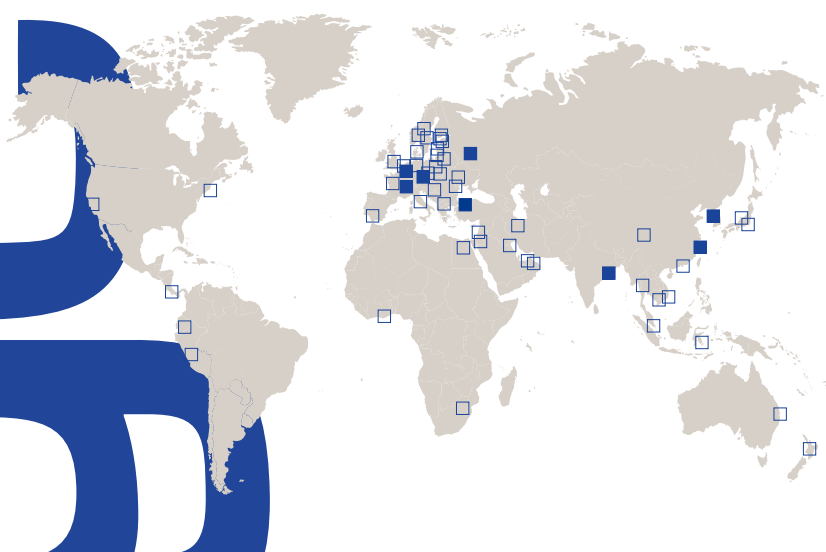


Audubon Bridge, USA



Can Tho Bridge, Vietnam

# engineering connections®



Companies of mageba group  
mageba distributors / licenseses

## Companies & agents worldwide

|                |              |
|----------------|--------------|
| Australia      | Kuwait       |
| Austria        | Latvia       |
| Cambodia       | Lithuania    |
| China          | Netherlands  |
| Costa Rica     | New Zealand  |
| Croatia        | Norway       |
| Czech Republic | Oman         |
| Denmark        | Peru         |
| Ecuador        | Poland       |
| Egypt          | Romania      |
| Estonia        | Russia       |
| Finland        | Serbia       |
| France         | Singapore    |
| Germany        | South Africa |
| Ghana          | South Korea  |
| Great Britain  | Spain        |
| Hong Kong      | Sweden       |
| India          | Switzerland  |
| Indonesia      | Thailand     |
| Iran           | Turkey       |
| Israel         | UAE          |
| Italy          | Ukraine      |
| Japan          | USA          |
| Jordan         | Vietnam      |

## mageba headquarters



SWITZERLAND  
**mageba sa**  
Sollstrasse 69  
8100 Solothurn - Switzerland  
Tel. +41 44 872 40 50  
Fax +41 44 872 40 59  
info@mageba.ch

## mageba companies / subsidiaries

SWITZERLAND  
**mageba sa**  
Rte. de Montheron 8D  
1053 Cugy VD - Switzerland  
Tel. +41 21 731 07 10  
Fax +41 21 731 07 11  
cugy@mageba.ch

GERMANY  
**mageba gmbh**  
Hans-Böckler-Str. 12  
37170 Uslar - Germany  
Tel. +49 5571 9256 0  
Fax +49 5571 9256 56  
uslar@mageba.ch

GERMANY  
**mageba gmbh**  
Steinbeisstrasse 40  
73730 Esslingen - Germany  
Tel. +49 711 758844 0  
Fax +49 711 758844 56  
stuttgart@mageba.ch

AUSTRIA  
**mageba gmbh**  
Seglerweg 1  
6972 Fussach - Austria  
Tel. +43 5578 75593  
Fax +43 5578 73348  
info@mageba.at

RUSSIA  
**mageba Moskau**  
Regus Business Centre Citydel  
Zemlyanoy val, 9, 4th floor  
105 064 Moskau, Russia  
Tel. +7 495 967 93 20  
Fax +7 495 967 97 00  
info@mageba.ch

RUSSIA  
**mageba St. Petersburg**  
Regus Austrian Business Center,  
Nevsky Prospekt 55, lit. A, 3 floor  
191025, St. Petersburg, Russia  
Tel. +7 812 313 92 81  
Fax +7 812 313 91 00  
info@mageba.ch

INDIA  
**mageba bridge products Pvt. Ltd.**  
45, Jhowtala Road, 3rd Floor  
700 019 Kolkata - India  
Tel. +91 33 229 00 250  
Fax +91 33 229 00 254  
info@mageba.in

CHINA  
**mageba (Shanghai) Ltd.**  
No. 388 Bei Huan Road  
Shanghai (201402) - China  
Tel. +86 21 5740 7637  
Fax +86 21 5740 2783 819  
info@mageba.cn

SOUTH KOREA  
**mageba (Korea) Co. Ltd.**  
Hanshin Intervalley24 Bldg.  
West Hall, #701-2  
707-34, Yeoksam 2-Dong  
Gangnam-Gu, Seoul 135-918  
Tel. +82 2 2183 2020  
Fax +82 2 2183 2022  
info@mageba.co.kr

TURKEY  
**mageba A.Ş.**  
Marmara Geri Dönüşümcüler  
San.Sit. Şekerpinar Mah.  
Ayçiçeği Sk. No:17  
Çayırova / Kocaeli, Turkey  
Tel. +90 262 658 23 80  
Fax +90 262 658 23 81  
info@mageba.com.tr

**mageba**  
Switzerland [www.mageba.ch](http://www.mageba.ch)