



Expansion joints

mageba – Expansion joints for buildings, internal and external areas





Expansion joints

Expansion joints prevent structural corrosion and damage to surfacing

Movements resulting from thermal expansion and loading changes must be accommodated

The lengths of structural elements, and of superstructures in particular, change as a result of **materials shrinkage**, temperature fluctuations and loading variations – perhaps many times in the course of their lives. To **avoid surface cracking and possibly more serious damage**, the length of each individual structural element is often limited, with gaps between elements to allow movements. These gaps must be bridged over, and made trafficable if appropriate, in every state of expansion. **Expansion joints of steel or aluminium** offer well-proven solutions. These facilitate variations in length **without constraints and cracking, protect the surfaces of adjacent structural elements**, and, if necessary, **prevent the ingress of water**.

Watertightness is a key requirement

The watertightness of an expansion joint is determined not only by that of the **joint itself** but also by that of its **connection to the waterproofing system** of the supporting structure at each side. Details such as wall connections and T-joints present potential weak points and must be made just as watertight as the rest of the joint. Water is unforgiving of half-hearted solutions.

Serviceability can be affected

Cracking of a structure or its surfacing, or ingress of water, can lead to **serious structural damage**, and may result in **consequential damages** such as interruption of production and warehousing or water damage to goods.

Contents

Function of expansion joints	2
Applications.....	3
Requirements.....	4
Overview.....	4
Geometry.....	4
Aesthetics.....	4
Special requirements.....	4
Loading demands and strength.....	5
Load classes.....	5
Installation possibilities.....	5
Planning.....	6
Well-designed expansion joints are durable and prevent structural damage..	7
Products at a glance.....	8
TENZA®	8
MIGUTEC®	8
MIGUTRANS®	8
MIGUTAN®	9
MIGUMAX®	10
Selection of expansion joint profiles...	12
References.....	18
Services.....	19



- 1 Corrosion damage to the underside of a slab in a multi-storey car park, resulting from a poorly executed, non-watertight expansion joint
- 2 Damage to surfacing resulting from the lack of an expansion joint

Cover photograph:

Project:	Néstlé Head Office, Vevey, Switzerland
Requirement:	Expansion joints for internal and external areas
Solution:	TENZA®BASE, MIGUTAN®
Installation year:	2003/2012

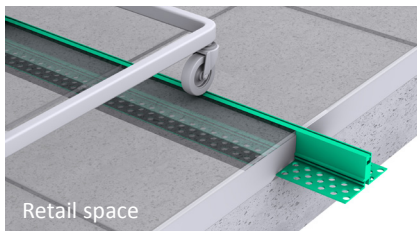


Expansion joints

Solutions for all applications

Retail space

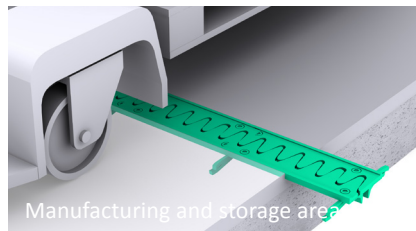
The shopping experience should not be tarnished by unattractive structural details. mageba offers **aesthetically pleasing, well-proven solutions** for expansion joints in floors, walls and ceilings. A wide range of colours is available, and the profiles can be fabricated from various materials. Stainless steel, corrosion-protected steel and aluminium are **durable, high-quality materials** that can be seamlessly integrated into any architectural concept. Are you interested in **special surfaces or colours**? We can make it possible. Contact us!



Retail space

Manufacturing and storage areas

Fork-lift trucks, whether with hard or air-filled tyres, subject expansion joints to very high loading. Leaking water, joints which can only be driven across with care (if at all), and spalling edges of connecting surfacing can become a source of **lasting inconvenience for operations**. In such cases, mageba's **durable solutions** for such **highly loaded flooring** are called for. **Significant consequential costs** resulting from **damage to goods** and **interruptions to operations** can thus be avoided. mageba also offers comprehensive professional **condition assessments and support** in determining appropriate solutions.



Manufacturing and storage area

Office and residential buildings

Carpets, parquet flooring, linoleum and other surfacing materials must be split at the structure's expansion joints. The edges of the surfacing materials are weak points and can thus be subjected to only minimal mechanical demands. mageba offers solutions which satisfy the **highest aesthetic demands**, as demonstrated by many **hotel reference projects**. These joints with small movements are considered by many to be technically simple and are thus often **underestimated**. However, they can be subjected to **high loading from rolling suitcases, file trolleys** and so on.



Office and residential buildings

Multi-storey car parks and access ramps

Multi-storey car parks and access ramps present particular challenges for expansion joints. Joints must be **watertight** and **resistant** to significant **chemical contamination** from de-icing salt, petrol and oil. In external areas they must also be able to **withstand all kinds of weather**. The German concrete and construction technology association (DBV) recommends that horizontal joints should be continued in vertical direction without any offset. For this, mageba offers well-conceived detail solutions which can enable every transition and change of direction to be **created with the same high quality**. By combining expansion joint and drainage as one, costs and space can be saved. **Compression joint profiles** can be combined with horizontal joints. This may lead to significant savings in costs and installation time.



Multi-storey car parks and access ramps

Laboratories, hospitals and the food processing industry

Hygiene is of paramount importance in hospitals, laboratories and food processing facilities. Therefore, mageba has developed, together with its partners, solutions which enable the expansion joints used in such buildings to be **easily and thoroughly cleaned**, and where demands are especially high, to have their **insert profiles easily replaced** as often as necessary. This is achieved by the use of **flat-topped** inserts and **high-quality metal**, and by **innovative joint designs**.



Laboratories, hospitals and the food processing industry

Trans-shipment centres and chemical or pharmaceutical plants

Chemicals can quickly cause damage to the inserts of expansion joints, resulting in **diminished fitness for purpose** – if the material used is not carefully selected. Resistance to chemical substances must therefore be properly considered. For insert profiles, mageba uses only **selected highly-resistant materials**, and for the supporting edge profiles, **high-quality stainless steel**. We will be happy to support you in selecting an expansion joint to suit your needs.



Trans-shipment centres and chemical or pharmaceutical plants

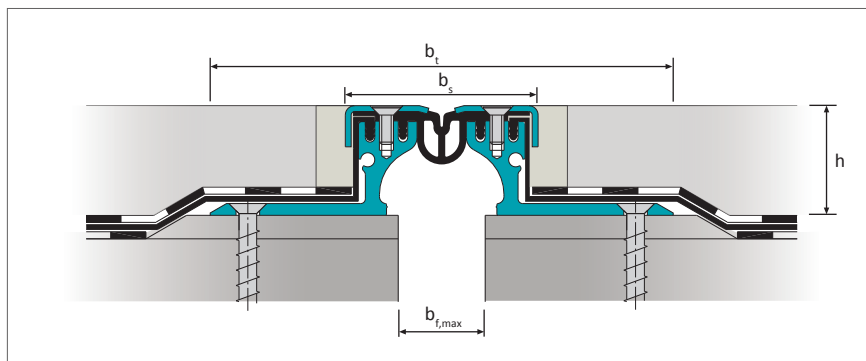


Expansion joints

mageba reconciles your aesthetic and technical needs in a single solution

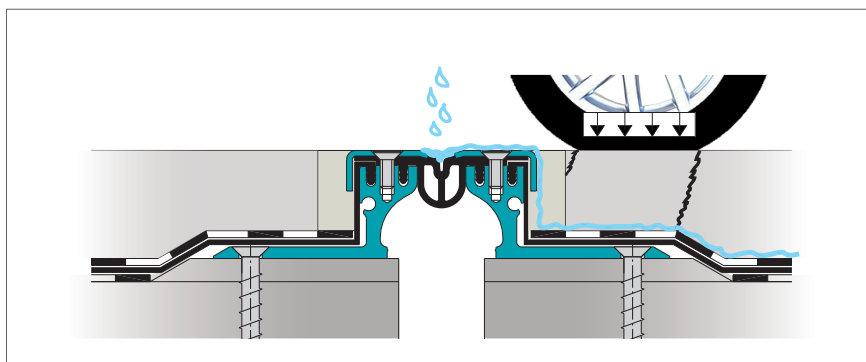
Geometrical specification

- maximum gap width $b_{f,max}$
- Visible width b_s
- Total joint width b_t
- Joint height h
- Joint movements in all directions (x, y and z axes)
- Thermal movements
- Earthquake movements



Overview of demands

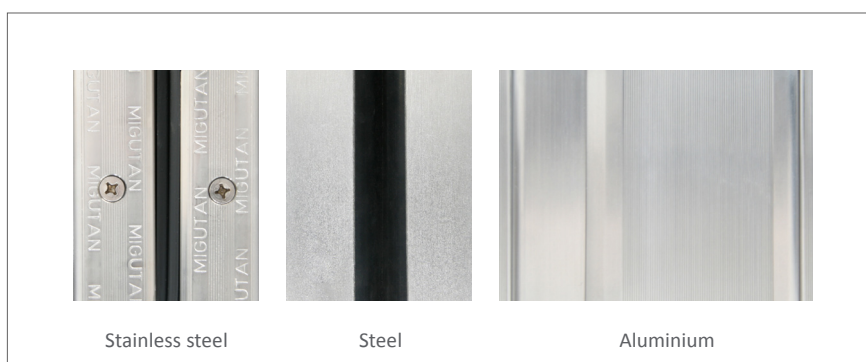
- Load carrying capacity
- Watertightness of the joint and its connections at each side
- Thermal expansion and earthquake movements
- Suitability for pedestrian traffic (e.g. with high-heeled shoes)
- Resistance to aggressive substances
- Avoidance of vibrations
- Prevention of damage to connecting surfacing
- Aesthetics



Special requirements

Special **hygiene needs**, such as arise in hospitals or the food processing industry, call for profiles with a smooth, flat surface that can be easily cleaned. Chemical and pharmaceutical industry buildings, and trans-shipment centres, require expansion joints with **high resistance** to aggressive substances. In such cases, edge profiles of stainless steel and inserts of highly resistant compounds must be used.

In particularly noise-sensitive areas, or where delicate goods are transported (such as in a glass factory), special **low-vibration, low-noise expansion joints** are needed.



Aesthetics

The high-quality materials used and the **wide range of colours** available for the inserts enable the expansion joints to be virtually **perfectly integrated in the floor surfacing**. Please ask us about the possibilities!





Expansion joints

Well-proven solutions, also for special needs

Loading demands and strength






When it comes to traffic, **the magnitude of vehicle wheel loads** is not the only factor affecting an expansion joint; another is the type of wheel. **Steel rollers** can cause **much higher pressures** on a joint than air-filled tyres, and if in constant use, can quickly result in **severe damage** to the joint or the connecting surfacing.

For all mageba products, **details of load carrying capacity** can be found in the appropriate **product brochure**.

In advising you about the options to fulfil your needs, mageba will consider all factors influencing load carrying capacity, with attention to the required service life. We can also, on request, **determine the loading on the joint from special vehicles**.

Load classes

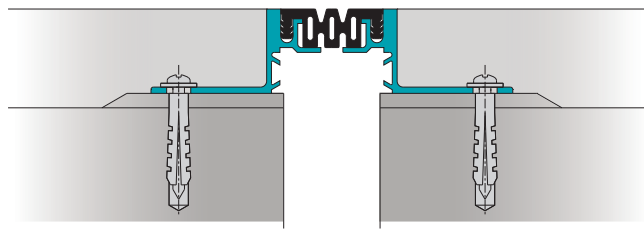
In the adjacent table you can find the load classes for trafficable surfaces in accordance with EN124, *Gully tops and manhole tops for vehicular and pedestrian areas*, and DIN 1229, *Unit weights for gully tops and manhole tops for vehicular and pedestrian areas*.

Load class A Areas which can only be used by pedestrians and pedal cyclists		Proof load 15 kN
Load class B Footways, pedestrian areas and comparable areas. Car parking surfaces and car parking decks		Proof load 125 kN
Load class D Carriageways of roads (including pedestrian streets), hard shoulders of roads and parking areas, which are permitted for all types of road vehicle		Proof load 400 kN
Load class E Areas that are subjected to high wheel loading, e.g. docks, airport pavements		Proof load 600 kN
Load class F Areas that are subjected to particularly high wheel loading, e.g. airport pavements		Proof load 900 kN

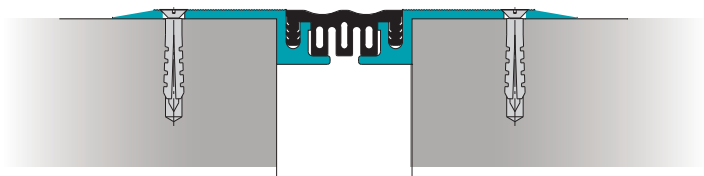
Installation possibilities

In new construction, expansion joints are **generally installed on a mortar bed**. In the case of renovations, this is rarely possible, so mageba also offers profiles for **retrospective installation** on existing floors and walls. Concreting in place arises in particular where the joint is **directly installed in a concrete structural element** or is used in granolithic floor screeds.

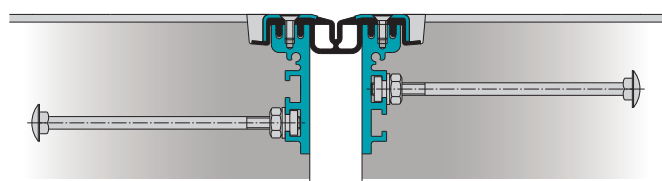
Standard installation



Retrospective installation (e.g. renovation work)



Installation in concrete





Expansion joints

Expansion joints require proper planning

Planning

Application area, floor surfacing, slab construction and the location of the structure's sealing level are just a few of the many factors that must be considered in selecting a suitable expansion joint and planning its installation. Thanks to several decades of experience, mageba is well qualified to support and advise you in this.

mageba expansion joints are prefabricated and pre-assembled

mageba expansion joints are fabricated in accordance with as-built construction measurements, and assembled a first time in the factory. This ensures that the joints can be installed without any difficulties, and that watertightness will not be compromised by avoidable site adaptations.

Expansion joint systems

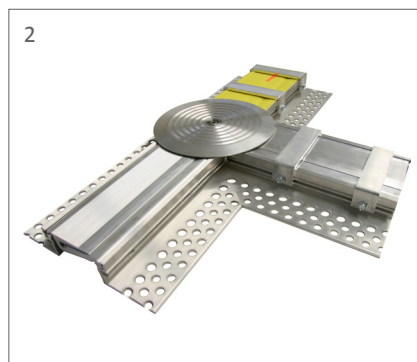
The quality and durability of an expansion joint system depends greatly on its design and detailing. A good system thus includes **preformed detail and connection pieces, supplemental components and installation aids**. mageba does not leave anything to chance, and takes the responsibility of supplying a quality product seriously.

Whether crossings, T-junctions, or level changes, mageba offers a perfect solution for every part of the joint, with pre-formed detail pieces. A **plug-in system**, capable of **transmitting transverse forces**, connects the detail pieces to the straight profiles, simply and securely.

For expansion joints that are designed to be watertight, a continuous sealing profile is used along the full length of the joint, with long or short connection membrane at each side to suit requirements.

Special designs

mageba can manufacture expansion joints of any size, tailored to given dimensions and to suit project-specific requirements. We can provide varied colours of edge profiles and inserts, engraving in the surface, or joints with integrated drainage channel – to name just a few examples.

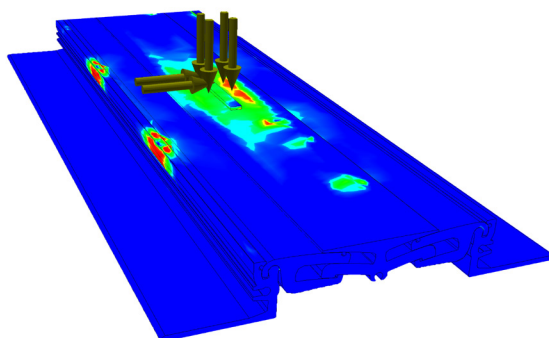


- 1 Pre-assembly of an expansion joint in production facility
- 2 Prefabricated (waterproof T-junction) for a MIGUTANS aluminium joint
- 3 High load capacity TENSAR®GRIP FAB joint with drainage channel

Research and development

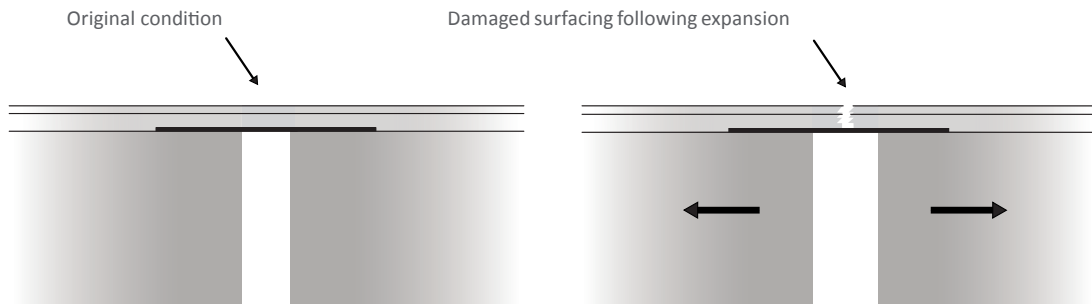
The durability of an expansion joint is heavily dependent on the **quality of the materials used** in its manufacture. mageba and its partners invest a great amount of time in **developing high-quality materials** for the edge profiles and the inserts. By means of FEM analysis, the **load carrying performance of the profiles is simulated**, enabling their long-term ability to withstand the specified loading to be verified.

Example of an FEM analysis of an expansion joint

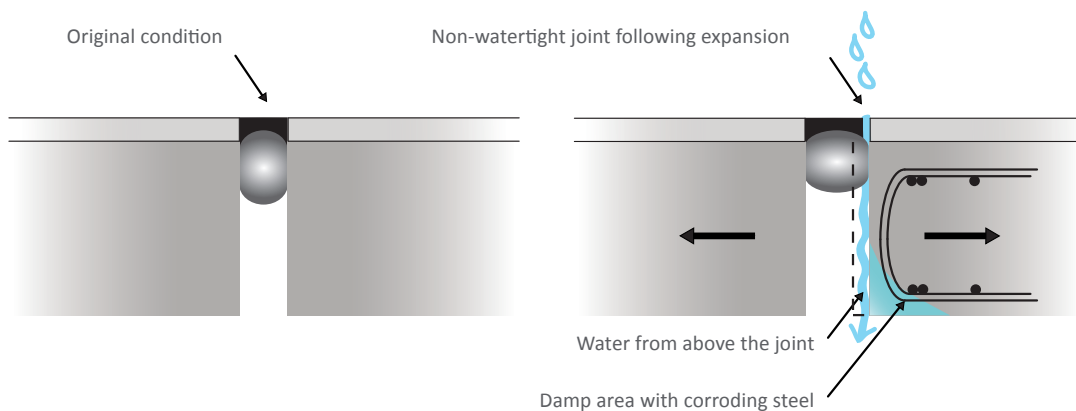


Well-designed expansion joints are durable and prevent structural damage

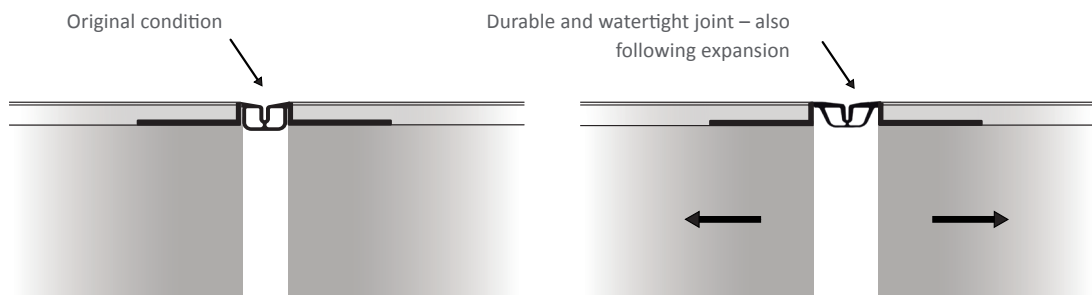
Without an expansion joint – Damage to surfacing



Non-watertight expansion joint – Corrosion damage



Well-conceived and well-designed expansion joint - Aesthetically pleasing and durable





Expansion joints

Our thermal expansion joint products...

TENSA®GRIP

Types	FAB, RB
Max. gap width	20-25 mm
Max. movement	±5 mm
Profile height	80-90 mm

TENSA®COMPRESS

Types	A,N
Max. gap width	16-135 mm
Max. movement	4-65 mm
Profile height	16-100 mm

Standard floor joints

Types	FL, FLK, FLT, FV, FT, FP
Max. gap width	100 mm
Max. movement	±20 mm
Profile height	15 - 20 mm

Joints for aggressive substances

Types	ES
Max. gap width	50 mm
Max. movement	+10/-6 mm
Profile height	15 - 90 mm

Joints in hygienic areas

Types	FLG, FPG, FG, ESG, FNG
Max. gap width	50 mm
Max. movement	±4 mm
Profile height	20-105 mm

Joints for rehabilitation, renovation or modernisation works

Types	FTN, FN, FKN
Max. gap width	100 mm
Max. movement	±30 mm
Profile height	12-40 mm

Field-limiting and contraction joints

Types	ESF
Max. gap width	15 mm
Max. movement	±5 mm
Profile height	30-60 mm

Wall and ceiling joints

Types	D, DE, FA, FAE, WP, KF, FB, CP, FA
Max. gap width	350 mm
Max. movement	±100 mm
Profile height	12-70 mm

Joints for elevated loading conditions

Types	FS
Max. gap width	114 mm
Max. movement	±25 mm
Profile height	20-97 mm

TENSA

MIGUTEC

MIGUTRANS



Expansion joints

...at a glance

Joints for high loading conditions

Types	FS, FSV
Max. gap width	150 mm
Max. movement	±30 mm
Profile height	15-140 mm

Joints for retrospective installation

Types	FSN
Max. gap width	240 mm
Max. movement	±30 mm
Profile height	15-97 mm

Joints for vibration-free crossing

Types	FS, FSS, STS, STD
Max. gap width	60 mm
Max. movement	±20 mm
Profile height	23-50 mm

Joints for maximum loading conditions

Types	STS
Max. gap width	15 mm
Max. movement	±5 mm
Profile height	17-62 mm

Joints for maximum loading conditions, watertight

Types	STD
Max. gap width	60 mm
Max. movement	±20 mm
Profile height	31-62 mm

Joints for use with bituminous sealing systems

Types	FP, FPG, FPI
Max. gap width	120 mm
Max. movement	±60 mm
Profile height	25-117 mm

Joints for use with coating systems

Types	FP, FPG, FPI, FPL
Max. gap width	120 mm
Max. movement	±60 mm
Profile height	25-117 mm

Joints for use with alternative sealing systems

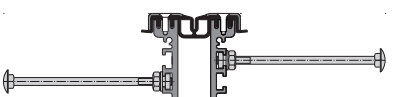
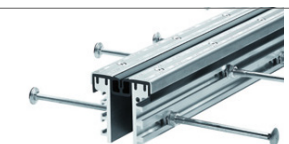
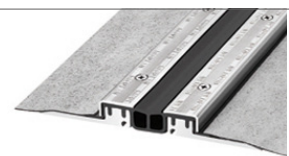
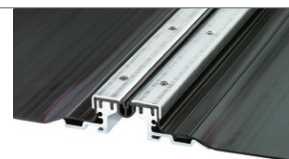
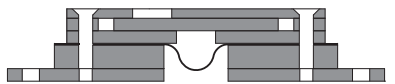
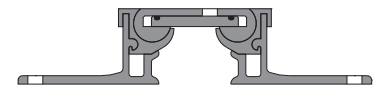
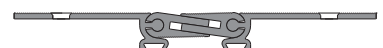
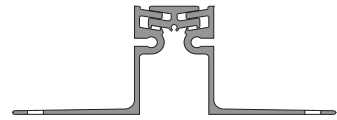
Types	FP, FPG
Max. gap width	120 mm
Max. movement	±60 mm
Profile height	27-117 mm

Joints for concreting in place

Types	FPG, FPI, FPL
Max. gap width	118 mm
Max. movement	±60 mm
Profile height	75-100 mm

MIGUTRANS

MIGUTAN





Expansion joints

Our earthquake expansion joint products...

Joints for extremely high movements

Types	SDPP 65
Max. gap width	100-500 mm
Max. movement	±640 mm
Profile height	55 mm

Joints for easy installation

Types	SDFP 65, 85, 105
Max. gap width	150-500 mm
Max. movement	±175 mm
Profile height	55 mm

Joints for all types of finishes

Types	SDP 55, 63
Max. gap width	150-500 mm
Max. movement	±100 mm
Profile height	35-50 mm

Joints for flexible use

Types	SP 55, 63
Max. gap width	100-450 mm
Max. movement	±72 mm
Profile height	20 mm

Joints for heavy loads

Types	FSV 280, 285, 500
Max. gap width	200-400 mm
Max. movement	±200 mm
Profile height	27-130 mm





Expansion joints

...at a glance

Best protection against seismic movements

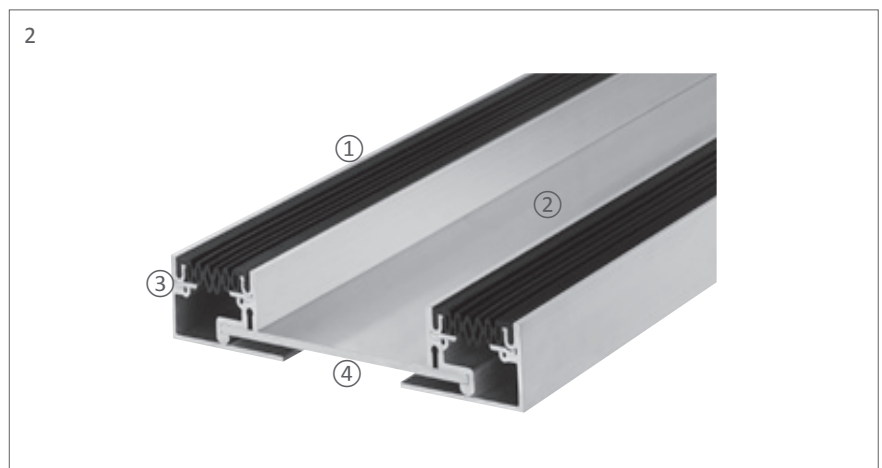
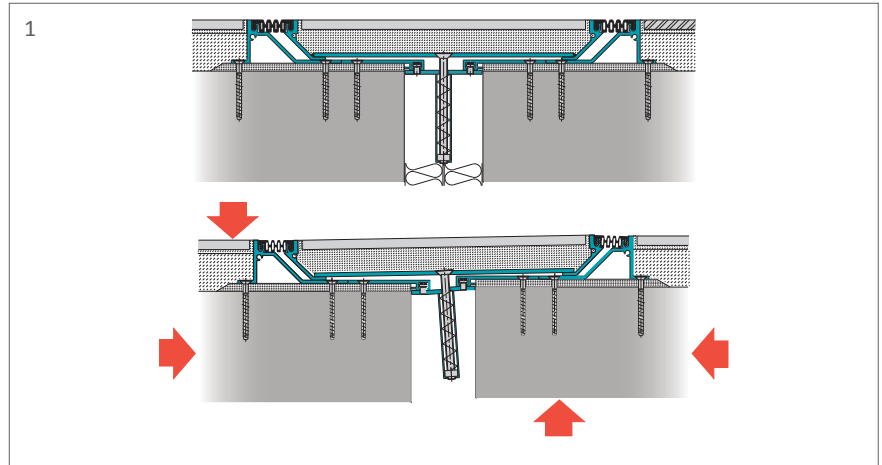
Earthquakes occur along the border of tectonic plates, and every year there are about 500'000 of them, from which actually 100'000 can be felt. The largest part of them takes place along the 40'000km long circum-pacific seismic belt, known as the pacific ring of fire.

In recent years there have been mayor earthquakes in Indonesia, Japan, Thailand and China causing thousands of casualties and severe damages to infrastructures and buildings.

Migumax earthquake-resistant expansion joints are designed for extremely high movements and are easy to install. They eliminate or minimize structural damage and, more importantly, save lives.

mageba offers a wide range of earthquake-resistant expansion joint systems:

- SDPP: designed for extremely high movement, optimal use of all types of finishes
- SDFP: designed for easy installation with high movement capacity. Insert replaceable at any time. Sturdy middle section with special bearing ensures 3D-movement
- SDP: cost-effective and long-term solutions, designed for all types of finishes, with replaceable inserts and advanced technologies for friction free 3D-movements
- SP: designed for flexible use with inserts extensively resistant to oil, acids and bitumen. Efficient load-bearing capacity ensured by special profile cores
- FSV: sturdy aluminum frame designed for heavy loads. Maintenance free and robust



- 1 Migumax expansion joint before and during a seismic event
- 2 Migumax SDFP 85 – designed for easy installation

- ① Full movement capability with minimum visibility
- ② Flush joint cover concealed in the surrounding floor
- ③ Insert replaceable at any time
- ④ Sturdy middle section with bearing for horizontal and vertical movement



Expansion joints

Selection of expansion joint profiles - TENZA[®], MIGUTEC[®]

Joint type		Application area ①							Construction type				Edge profile material
		Retail space	Manufacturing and storage areas	Office and residential buildings	Multi-storey car parks and access ramps	Laboratories, hospitals and the food processing industry	Trans-shipment centres and chemical or pharmaceutical plants	Walls and ceilings	New construction	Renovation	Internal areas	External areas	
TENSA	TENZA-GRIP FAB	-	X	-	X	-	-	-	X	-	X	X	Galvanised steel
	TENZA-GRIP FAB ES	-	X	-	X	-	-	-	X	-	X	X	Stainless steel
	TENZA-GRIP RB	-	X	-	X	-	-	-	X	-	X	X	Galvanised steel
	TENZA-GRIP RB ES	-	X	-	X	-	-	-	X	-	X	X	Stainless steel
	TENZA-BASE	X	-	-	X	-	-	-	X	-	X	X	Aluminium
	TENZA-COMPRESS A	X	-	-	X	-	-	X	X	X	X	X	Elastomer
TENZA-COMPRESS N	-	-	-	-	-	-	X	X	X	X	X	Elastomer	
MIGUTEK	FL 21	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FLK 21	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FLT 21	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FV 35	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FV 41	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FK 35	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FT 35	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 55	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 55	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 55 MS / Ni	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 65	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 65 MS	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 85	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 105	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FP 55 B 45	X	-	X	-	-	-	-	X	-	X	-	Aluminium
	FN 20	X	-	X	-	-	-	-	-	X	X	-	Aluminium
	FKN 20	X	-	X	-	-	-	-	-	X	X	-	Aluminium
	FN 35	X	-	X	-	-	-	-	-	X	X	-	Aluminium
	FKN 35	X	-	X	-	-	-	-	-	X	X	-	Aluminium
	FN 50	X	-	X	-	X	-	-	-	X	X	-	Aluminium
	FKN 50	X	-	X	-	X	-	-	-	X	X	-	Aluminium
	FN 110	X	-	X	-	X	-	-	-	X	X	-	Aluminium
	ES 20	-	-	-	-	X	X	-	X	-	X	-	Stainless steel
	ES 33	-	-	-	-	X	X	-	X	-	X	-	Stainless steel
	ES 39	-	-	-	-	X	X	-	X	-	X	-	Stainless steel
	ES 60	-	-	-	-	X	X	-	X	-	X	-	Stainless steel
	FLG 21	-	-	-	-	X	-	-	X	-	X	-	Aluminium
	FPG 26 NI	-	-	-	-	X	-	-	X	-	X	-	Aluminium
	FG 35	-	-	-	-	X	-	-	X	-	X	-	Aluminium
	FG 41	-	-	-	-	X	-	-	X	-	X	-	Aluminium
	FPG 55	-	-	-	-	X	-	-	X	-	X	-	Aluminium
	ESG 20	-	-	-	-	X	-	-	X	-	X	-	Stainless steel
	ESG 33	-	-	-	-	-	-	-	X	-	X	-	Stainless steel
	ESG 39	-	-	-	-	-	-	-	X	-	X	-	Stainless steel
	ESG 60	-	-	-	-	-	-	-	X	-	X	-	Stainless steel
	FNG 20	-	-	-	-	-	-	-	X	-	X	-	Aluminium
	FNG 35	-	-	-	-	-	-	-	X	-	X	-	Aluminium
	FNG 41	-	-	-	-	-	-	-	X	-	X	-	Aluminium
	FNG 50	-	-	-	-	-	-	-	X	-	X	-	Aluminium
	ESF 8 ES	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	ESF 9 ZK	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	ESF 22 NI	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	ESF 10 AL	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	ESF 16 AL	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	ESF 27 AL	X	-	X	-	-	-	-	X	-	X	-	Stainless steel
	D 12	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	D 15	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	D 20	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	FA 25	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	FA 12	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	DF 35 / 40 / 50 / 58	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	WP 255	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	KF 55	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	KF 250	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	FB 20	X	-	X	-	-	-	X	X	-	X	-	Aluminium
	CP 25, 50	X	-	X	-	-	-	X	X	-	X	-	Aluminium



Expansion joints

Selection of expansion joint profiles - TENSA[®], MIGUTEC[®]

Properties ②					Joint geometry ③			
Loading level from traffic*				Watertight	Gap width	Visible width	Movement	Joint height
Cars [B]	Trucks [E]	Fork-lift trucks [D]	Hardrollers [n/a]		[mm]	[mm]	[mm]	[mm]
				Yes				
				-				
				Yes				
				-				
				Yes				
				-				
				-				
X	-	-	-	-	20	21	+3/-2	20-50
X	-	-	-	-	20	21	+3/-2	20-50
X	-	-	-	-	20	21	+3/-2	20-50
X	-	-	-	-	30	35	10±5	15-105
X	X	-	-	-	35	41	14±7	15-105
X	-	-	-	-	30	35	10±5	15-105
X	-	-	-	-	30	35	10±5	15-105
X	-	-	-	-	50	55	16±8	20-75
X	X	-	-	-	58	63	22±11	20-70
X	X	-	-	-	50-58	57-65	22±8	21-76
X	X	-	-	-	55	65	22±11	20-50
X	X	-	-	-	55	67	22±11	21-51
X	X	-	-	-	75	82	30±15	20-50
X	X	-	-	-	100	109	40±20	20-50
X	X	-	-	-	60	63	22±11	53-54
X	-	-	-	-	20	97	5 +3/-2	12
X	-	-	-	-	30	33	10±5	15-50
X	-	-	-	-	35	112	10±5	13
X	-	-	-	-	35	30	10±5	13
X	-	-	-	-	50	43	30±8	16-18
X	-	-	-	-	50	170	16±8	16
X	-	-	-	-	75	318	60±30	40
X	-	-	-	-	20	20	5 +3/-2	20-50
X	-	-	-	-	30	33	10±5	15-50
X	-	-	-	-	35	39	14±7	15-50
X	-	-	-	-	40-50	60	16 +10/-6	19-55
X	-	-	-	-	20	21	2±1	107-111
X	X	-	-	-	20	27	2±1	35
X	-	-	-	-	30	35	6±3	15-105
X	-	-	-	-	35	41	6±3	15-105
X	X	-	-	-	50	55	8±4	20-75
X	-	-	-	-	20	20	2±1	20-50
X	-	-	-	-	30	33	6±3	15-50
X	-	-	-	-	35	39	6±3	15-50
X	-	-	-	-	40	60	8±4	19-55
X	-	-	-	-	20	97	2±1	12
X	-	-	-	-	35	112	6±3	13
X	-	-	-	-	41	118	6±3	13
X	-	-	-	-	50	43	8±4	16
X	X	X	-	-	5	8	2±1	30-50
X	X	X	-	-	5	9	2±1	30-50
X	X	X	-	-	12	22	4±2	18-60
X	X	X	-	-	10	10	4±2	15-60
X	X	X	-	-	10	17	6±3	35-60
X	X	X	-	-	15	27	10±5	31-55
-	-	-	-	-	30-350	22-390	200±5	12
-	-	-	-	-	30-350	22-390	200±5	15
-	-	-	-	-	30-350	25-380	200±5	20
-	-	-	-	-	30-350	69-389	200±5	12
-	-	-	-	-	75-350	132-407	200±20	12
-	-	-	-	-	30-58	35-56	22±11	14
-	-	-	-	-	110-205	255	100±50	22
-	-	-	-	-	15-60	50-75	-	40-50
-	-	-	-	-	15-80	40-170	-	40-70
-	-	-	-	-	10-45	10-45	-	6-20
-	-	-	-	-	50-75	25-50	70±35	25

How do I select the most suitable expansion joint type?

1. Select your application area in the table (section ①)
2. Should the joint be watertight? ②
3. What type of live loading will the joint be subjected to in service? ②
4. Select width, height and movement capacity according to your needs ③ (see illustration on page 5, 2nd from top).
5. Detailed information about each joint type can be found on our website www.mageba-group.com

Do you want to check your selection with us? Do you have any questions? Please don't hesitate to call us. Our product specialists will be happy to help you.

* corresponding to the load classes in accordance with EN 124 / DIN 1229 (see page 6) as follows:

- Cars: B
- Trucks: E
- Fork-lift trucks: D
- Hard rollers n/a

mageba cannot accept responsibility for expansion joints which were selected without consulting with mageba.



Expansion joints

Selection of expansion joint profiles - MIGUTRANS® , MIGUTAN®

Joint type		Application area ①						Construction type				Edge profile material
		Retail space	Manufacturing and storage areas	Office and residential buildings	Multi-storey car parks and access ramps	Laboratories, hospitals and the food processing industry	Trans-shipment centres and chemical or pharmaceutical plants	New construction	Renovation	Internal areas	External areas	
MIGUTRANS	FS 50	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 99	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 146	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 40	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 75	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 110	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 130	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 160	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 185	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 105	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 135	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 155	-	X	-	X	-	-	X	-	X	-	Aluminium
	FSV 235	-	X	-	X	-	-	X	-	X	-	Aluminium
	FSV 280	-	X	-	X	-	-	X	-	X	-	Aluminium
	FSV 285	-	X	-	X	-	-	X	-	X	-	Aluminium
	FSV 335	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 220	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 255	-	X	-	X	-	-	X	-	X	-	Aluminium
	FS 110 ES	-	X	-	X	-	-	X	-	X	-	Aluminium/Stainless steel
	FSN 50	-	X	-	X	-	-	-	X	X	-	Aluminium
	FSN 99	-	X	-	X	-	-	-	X	X	-	Aluminium
	FSN 146	-	X	-	X	-	-	-	X	X	-	Aluminium
	FS 100	-	X	-	-	-	-	X	-	X	-	Aluminium
	FSS 215	-	X	-	-	-	-	X	-	X	-	Aluminium
	STS 100 ES	-	X	-	X	-	-	X	-	X	-	Stainless steel/Steel
	STS 160 / 30 - 60	-	X	-	X	-	-	X	-	X	-	Stainless steel/Steel
	STS 160 / 16 - 22	-	X	-	X	-	-	X	-	X	-	Stainless steel/Steel
	STD 100 ES	-	X	-	X	-	-	X	-	X	-	Stainless steel/Steel
	STD 160 ES	-	X	-	X	-	-	X	-	X	-	Stainless steel/Steel
MIGUTAN	FP 80 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 90 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 110 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 130 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 155 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 80 S NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPI 145 NI IF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPG 80 NI IF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FPG 90 NI IF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FPG 110 NI IF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FP 80 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 90 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 110 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 130 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 155 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 80 S NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPI 145 NI kF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPG 80 NI kF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FPG 90 NI kF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FPG 110 NI kF	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FPL 85 NI	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPSG 68 ES	-	X	-	X	X	-	X	-	X	X	Aluminium/Stainless steel
	FP 90 APF	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP 80 B NI	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPI 145 B NI	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FPL 85 B NI	-	X	-	X	-	-	X	-	X	X	Aluminium/Stainless steel
	FP (G) .. NI XA	-	-	-	-	X	-	X	-	X	X	Aluminium/Stainless steel



Expansion joints

Selection of expansion joint profiles - MIGUTRANS[®], MIGUTAN[®]

Properties ②					Joint geometry ③			
Loading level from traffic*				Watertight	Gap width	Visible width	Movement	Joint height
Cars [B]	Trucks [E]	Fork-lift trucks [D]	Hardrollers [n/a]		[mm]	[mm]	[mm]	[mm]
X	X	X	-	-	30	53	10±5	20-50
X	X	X	-	-	70	99	40±20	20-50
X	-	-	-	-	114	146	50±25	22-97
X	X	X	-	-	35	40	20±8	19-60
X	X	X	-	-	50	77	20±10	22-97
X	X	X	-	-	75	110	30±15	30-97
X	X	X	-	-	100	134	40±20	42-97
X	X	X	-	-	130	162	60±30	42-97
X	X	X	-	-	140	185	60±30	27-80
X	X	X	-	-	75	105-107	20±10	30-62
X	X	X	-	-	35	135	20±10	25
X	X	X	-	-	120	155-157	40±20	30-62
X	X	X	-	-	150	357	60±30	45-140
X	X	X	-	-	200	280	85±42.5	45-140
X	-	-	-	-	240	284	100±50	27-80
X	-	-	-	-	250	335	100±50	45-140
X	-	-	-	-	60	220	40±20	21
X	X	X	-	-	50	253	60±30	30
X	X	X	-	-	75	110	30±15	30-97
X	-	-	-	-	55	173	10±5	15
X	-	-	-	-	100	219	40±20	15
X	-	-	-	-	153	390	50±25	21
X	X	X	-	-	50	102	20±10	30-50
X	X	X	-	-	60	215	40±20	26
X	X	X	-	-	35	105	20±10	32-62
X	X	X	-	-	60	165	40±20	32-62
X	X	X	-	-	30	165	40±20	17-22
X	X	X	-	Yes	35	105	20±10	31-61
X	X	X	-	Yes	60	165	40±20	32-62
X	X	X	-	Yes. Connection to bituminous sealing system	45	82	20±10	25-117
X	X	X	-		60	95	40±20	25-117
X	X	X	-		75	111	60±30	25-117
X	X	X	-		100	133	90±45	25-117
X	X	X	-		120	155	120±60	25-117
X	X	X	-		35	82	20±10	60
X	X	X	-		50	145	60±30	28-60
X	X	X	-		45	82	16±8	25-117
X	X	X	-	Yes. Connection to surface coating	60	95	20±10	25-117
X	X	X	-		75	111	40±20	25-117
X	X	X	-		45	82	20±10	25-117
X	X	X	-		60	95	40±20	25-117
X	X	X	-		75	111	60±30	25-117
X	X	X	-		100	133	90±45	25-117
X	X	X	-		120	155	120±60	25-117
X	X	X	-		35	82	20±10	60
X	X	X	-		50-100	145	60±30	25-60
X	X	X	-		45	82	16±8	25-117
X	X	X	-		60	95	20±10	25-117
X	X	X	-		75	111	40±20	25-117
X	X	X	-	Yes. Connection to liquid coating	50	85	40±20	27
X	X	X	-		25	68	10±5	25-40
X	X	X	-		60	98	40±20	28-120
X	X	X	-		21-97	82-155	120±8	91-100
X	X	X	-		118	145	60±30	92
X	X	X	-		40	85	40±20	75
X	X	X	-		45-120	82-155	120±60	25-117
X	X	X	-		45-120	82-155	120±60	25-117

How do I select the most suitable expansion joint type?

1. Select your application area in the table (section ①)
2. Should the joint be watertight? ②
3. What type of live loading will the joint be subjected to in service? ②
4. Select width, height and movement capacity according to your needs ③ (see illustration on page 5, 2nd from top).
5. Detailed information about each joint type can be found on our website www.mageba-group.com

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* corresponding to the load classes in accordance with EN 124 / DIN 1229 (see page 6) as follows:

- Cars: B
- Trucks: E
- Fork-lift trucks: D
- Hard rollers: n/a

mageba cannot accept responsibility for expansion joints which were selected without consulting with mageba.



Expansion joints

Selection of expansion joint profiles - MIGUMAX®

Joint type	-Application area ①						Edge profile material
	Retail space	Manufacturing and storage areas	Office and residential buildings	Multi storey car parks and access ramps	Laboratories, hospitals and the food processing industry	Trans-shipment centres and chemical or pharmaceutical plants	
SDPP 100/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDPP 150/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDPP 200/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDPP 300/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDPP 400/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDPP 500/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 150/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 200/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 300/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 400/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 500/ 65 /55	X	-	X	-	(X)	-	Aluminium
SDFP 150/ 85 /55	X	-	X	-	(X)	-	Aluminium
SDFP 200/ 85 /55	X	-	X	-	(X)	-	Aluminium
SDFP 300/ 85 /55	X	-	X	-	(X)	-	Aluminium
SDFP 400/ 85 /55	X	-	X	-	(X)	-	Aluminium
SDFP 500/ 85 /55	X	-	X	-	(X)	-	Aluminium
SDFP 150/ 105 /55	X	-	X	-	(X)	-	Aluminium
SDFP 200/ 105 /55	X	-	X	-	(X)	-	Aluminium
SDFP 300/ 105 /55	X	-	X	-	(X)	-	Aluminium
SDFP 400/ 105 /55	X	-	X	-	(X)	-	Aluminium
SDFP 500/ 105 /55	X	-	X	-	(X)	-	Aluminium
SDP 150/ 55 /35	-	-	-	X	(X)	-	Aluminium
SDP 150/ 55 /50	-	-	-	X	(X)	-	Aluminium
SDP 200/ 55 /35	-	-	-	X	(X)	-	Aluminium
SDP 200/ 55 /50	-	-	-	X	(X)	-	Aluminium
SDP 300/ 55 /35	-	-	-	X	(X)	-	Aluminium
SDP 300/ 55 /50	-	-	-	X	(X)	-	Aluminium
SDP 400/ 55 /35	-	-	-	X	(X)	-	Aluminium
SDP 400/ 55 /50	-	-	-	X	(X)	-	Aluminium
SDP 500/ 55 /35	-	-	-	X	(X)	-	Aluminium
SDP 500/ 55 /50	-	-	-	X	(X)	-	Aluminium
SDP 150/ 63 /35	-	-	-	X	(X)	-	Aluminium
SDP 150/ 63 /50	-	-	-	X	(X)	-	Aluminium
SDP 200/ 63 /35	-	-	-	X	(X)	-	Aluminium
SDP 200/ 63 /50	-	-	-	X	(X)	-	Aluminium
SDP 300/ 63 /35	X	-	X	-	(X)	-	Aluminium
SDP 300/ 63 /50	X	-	X	-	(X)	-	Aluminium
SDP 400/ 63 /35	X	-	X	-	(X)	-	Aluminium
SDP 400/ 63 /50	X	-	X	-	(X)	-	Aluminium
SDP 500/ 63 /35	X	-	X	-	(X)	-	Aluminium
SDP 500/ 63 /50	X	-	X	-	(X)	-	Aluminium
SP 100/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 150/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 200/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 250/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 300/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 350/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 400/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 450/ 55 /20	-	-	(X)	-	(X)	-	Aluminium
SP 100/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 150/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 200/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 250/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 300/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 350/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 400/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
SP 450/ 63 /20	-	-	(X)	-	(X)	-	Aluminium
FSV 280/45	-	X	-	X	(X)	X	Aluminium
FSV 280/80	-	X	-	X	(X)	X	Aluminium
FSV 280/130	-	X	-	X	(X)	X	Aluminium
FSV 285/27	-	-	-	-	(X)	-	Aluminium
FSV 285/40	-	-	-	-	(X)	-	Aluminium
FSV 285/80	-	-	-	-	(X)	-	Aluminium
FSV 500/45	-	-	-	-	(X)	-	Aluminium
FSV 500/80	-	-	-	-	(X)	-	Aluminium
FSV 500/130	-	-	-	-	(X)	-	Aluminium



Expansion joints

Selection of expansion joint profiles - MIGUMAX®

Properties ②					Joint geometry ③				
Loading level from traffic*				Watertight	Gap width	Visible width	Thermal movement	Seismic movement	Joint height
Cars [B]	Trucks [E]	Fork-lift trucks [D]	Hardrollers [n/a]		[mm]	[mm]	[mm]	[mm]	[mm]
-	-	-	-	-	100	65	44±22	240±200	55
-	-	-	-	-	150	65	44±22	290±200	55
-	-	-	-	-	200	65	44±22	340±200	55
-	-	-	-	-	300	65	44±22	440±200	55
-	-	-	-	-	400	65	44±22	540±200	55
-	-	-	-	-	500	65	44±22	640±200	55
-	-	-	-	-	150	65	44±22	100±50	55
-	-	-	-	-	200	65	44±22	100±50	55
-	-	-	-	-	300	65	44±22	100±50	55
-	-	-	-	-	400	65	44±22	100±50	55
-	-	-	-	-	500	65	44±22	100±50	55
-	-	-	-	-	150	83	600±30	125±50-75	55
-	-	-	-	-	200	83	600±30	125±50-75	55
-	-	-	-	-	300	83	600±30	125±50-75	55
-	-	-	-	-	400	83	600±30	125±50-75	55
-	-	-	-	-	500	83	600±30	125±50-75	55
-	-	-	-	-	150	110	80±40	175±50-125	55
-	-	-	-	-	200	110	80±40	175±50-125	55
-	-	-	-	-	300	110	80±40	175±50-125	55
-	-	-	-	-	400	110	80±40	175±50-125	55
-	-	-	-	-	500	110	80±40	175±50-125	55
X	-	-	-	-	150	54	32±16	100±50	35
X	-	-	-	-	150	54	32±16	100±50	50
X	-	-	-	-	200	54	32±16	100±50	35
X	-	-	-	-	200	54	32±16	100±50	50
-	-	-	-	-	300	54	32±16	100±50	35
-	-	-	-	-	300	54	32±16	100±50	50
-	-	-	-	-	400	54	32±16	100±50	35
-	-	-	-	-	400	54	32±16	100±50	50
-	-	-	-	-	500	54	32±16	100±50	35
-	-	-	-	-	500	54	32±16	100±50	50
X	-	-	-	-	150	63	44±22	100±50	35
X	-	-	-	-	150	63	44±22	100±50	50
X	-	-	-	-	200	63	44±22	100±50	35
X	-	-	-	-	200	63	44±22	100±50	50
-	-	-	-	-	300	63	44±22	100±50	35
-	-	-	-	-	300	63	44±22	100±50	50
-	-	-	-	-	400	63	44±22	100±50	35
-	-	-	-	-	400	63	44±22	100±50	50
-	-	-	-	-	500	63	44±22	100±50	35
-	-	-	-	-	500	63	44±22	100±50	50
-	-	-	-	-	100	247	32±16	65±16-50	20
-	-	-	-	-	150	297	32±16	65±16-50	20
-	-	-	-	-	200	347	32±16	65±16-50	20
-	-	-	-	-	250	397	32±16	65±16-50	20
-	-	-	-	-	300	447	32±16	65±16-50	20
-	-	-	-	-	350	497	32±16	65±16-50	20
-	-	-	-	-	400	547	32±16	65±16-50	20
-	-	-	-	-	450	597	32±16	65±16-50	20
-	-	-	-	-	100	264	44±22	72±22-50	20
-	-	-	-	-	150	314	44±22	72±22-50	20
-	-	-	-	-	200	364	44±22	72±22-50	20
-	-	-	-	-	250	414	44±22	72±22-50	20
-	-	-	-	-	300	464	44±22	72±22-50	20
-	-	-	-	-	350	514	44±22	72±22-50	20
-	-	-	-	-	400	564	44±22	72±22-50	20
-	-	-	-	-	450	614	44±22	72±22-50	20
X	X	X	X	-	200	280	85±42.5	85±42.5	45
X	X	X	X	-	200	280	85±42.5	85±42.5	80
X	X	X	X	-	200	280	85±42.5	85±42.5	130
X	-	-	-	-	240	284	100±50	100±50	27
X	-	-	-	-	240	284	100±50	100±50	40
X	-	-	-	-	240	284	100±50	100±50	80
-	-	-	-	-	400	498	100±50	200±100	45
-	-	-	-	-	400	498	100±50	200±100	80
-	-	-	-	-	400	498	100±50	200±100	130

How do I select the most suitable expansion joint type?

1. Select your application area in the table (section ①)
2. Should the joint be watertight? ②
3. What type of live loading will the joint be subjected to in service? ②
4. Select width, height and movement capacity according to your needs ③ (see illustration on page 5, 2nd from top).
5. Detailed information about each joint type can be found on our website www.mageba-group.com

Do you want to check your selection with us? Do you have any questions? Please don't hesitate to call us. Our product specialists will be happy to help you.

* corresponding to the load classes in accordance with EN 124 / DIN 1229 (see page 6) as follows:

- Cars: B
- Trucks: E
- Fork-lift trucks: D
- Hard rollers: n/a

mageba cannot accept responsibility for expansion joints which were selected without consulting with mageba.



Expansion joints

References

TENSA®



Nestlé HQ, Vevey, Switzerland



Stade de Suisse football stadium, Switzerland



Uster railway station, Switzerland

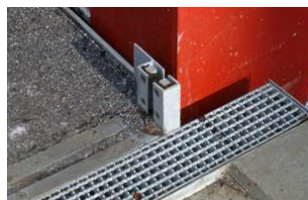


Public swimming pool, Lancy, Switzerland

TENSA®



Herrliberg school house, Switzerland



Lenggenbach, Switzerland



Cantonal hospital, Winterthur, Switzerland



Migros offices, Zurich, Switzerland

MIGUTEC®



Goethe gallery, Jena, Germany



Goethe gallery, Jena, Germany



Goethe gallery, Jena, Germany



Charleroi parking centre, Belgium

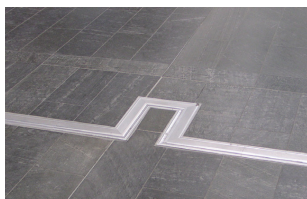
MIGUTRANS®



Hamburg airport, Germany



Wittenberg SIG Combiblock, Germany

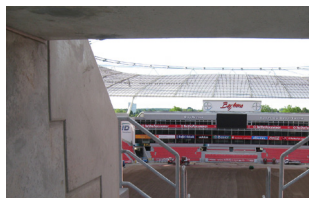


University hospital, Jena, Germany



Leipzig trade fair centre, Germany

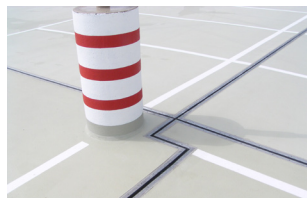
MIGUTAN®



BayArena, Leverkusen, Germany



Nuremburg airport, Germany

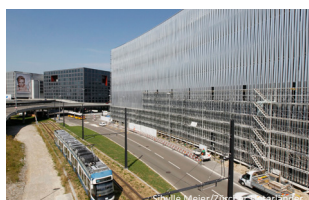


Parking deck, Dresden, Germany



Parking centre, Lubeck, Germany

MIGUMAX®



Zurich Airport parking centre, Switzerland



Ports Francs, Genève, Switzerland



Expansion joints

Our services for you

Inspections

You have an expansion joint that shows signs of deterioration, has damaged connecting surfacing or allows water to leak through it? mageba offers **professional condition inspections, with rehabilitation proposals if desired**. These typically comprise **visual inspections** only, but can also include **watertightness tests, core analyses** and the creation of **exploratory openings** as required. A **comprehensive written report** is then provided.

Regular maintenance inspections

Expansion joints, like other structural elements, suffer from wear and tear which must be repaired from time to time. The costs of repairs increase exponentially with the duration of the interval. It is thus sensible to recognise and address deterioration before cracking of surfacing and corrosion develop. mageba offers **regular inspections at intervals of your choosing**, with an **inspection report** provided after each visit.

Installation training and inspection of installation

mageba and its partners have been manufacturing expansion joints for several decades, and are pioneers in this field. The serviceability and watertightness of an expansion joint depend strongly on its installation.

mageba thus works together with professional installation partners that have appropriate experience in the installation of expansion joints. To ensure **perfect installation**, mageba offers **training for installation contractors** and for those who will **inspect the installation work**.

Training for architects and engineers

Did you always want to know more about expansion joints and their use? mageba offers you and your company **training on the subject of expansion joints**. Depending on needs and interest, the training can take place **in your offices**. Ask us about available dates.

1

mageba		Inspektionsbericht Nationalstrasse A3, Grenze GL/SG Objekt Nr. 37 LVR Viadukt Chambsbach-Moosbach		Ort XX Sept Fahrgasse	Rev. XX Date 14	Reaktion XX 17.08.2020	XX 300
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1. **Ausgangslage**
Das Nationalstrassenbüro Gebiet VI in St. Gallen hat von der ASTRA den Auftrag erhalten, eine Inspektion an den Fährübergangskonstruktoren der A3 in Gebiet Fährübergang durchzuführen zu lassen. Herr P. Sauer sich daher Anfang Juni mit uns in Verbindung gesetzt um einen Termin zu vereinbaren. Die Inspektionen wurden am 12. Juni 2020 an der Fährübergangskonstruktion und am 23. Juli 2020 an der Brückenunterkante durchgeführt.
An der Inspektion waren folgende Personen beteiligt:
- Herr Peter Sauer, Nationalstrassenbüro Gebiet VI
- Herr Heinz Mäki, mageba SA
- Herr Max Hascher (12. Juli 2020) resp. Herr Volker Kessler (23. Juli 2020), mageba SA
Als Grundlage für die Inspektion diente der Bericht der Inspektion vom September 2003.

2. **Plan**
Dem Bericht liegen folgende Konstruktionspläne bei:
- Fährübergang RS-ABO, WL Fraten Süd Zeichnung Nr. 1-023.090.3432
- Fährübergang RS-ABO, WL Fraten Nord Zeichnung Nr. 1-023.090.3434
- Fährübergang LRS-ABO, WL Fraten Nord Zeichnung Nr. 0-023.180.995
- Fährübergang LRS-ABO, WL Fraten Süd Zeichnung Nr. 0-023.180.996
- Ausbildung Amerikanermauer für LRS-ABO Zeichnung Nr. 0-023.180.994
- Querschnitt LRS-ABO in Bereich Quertafelverankerung Zeichnung Nr. 0-023.180.993
- Querschnitt LRS-ABO in Bereich Quertafelverankerung Zeichnung Nr. 0-023.180.992

3. **Befunde**
3.1. WL 1, WL Fraten, Brücke Nord, RFB Zürich
FUE-Typ: Fährübergang Typ mageba LRS-ABO, 3 Zellen, Baujahr 1999

Fährübergang innen	Fährübergang Mitte	Fährübergang aussen
30mm	30mm	30mm
20mm	20mm	20mm
10mm	10mm	10mm
5mm	5mm	5mm

Gemessen bei ca. 22°C Bauwerktemperatur

Visuelle Beurteilung:
- Die Dichtungsfuge macht insgesamt einen guten Eindruck und scheint auch dicht zu sein.
- In der Mitte des Fährübergangs sind die einzelnen Spalten sehr uneben.
- Der Fährübergang der Fährübergang zeigt in der Mitte des Fährübergangs eine unregelmässige Oberfläche.
- In der Mitte des Fährübergangs sind kleine Spalten zu sehen.

OS an Oberfläche FUE Spuren Schmutzflug Unregelmässige Spalten im Brückenanschluss

2

mageba		Inspektionsbericht Nationalstrasse A3, Grenze GL/SG Objekt Nr. 37 LVR Viadukt Chambsbach-Moosbach		Ort XX Sept Fahrgasse	Rev. XX Date 14	Reaktion XX 17.08.2020	XX 300
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OS mit normalen Abnutzungen Starke Korrosion beim Übergang Brücke/Fährübergang unregelmässig beanspruchte Oberflächen

3.4. WL 4, WL Fraten, Brücke Nord, RFB Zürich
FUE-Typ: Fährübergang Typ mageba RS-ABO, Einzelzell, Baujahr 1999

Fährübergang innen	Fährübergang Mitte	Fährübergang aussen
30mm	30mm	30mm
20mm	20mm	20mm
10mm	10mm	10mm
5mm	5mm	5mm

Gemessen bei ca. 22°C Bauwerktemperatur

Visuelle Beurteilung:
- Die Dichtungsfuge macht insgesamt einen guten Eindruck und scheint auch dicht zu sein.
- Der Fährübergang zeigt in der Mitte des Fährübergangs eine unregelmässige Oberfläche.
- Der Fährübergang zeigt in der Mitte des Fährübergangs eine unregelmässige Oberfläche.
- Die Dichtungsfuge zeigt in der Mitte des Fährübergangs eine unregelmässige Oberfläche.
- In der Mitte des Fährübergangs sind kleine Spalten zu sehen.

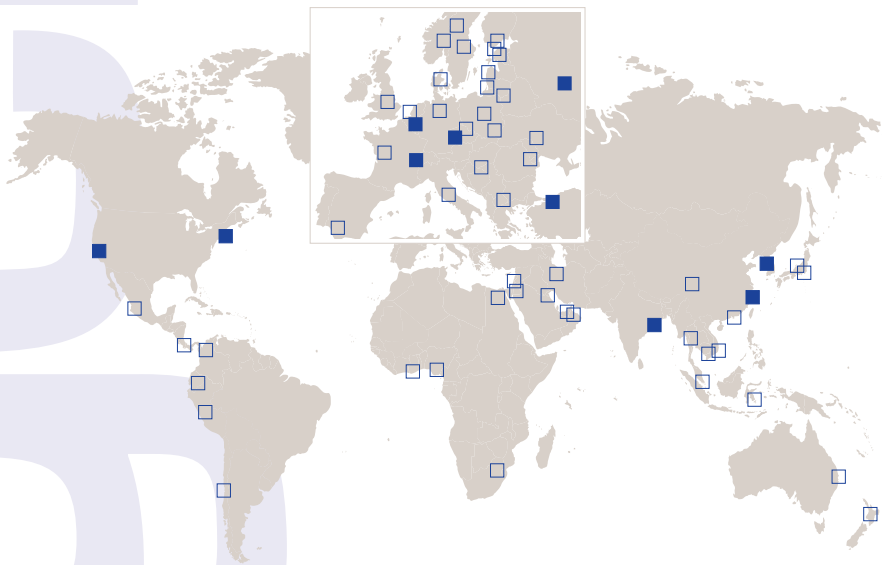
OS an Fährübergang OS in den Fährübergang Starke Korrosion beim Brückenanschluss

4. **Massnahmen**
4.1. General
Es ist zu prüfen, ob bei künstlichen Konstruktionen die Wasserdichtigkeit im Laufe von Unterhaltarbeiten zu erneuern sind. Im Zusammenhang dieser Arbeiten könnte auch der Oberflächenzustand aufgeführt werden. Ebenso empfiehlt sich eine regelmäßige Reinigung der externen Fährübergänge. Bei diesen Reinigungs kann visual auch festgestellt werden, ob die Dichtungsfuge Beschädigungen aufweisen.



- 1 The condition of an expansion joint is recorded in an inspection report
- 2 The report contains concrete proposals for remedial measures
- 3 mageba employees during training

engineering connections®



- Companies of mageba group
□ mageba distributors / licensees

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Ecuador	Romania
Egypt	Russia
Estonia	Serbia
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Ghana	Spain
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