

WATERTIGHT EXPANSION JOINT SYSTEMS

FOR BITUMINOUS LAYERS, COATINGS, LIQUID SEALANTS,
AND INSTALLATION IN CONCRETE: PERMANENT WATERTIGHT,
TRAFFICABLE AND ROBUST.



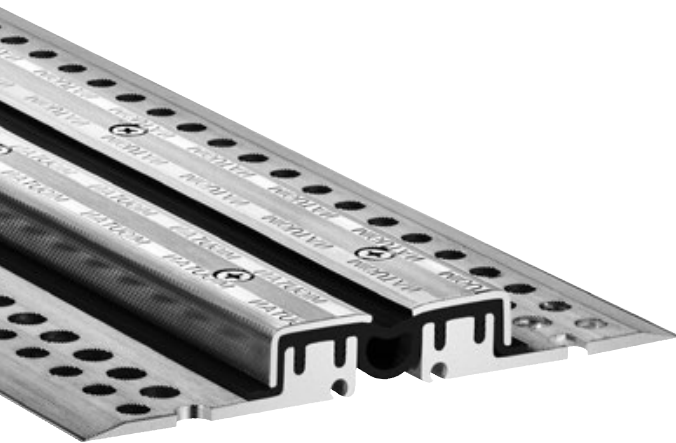
YOU FIRST.

MIGUA is one of Europe's leading experts in the design, manufacture and installation of expansion joint systems. MIGUA expansion joint systems serve to cover, close and seal expansion joints. Our products satisfy the most rigorous standards in quality and safety and are widely used in large-scale construction projects such as airports, train stations, industrial plants, parking structures, shopping centres and hospitals. Every day, our experienced team do their utmost to make your building project successful. We are not satisfied until you are satisfied. Because our guiding principle is:

MIGUA – you first.

Over 600 products for one purpose: Yours.

With five brands and over 600 proven expansion joint systems, we've got the diverse structural needs of today's construction projects covered. We confront problems such as heavy traffic loads and meet exacting standards in water resistance or hygiene. Floors, walls or roofs, MIGUA offers the perfect solution for any surface. Products of the highest quality are fundamental to our business; yet our ultimate priority is always customer satisfaction. We offer you a wide range of services to make your building project successful: Starting with competent advice, followed by technical application support on site up to the complete installation service. And since we know that the requirements for expansion joints are just as individual as the buildings themselves, we gladly develop your own very special joint cover system solution based on your requirements. And that is what we call our MIGUA 360° Service.



MIGUTEC

JOINT COVERS FOR
EXPANSION JOINTS

MIGUTRANS

HEAVY-DUTY ALL-METAL
JOINT SOLUTIONS FOR
LARGE TRAFFIC LOADS

MIGUTAN

WATERTIGHT EXPANSION
JOINT SOLUTIONS

MIGUPREN

EXPANSION JOINT STRIPS
TO SEAL JOINTS WITH
THREE-DIMENSIONAL MOVEMENT

MIGUMAX

SEISMIC RESISTANT
EXPANSION JOINT SOLUTIONS

360°

MIGUA 360° SERVICE

TABLE OF CONTENTS

Introducing MIGUTAN	4–7
Joint cover according to joint width/to joint movement/ alphabetically sorted	9
Joints according to application areas	10
Bituminous seals (long AAS sheets)	11–19
Coating systems (short AAS sheets)	20–30
Liquid seals (MIGUTRIX sheets - XA)	31–39
Installation in concrete (anchor rods/loop anchor)	40–42
MIGUTAN with design covers	43–44
Technical appendix	
System construction	45
Seal inserts FP / FPG	46
Moulded parts / Standard moulded parts	47–52
Supports/wall sockets	53–55
Expansion joint cover connections	56
Installation instructions bituminous seals	57
Installation instructions coating systems	58
Installation instructions liquid seals	59
Expansion joint constructions – Application examples	60–67
Systems FP 90 – Examples	68
Practical MIGUTAN applications	69–70
Legal notes	71

WITH MIGUTAN, MIGUA OFFERS A COMPREHENSIVE RANGE OF **WATERTIGHT EXPANSION JOINT CONSTRUCTIONS FOR BITUMINOUS SEALS, COATING SYSTEMS, LIQUID SEALS AND INSTALLATION IN CONCRETE.**

For a wide range of buildings – in both the public-communal sector and the private sector – watertight expansion joint constructions are of key significance for the preservation of the structure: Parking decks, multi-storey and underground car parks, pedestrian bridges, exhibition halls, gastronomy, swimming pools, clinics, sports facilities and stadiums must be protected against the ingress of water in key stages of construction.

Well-considered, extremely durable, sealed and robust expansion joint constructions are required. The variety of physical construction requirements also makes individual constructive solutions necessary, in part with very different executions.

One thing that all MIGUTAN expansion joint constructions have in common is the special technology which enables exchangeable centre seals and seal at the level of the upper edge of the finished floor.

In the construction branch, MIGUA is considered one of the technology leaders in Europe when it comes to the particularly demanding watertight expansion joint constructions. MIGUTAN offers planners and architects a tried and tested series of products with an especially wide range of applications. Enhanced by a comprehensive, well-thought-out system of expansion joint cover connections and intersections, MIGUTAN offers a safe solution for every application.



Test certificates

After extensive testing, MIGUA was awarded an AbP (general building authority test certificate) for our watertight expansion joint covers. This AbP covers the entire MIGUTAN programme including all joint cover heights and -widths as well as all connections to bituminous sealing layer, coatings and liquid plastics.

This makes MIGUA the first manufacturer of expansion joint covers to subject its complete range of watertight expansion joint covers through these tests and has been granted an AbP (exception: FPL, FPSG). According to German building law, the AbP is proof of usability and is mandatory for all buildings in the legal area of the state building regulations. This AbP is therefore the only possibility to meet the requirements stipulated in the call for bids with standardised tests.

The AbP is available for download on our website migua.com



In addition, the proof of the direct traversability (load-bearing capacity) is attested a test report by the STUVA (Studiengesellschaft for traffic installations).

Specifications regarding the load capacity

Picto-gramm					
Meaning	Pedestrians	Private cars	Lorries DIN 1072	Forklift trucks DIN 1055	Solid plastic tyres

The load specifications of air-filled apply to a wheel contact patch of 200 x 200 mm.

Note regarding installation

Assembly and installation instructions are available on request. Please contact us. Alternatively, all information is ready for download from www.migua.com.



When installing the MIGUTAN joint constructions in mastic asphalt pavements, please request our technical advice.

Standard mounting list

A detailed list of standard mountings is available on our website.



Fixture/dowelling

For the fixture of expansion joint heights 25mm, 35 mm and 45 mm in conjunction with long AAS sheets and fleece laminated sheets (XA sheets), counter-sunk screws are to be used.

Expansion joint cover anchoring using anchor rods or loop anchors

To secure to filigree plates, the expansion joint covers may be supplied with adjustable brackets fitted at the factory.

The connection of the individual lengths on the construction site is carried out using the pins installed at the factory. This ensures the height and side transitions of the individual joint lengths are the same.

For weight reasons and due to the improved handling, we recommend axial separation when assembling MIGUTAN expansion joint covers with loop anchors.

To securely fix the expansion joint construction, the anchoring rods or loops must be welded with the reinforcement. In the upper section, alongside the stainless steel caps, a gap must be left on both sides as connection joint (approximately 10 x 20 mm) between the joint cover and the concrete. This must subsequently be filled with a suitable PU sealant to ensure it is watertight (3-flank adhesion). These connection joints can be made economically and clean using the AAP 50/20 connection joint recess profile.

SYSTEM DESCRIPTION MIGUTAN EXPANSION JOINT CONSTRUCTIONS WITH EXCHANGEABLE CENTRE SEAL

FOR SEALING AGAINST NON-PRESSURIZED WATER

Areas of application

MIGUTAN expansion joint covers have been used for more than 40 years for waterproofing in car parks, parking decks (exposed to weather), underground car parks, swimming pools, canteen kitchens, footbridges, airports etc. A large number of reference projects can be verified.

Special features

Aluminium expansion joint covers with grooved aluminium brackets, elastic centre seal and, on both sides, long, short or laminated sealing connection sheet (AAS sheets) of MIGUFLEX quality, wear-proof, weatherproof, resistant to de-icing salt, and good resistance to waste water (hydrogen sulphide, microbes, bacteria) The AAS sheets can be used with hot bitumen.

To ensure watertightness, the watertight Migutan expansion joint covers must be connected to the on-site waterproofing in accordance with DIN 18531, 18532, 18533 or to the waterproofing surface protection system. The double-sided connection sheets of the expansion joint covers are available for coating (short AAS sheets), bituminous layer (long AAS sheets, 300 mm long) as well as liquid sealings, mineral or bituminous liquid membranes/waterproofing slurry (XA sheets = Fibre fabric bonded sheets). The special design of the of the respective connecting sheets ensures the best possible bonding with the adjacent surface waterproofing.

Solid stainless steel caps Solid stainless steel caps are adapted to the requirements of the usage and are made of high-quality material 1.4301. Stainless steel 1.4571 or other material qualities are available upon request.

Screwing the stainless steel caps (Ni caps) to the profiles with a defined torque ensures that the sealing inserts are evenly compressed with the connecting sheets, thus guaranteeing permanent watertightness (see also sketch of the expansion joint cover set-up structure on page 7). For reasons of slip resistance, the surface of the Ni caps is additionally structured.

Exchangeable centre seal: Elastic, weather-proof, petrol, oil and de-icing salt resistant, watertight weldable centre seal with double-web to ensure two-fold security against ingress of water.

The centre seal can be exchanged at any time, even when installed, without damaging the surface.

Absolutely no ingress of damp or de-icing salt through the centre seal at the level of the upper edge of the finished floor. Therefore, the expansion joints remain dry within the joint.

Full sealing elements across the entire expansion joint course, ensuring 100% watertight seal.

Fully leveled connection of the joint covers by means of connection pins or by sliding the fixing legs into each other. Factory-mounted spacer brackets ensure optimally adjusted joint covers - for economical installation and functionally reliable positioning of the joint cover construction. Factory-made pre-settings of the joint covers are available upon request - thus maximising the one-sided movement absorption.

Fire protection: The products FP 80 NI, FP 90 NI, FPG 90 NI, FP 110 NI, FPG 80, FPG 110 and FP 130 have been subjected to comprehensive fire testing at MPA NRW (Material testing institute of Northrhine-Westfalia, Germany). These tests were passed in accordance with the test certificate and test report number 230007088. In accordance with EN 13501-1, all products are classified in accordance with Bfl-s1 (flame-resistant floorings, do not burn/drip). The FP 155 was newly classified with Bfl-s2.



Intersections and connections can be made watertight even for the most complicated of expansion joints, too. We guarantee joint cover accuracy thanks to on-site measuring (factory prefabrication including all intersections, transitions and connections). Joints are correct in height, thus ensuring ongoing stability due to factory-prepared couplings in metal construction.

Suitability in accordance with German law of water protection

WHG § 19: For applications to be executed in accordance with WHG § 19, individual solutions are available. Please contact us, if required.

Recommendations for application

Stainless steel cover caps: Re-tighten all fastening screws of the stainless steel cover caps by means of a torque wrench (7 Nm) after approx 14 days.

Mastic asphalt: When using in mastic asphalt, joint covers in 25 mm height should be used only as end profile in the wall area (upright joint) due to their little overlap.

Coatings: in case you plan to use Migutan expansion joint covers with short sheets on open decks and with a joint cover height of 25 mm, kindly ask for our technical advice.

Minimum expansion joint widths: Due to the shape of the centre seal, minimum expansion joint widths are to be adhered to for the following expansion joint covers:

- 50 mm for FP 110/25 NI
- 75 mm for FP 130/25 NI and FP 130/35 NI
- 95 mm for FP 155/... with joint heights of less than 80 mm

Cover plates: When using expansion joint covers with cover plates, there is no absorption of settlement movements.

MIGUTAN in the swimming pool sector: In case MIGUTAN expansion joint constructions are used in swimming pool areas, the required chloride resistance call for a higher quality stainless steel alloy that has to be pickled (stained). Therefore, please mention this area of use specifically for tenders and inquiries!

Increased hygienic requirements: For use with increased hygienic hygienic requirements in e.g. swimming pools, hospitals or retirement homes, hygienically safe, even movement inserts of the types FPG 80, FPG 90 and FPG 110 are available. This system is physiologically flawless, especially in combination with the sealing stainless steel caps.

THE SYSTEM

EXPANSION JOINT CONSTRUCTIONS

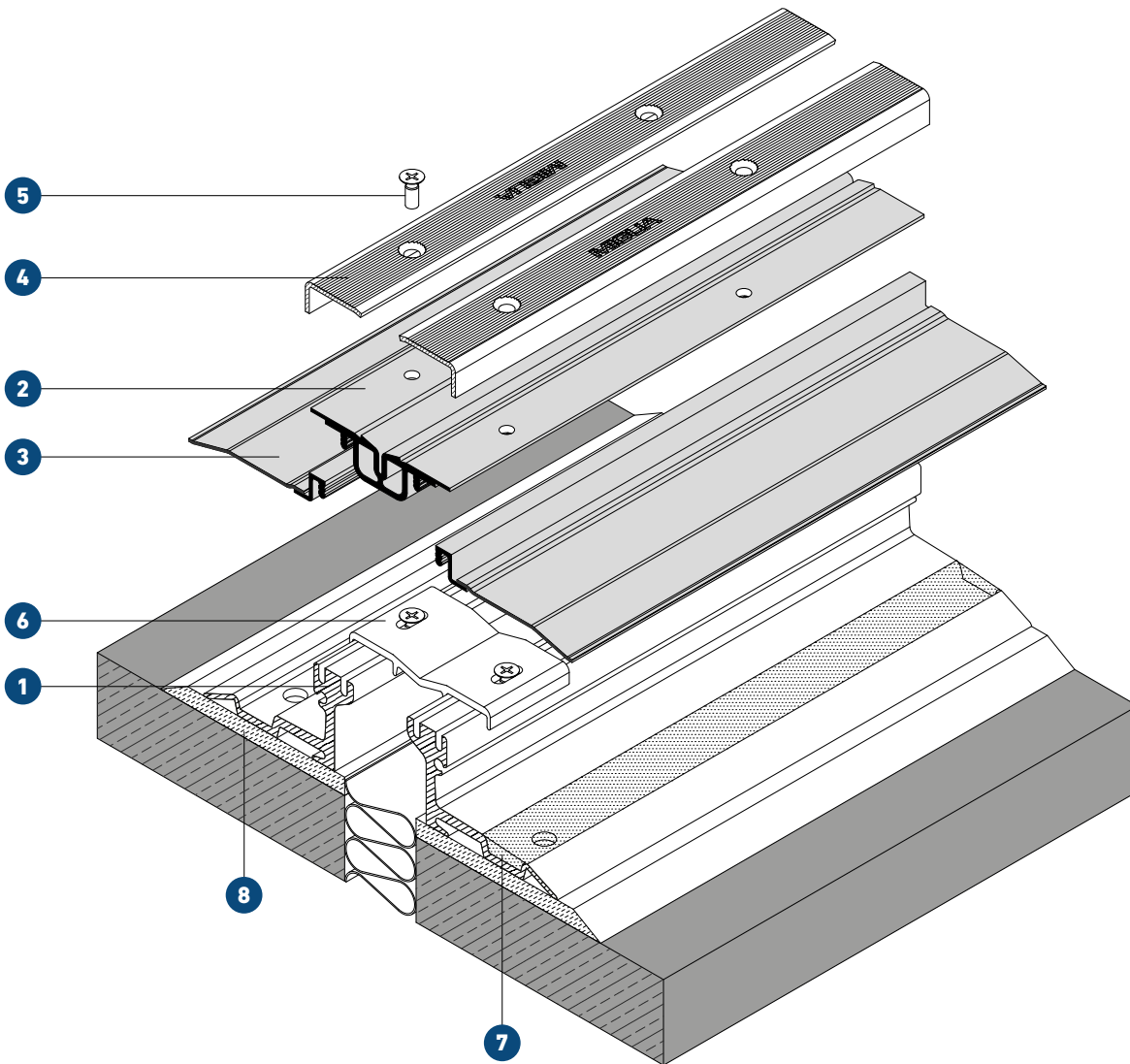
Applies similarly to MIGUTAN long sheets, short sheets, XA and BNI.

Unique construction with the feature "visible surface = sealing surface"

No water penetration into the joint construction

Replaceable movement insert independent of the connecting sheets

All parts exposed to substances made of 1.4301 or better



- 1 = Expansion joint substructure with supports on both sides
- 2 = MIGUFLEX sealing insert to accommodate the planned joint movement
- 3 = Connection sheet, design as short sheets, long sheets, XA (here XA)
- 4 = Stainless steel cover caps
- 5 = Stainless steel cross-slotted screws with nylon seal for screwing with torque.
Compresses nos 2 and 3.
- 6 = Installation distance gauge (spacer) to be removed after installation
- 7 = Mortar (for this type of expansion joint substructure)
- 8 = pressure-resistant and shrinkage-free mortar (e.g. epoxy resin or PCC mortar)

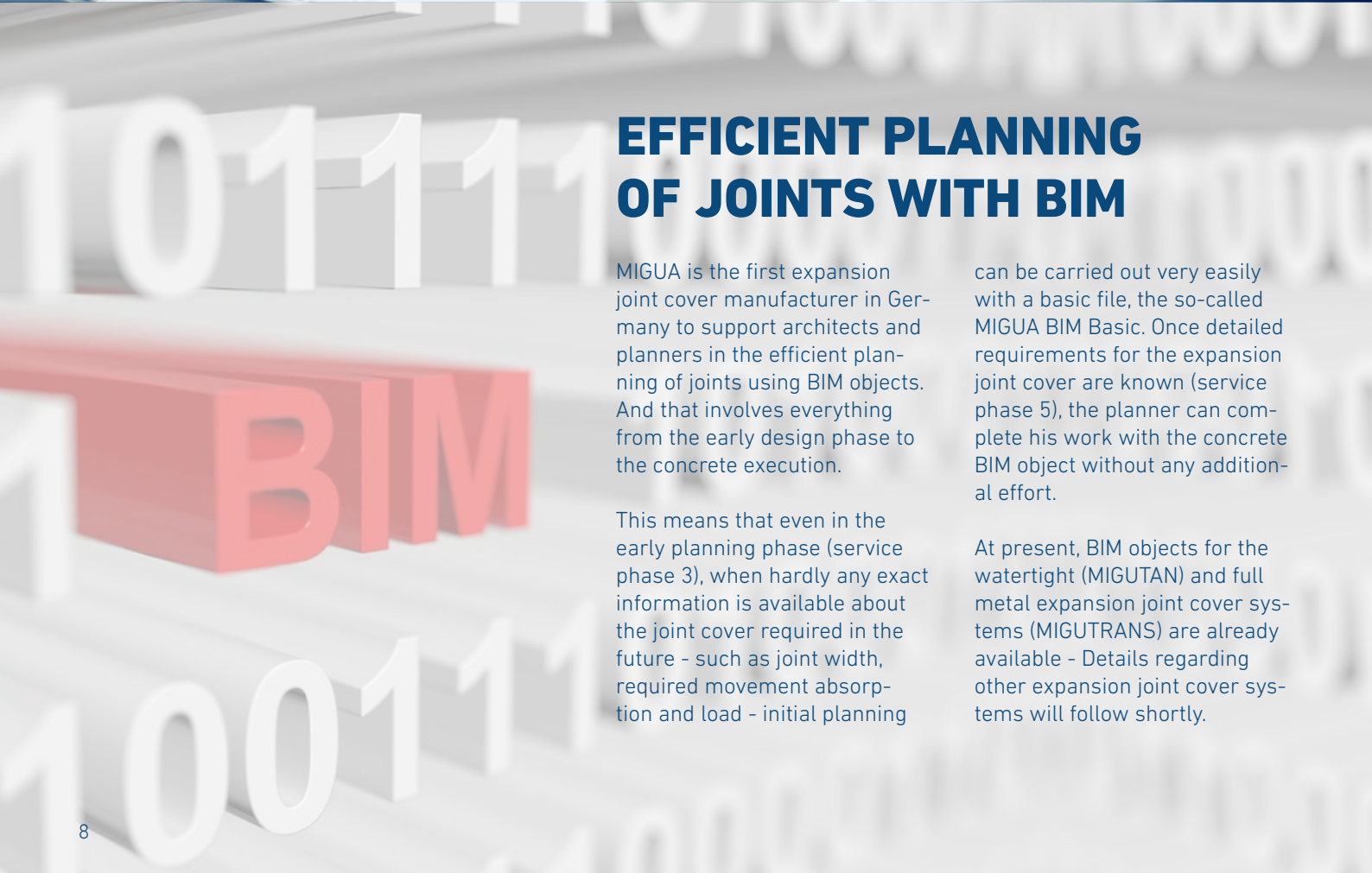


MIGUARCHITECT.COM THE MODULAR PLANNING SYSTEM IN WEB PAGE FORMAT

With the website miguarchitect.com, MIGUA now offers an innovative work aid especially for architects and planners. This bespoke website was developed in the form of a working tool that contains information relevant only to planning. In addition

to tender texts and BIM files, the site also offers cleverly prepared basic know-how on the subject of planning with joints.

Miguarchitect.com was recently awarded the German Innovation Award 2019.



EFFICIENT PLANNING OF JOINTS WITH BIM

MIGUA is the first expansion joint cover manufacturer in Germany to support architects and planners in the efficient planning of joints using BIM objects. And that involves everything from the early design phase to the concrete execution.

This means that even in the early planning phase (service phase 3), when hardly any exact information is available about the joint cover required in the future - such as joint width, required movement absorption and load - initial planning

can be carried out very easily with a basic file, the so-called MIGUA BIM Basic. Once detailed requirements for the expansion joint cover are known (service phase 5), the planner can complete his work with the concrete BIM object without any additional effort.

At present, BIM objects for the watertight (MIGUTAN) and full metal expansion joint cover systems (MIGUTRANS) are already available - Details regarding other expansion joint cover systems will follow shortly.

JOINT WIDTH

Please find your expansion joint cover according to the required joint width here.

Width	Expansion joint cover
21 mm	FP 80 B NI FPG 80 B NI
25 mm	FPSG 68 ES
34 mm	FP 90 B NI FPG 90 B NI
35 mm	FP80 S NI ss/lS/XA FPG 80 S NI ss/lS/XA
40 mm	FPL 85 B NI
45 mm	FP 80 NI ss/lS/XA FPG 80 NI ss/lS/XA
50 mm	FPL 85 NI FP 90 S NI ss/lS/XA FPG 90 S NI ss/lS/XA FP 110 B NI FPG 110 B NI
60 mm	FP 90 NI ss/lS/XA FPG 90 NI ss/lS/XA
65 mm	FP 110 S NI ss/lS/XA FPG 110 S NI ss/lS/XA
74 mm	FP 130 B NI
75 mm	FP 110 NI ss/lS/XA FPG 110 NI ss/lS/XA
90 mm	FP 130 S NI ss/lS/XA
94 mm	FP 155 B NI
100 mm	FP 130 NI ss/lS/XA
110 mm	FP 155 S NI ss/lS/XA
120 mm	FP 155 NI ss/lS/XA

JOINT MOVEMENT

Find your expansion joint cover here based on the specification for the expected joint movement.

Movement	Expansion joint cover
10 (±5)	FPSG 68 ES
16 (±8)	FPG 80 B NI FPG 80 NI ss/lS/XA FPG 80 S NI ss/lS/XA
20 (±10)	FP 80 B NI FP 80 NI ss/lS/XA FP 80 S NI ss/lS/XA FPG 90 B NI FPG 90 NI ss/lS/XA FPG 90 S NI ss/lS/XA
40 (±20)	FPL 85 B NI FPL 85 NI FP 90 B NI FP 90 NI ss/lS/XA FP 90 S NI ss/lS/XA FPG 110 B NI FPG 110 NI ss/lS/XA FPG 110 S NI ss/lS/XA
60 (±30)	FP 110 B NI FP 110 NI ss/lS/XA FP 110 S NI ss/lS/XA
90 (±45)	FP 130 B NI FP 130 NI ss/lS/XA FP 130 S NI ss/lS/XA
120 (±60)	FP 155 B NI FP 155 NI ss/lS/XA FP 155 S NI ss/lS/XA

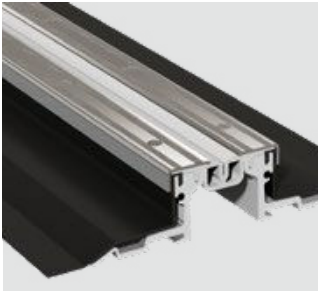
ALPHABETICAL ORDER

Expansion joint cover	Page
FP 80 NI ls	11
FP 80 NI ss	20
FP 80 NI XA	31
FP 90 NI ls	12
FP 90 NI ss	21
FP 90 NI XA	32
FP 110 NI ls	13
FP 110 NI ss	22
FP 110 NI XA	33
FP 130 NI ls	14
FP 130 NI ss	23
FP 130 NI XA	34
FP 155 NI ls	15
FP 155 NI ss	24
FP 155 NI XA	35
FP .../... APG + AP800	44
FP .../... NI APF	43
FP(G) .../60 S NI ls	16
FP(G) .../60 S NI ss	25
FP(G) .../60 S NI XA	36
FP(G) .../90 B NI Anchor rods	40
FP(G) .../90 B NI Loop anchors	41
FPG 80 NI ls	17
FPG 80 NI ss	26
FPG 80 NI XA	37
FPG 90 NI ls	18
FPG 90 NI ss	27
FPG 90 NI XA	38
FPG 110 NI ls	19
FPG 110 NI ss	28
FPG 110 NI XA	39
FPL 85 NI	29
FPL 85 B NI	25
FPSG 68 ES	30

The Migutan expansion joint covers are sorted in the catalogue according to the type of waterproofing (bituminous waterproofing, coating, liquid waterproofing)

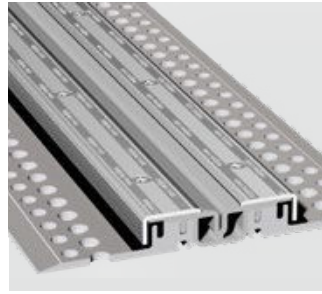
Joint covers with specific widths and movements can be manufactured on request, but are not shown in this catalogue.

EXPANSION JOINTS ACCORDING TO AREAS OF APPLICATION



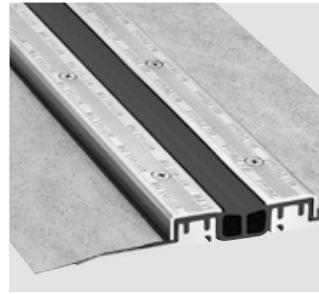
Expansion joints for bituminous seals
(long AAS sheets)

Characteristic for these products are the long AAS sheets for the best-possible adhesion connection to the area seal. Upper seal insert, non-slip Stainless steels caps and extremely durable aluminium brackets are additional characteristic properties of our MIGUTAN systems.



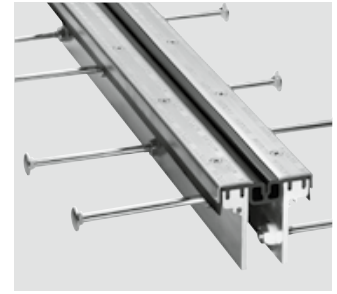
Expansion joints for coating systems
(short AAS sheets)

Short Ass sheets ensure perfect watertight in connection with a surface protection system. This product category is also characterised by upper seal inserts, non-slip and structured stainless steel caps and extremely durable aluminium brackets. Systems with clip-open stainless steel protection cap (FPL) are available for particularly simple assembly.



Expansion joints for alternative seals
(MIGUTRIX sheets – XA)

With this innovative MIGUA technology for liquid seals, fleece concealed AAS sheets ensure optimum attachment to a surface seal located under tiles. In conjunction with 3 different smooth seal inserts for hygienic requirements, anti-bacterial and physiologically safe. Particularly well-suited to swimming pool use in conjunction with special caps.



Expansion joints for installation in concrete
(Anchor rods/loop anchors)

Expansion joint constructions with rod or loop anchors for particularly strong and flush installation in concrete ceilings with coatings. Sliding rod or loop anchors for variable welding options with reinforcing steel enable the greatest of flexibility and simple assembly. Suitable for a wide variety of loads thanks to the use of rod or loop anchors.

Product	Page
FP 80 NI ls	11
FP 90 NI ls	12
FP 110 NI ls	13
FP 130 NI ls	14
FP 155 NI ls	15
FP(G) .../60 S NI ls	16
FPG 80 NI ls	17
FPG 90 NI ls	18
FPG 110 NI ls	19

Product	Page
FP 80 NI ss	20
FP 90 NI ss	21
FP 110 NI ss	22
FP 130 NI ss	23
FP 155 NI ss	24
FP(G) .../60 S NI ss	25
FPG 80 NI ss	26
FPG 90 NI ss	27
FPG 110 NI ss	28
FPL 85/27 NI	29
FPSG 68 ES	30

Product	Page
FP 80 NI XA	31
FP 90 NI XA	32
FP 110 NI XA	33
FP 130 NI XA	34
FP 155 NI XA	35
FP(G) .../60 S NI XA	36
FPG 80 NI XA	37
FPG 90 NI XA	38
FPG 110 NI XA	39

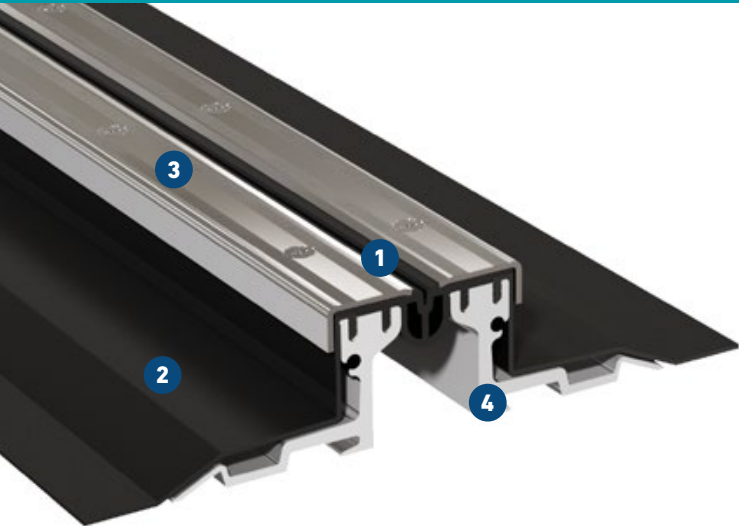
Product	Page
FP(G) .../90 B NI Achor rods	40
FP(G) .../90 B NI Loop anchors	41
FPL 85/75 B NI	42

FP 80 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available

Central insert with double-web to provide multilayered protection

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

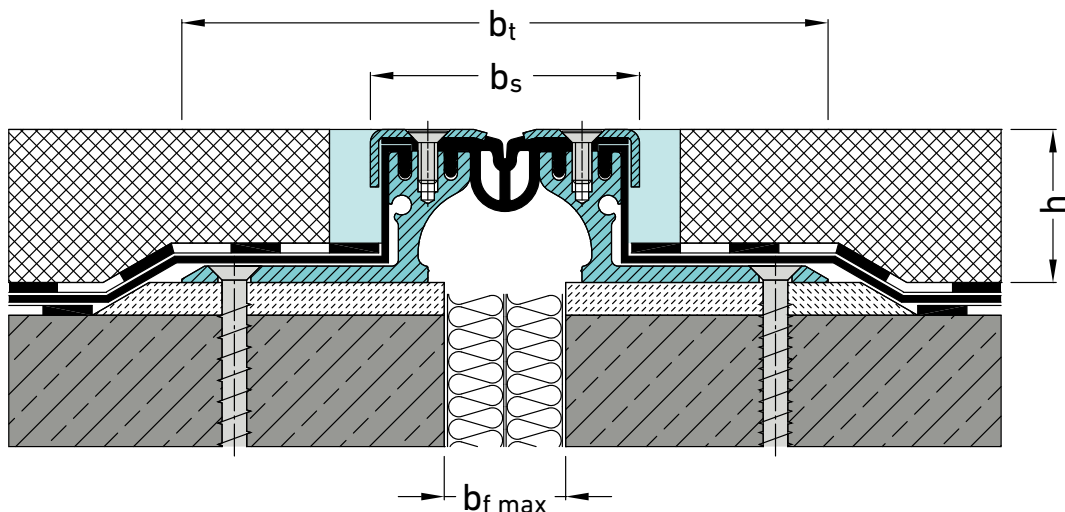


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 80/25 NI ls	45	20 (±10)	82	209	25				
FP 80/35 NI ls	45	20 (±10)	82	209	35	35	600	130	6,5
FP 80/45 NI ls	45	20 (±10)	82	198	46	35	300	70	
FP 80/60 NI ls	45	20 (±10)	82	209	60	35	300	30	
FP 80/80 NI ls	45	20 (±10)	82	209	81	35	120	30	
FP 80/95 NI ls	45	20 (±10)	82	209	97	35	60		
FP 80/115 NI ls	45	20 (±10)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

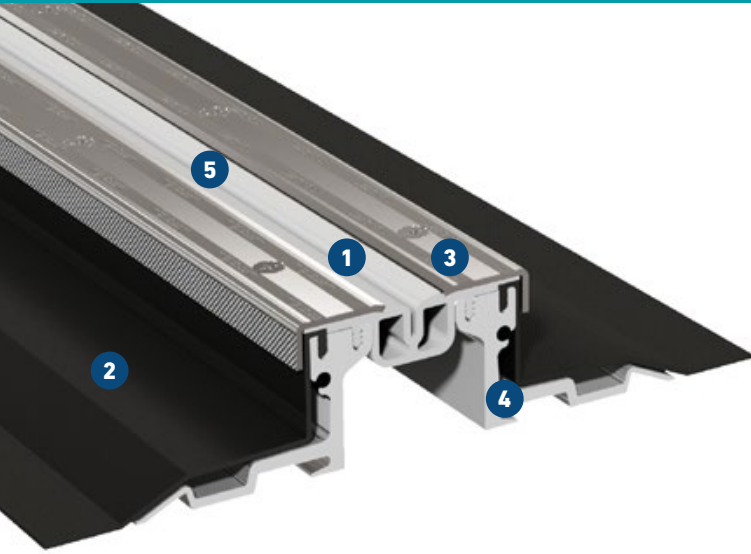


FP 90 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available

Central insert with double-web to provide multilayered protection

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 3 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 5 New: With grey insert**
to perfectly match the adjacent covering

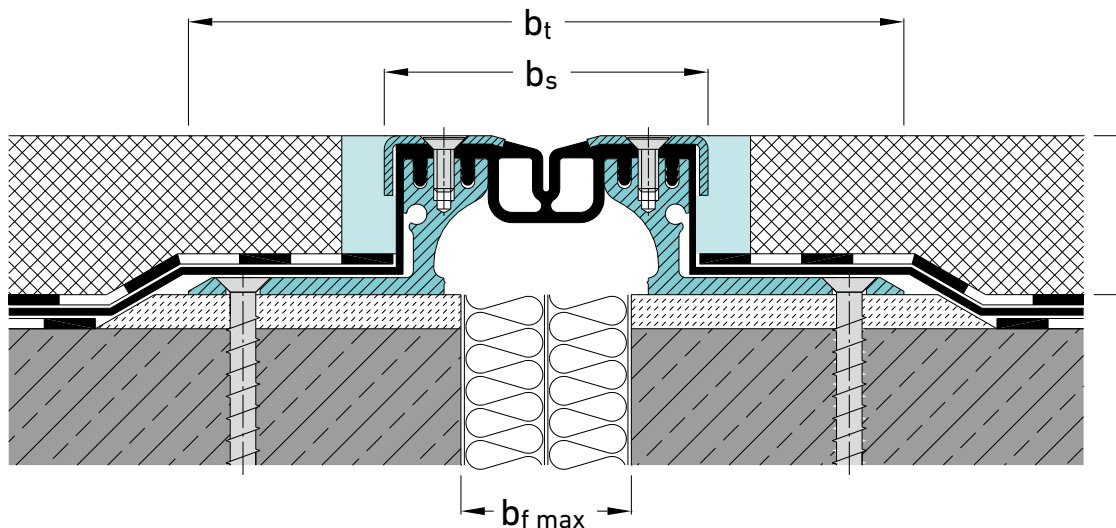


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 90/25 NI ls	60	40 (±20)	95	222	25				
FP 90/35 NI ls	60	40 (±20)	95	222	35	35	600	130	
FP 90/45 NI ls	60	40 (±20)	95	211	46	35	300	70	
FP 90/60 NI ls	60	40 (±20)	95	222	60	35	300	30	
FP 90/80 NI ls	60	40 (±20)	95	222	81	35	120	30	
FP 90/95 NI ls	60	40 (±20)	95	222	97	35	60		
FP 90/115 NI ls	60	40 (±20)	95	222	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

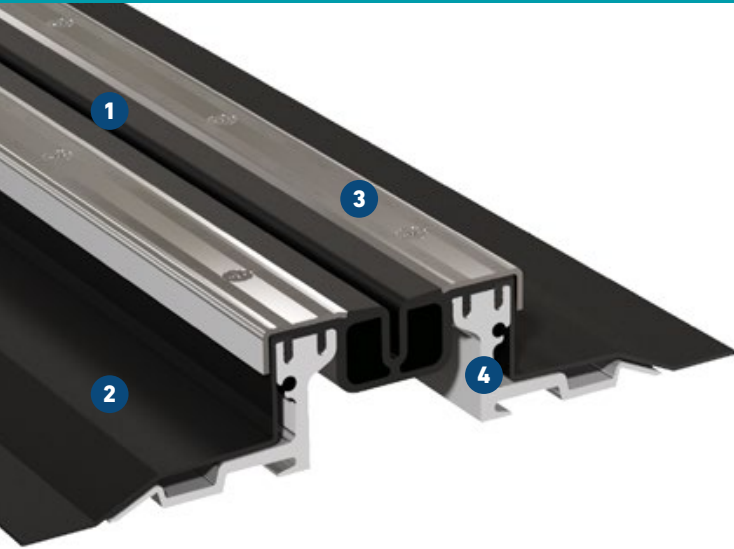


FP 110 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Central insert on top surface

Visual inspection and replacement without disrupting the surface

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



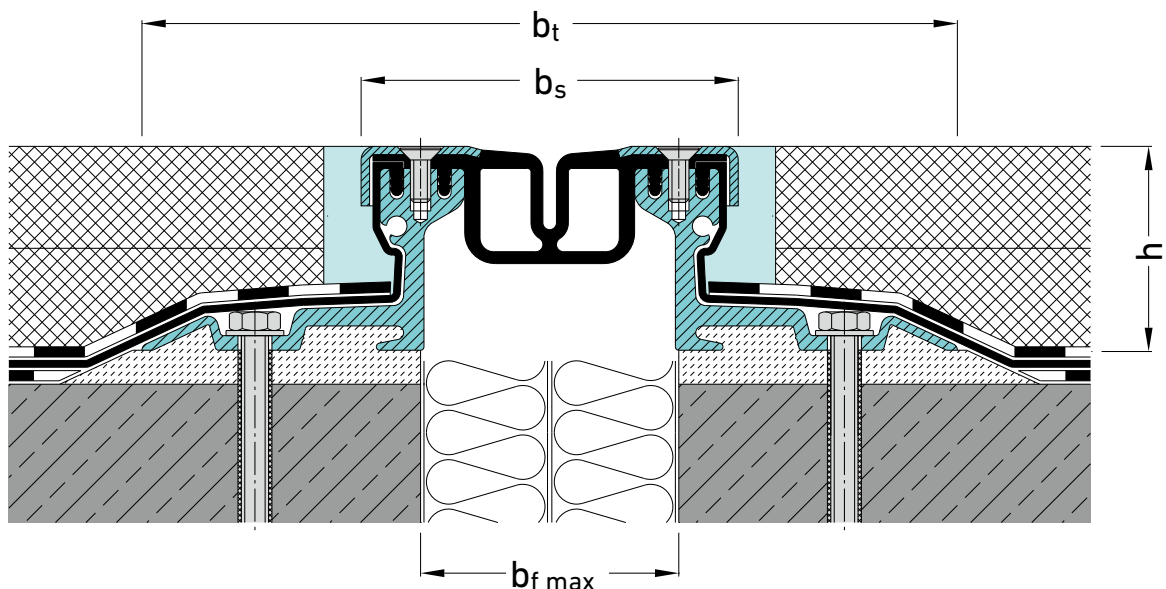
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 110/25 NI ls *	75	60 (±30)	111	238	25				
FP 110/35 NI ls	75	60 (±30)	111	238	35	35	600	130	
FP 110/45 NI ls	75	60 (±30)	111	227	46	35	300	70	
FP 110/60 NI ls	75	60 (±30)	111	238	60	35	300	30	
FP 110/80 NI ls	75	60 (±30)	111	238	81	35	120	30	
FP 110/95 NI ls	75	60 (±30)	111	238	97	35	60		
FP 110/115 NI ls	75	60 (±30)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

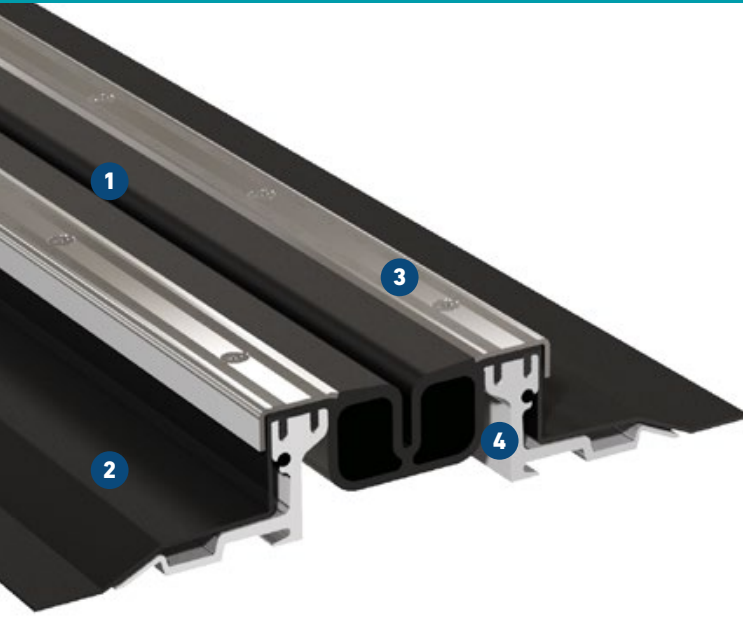


FP 130 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Central insert on top surface

Visual inspection and replacement without disrupting the surface

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



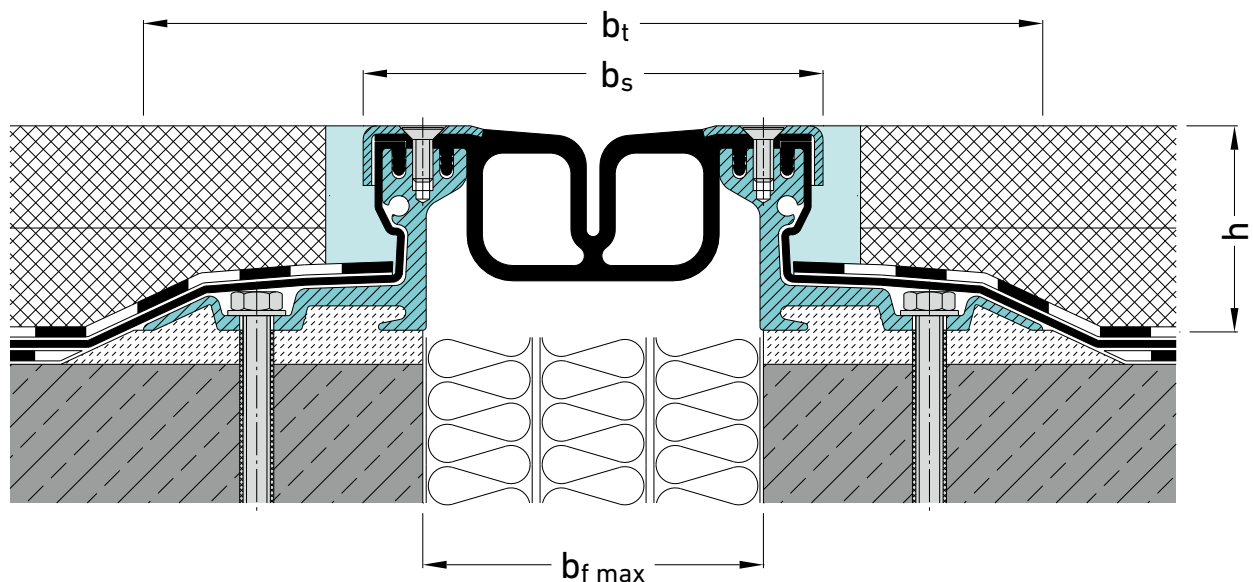
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 130/25 NI ls *	100	90 (±45)	133	260	25				
FP 130/35 NI ls *	100	90 (±45)	133	260	35	35	600	130	
FP 130/45 NI ls	100	90 (±45)	133	249	46	35	90	70	
FP 130/60 NI ls	100	90 (±45)	133	260	60	35	60	35	
FP 130/80 NI ls	100	90 (±45)	133	260	81	35	60	35	
FP 130/95 NI ls	100	90 (±45)	133	260	97	35			
FP 130/115 NI ls	100	90 (±45)	133	260	117	35			

* Minimum joint width 75 mm.

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

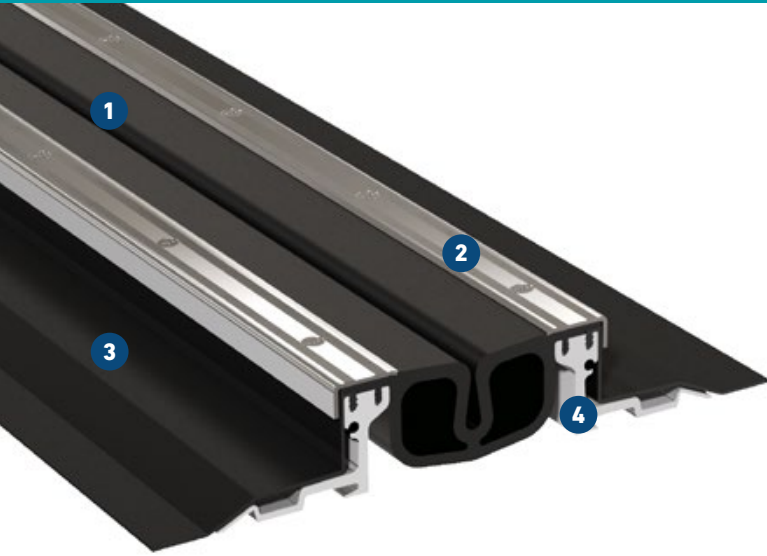


FP 155 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



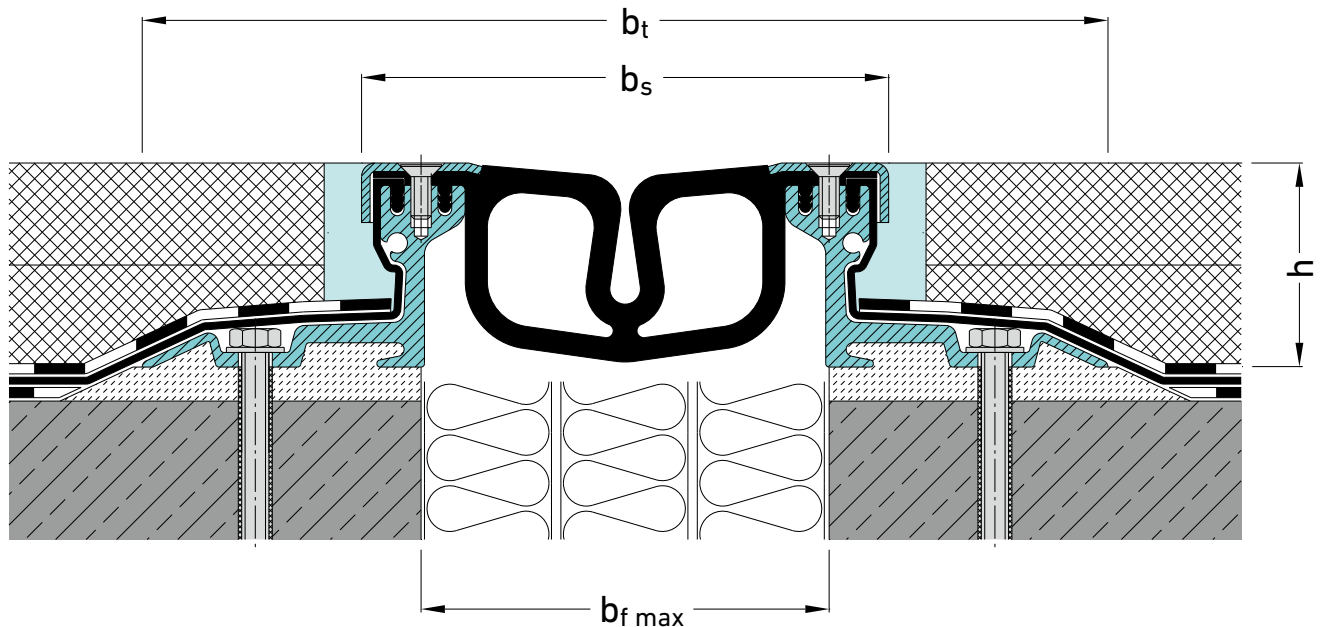
Fire tested Bfl-s2
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]								
FP 155/25 NI ls *	120	120 (±60)	155	282	25				
FP 155/35 NI ls *	120	120 (±60)	155	282	35	35	120	35	
FP 155/45 NI ls *	120	120 (±60)	155	271	46	35	60	35	
FP 155/60 NI ls *	120	120 (±60)	155	282	60	35	35	35	
FP 155/80 NI ls *	120	120 (±60)	155	282	81	35	35	35	
FP 155/95 NI ls	120	120 (±60)	155	282	97	35			
FP 155/115 NI ls	120	120 (±60)	155	282	117	35			

* Minimum joint width 95 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

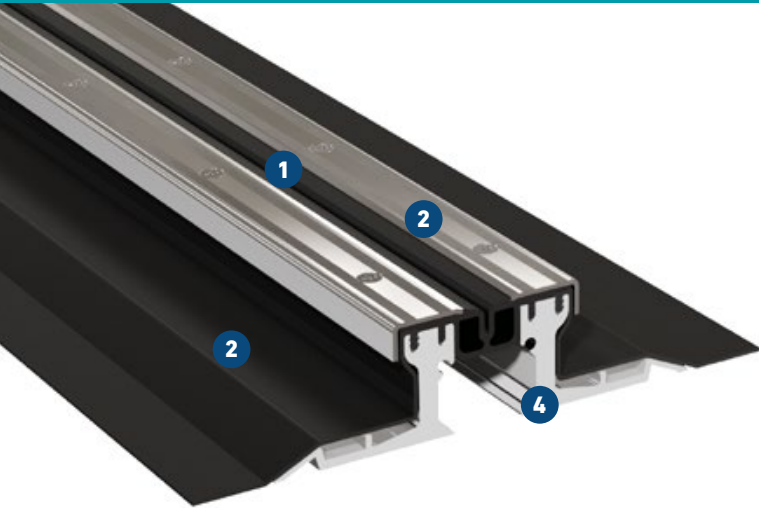


FP(G) .../60 S NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). HEAVY DUTY

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



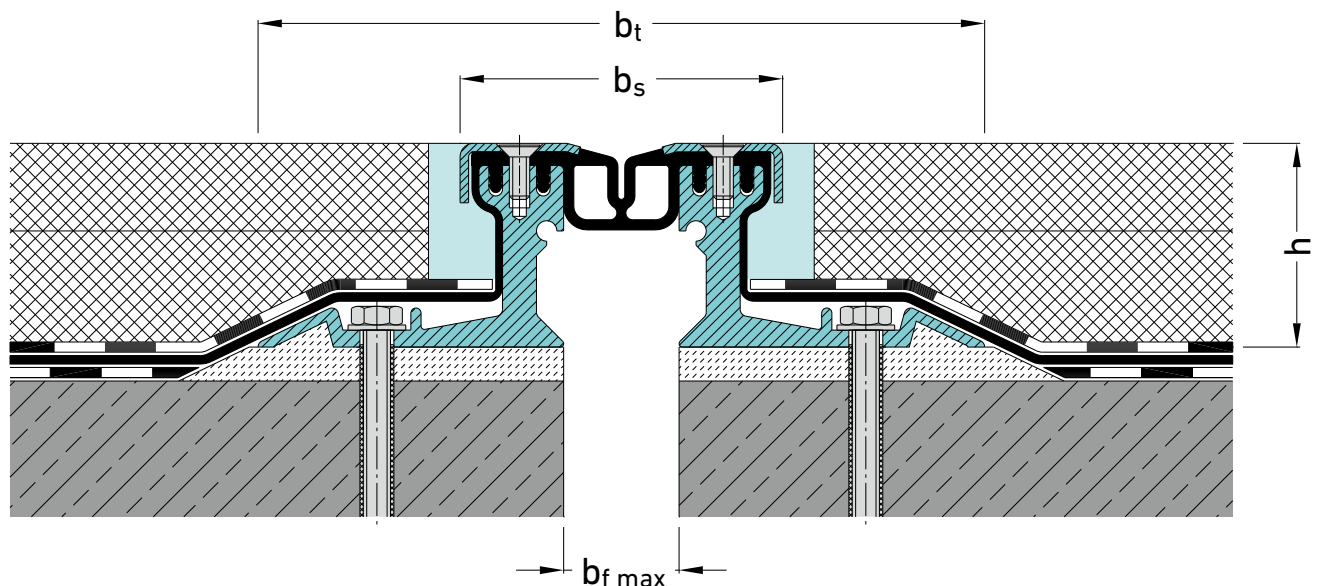
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 80/60 S NI ls	35	20 (± 10)	82	201	60	35	600	130	6,5
FPG 80/60 S NI ls	35	16 (± 8)	82	201	60	35	600	130	6,5
FP 90/60 S NI ls	50	40 (± 20)	95	214	60	35	600	130	
FPG 90/60 S NI ls	50	20 (± 10)	95	214	60	35	600	130	4,3
FP 110/60 S NI ls	65	60 (± 30)	111	230	60	35	600	130	
FPG 110/60 S NI ls	65	40 (± 20)	111	230	60	35	600	130	
FP 130/60 S NI ls*	90	90 (± 45)	133	252	60	35	600	130	
FP 155/60 S NI ls**	110	120 (± 60)	155	274	60	35	300	70	

* Minimum joint width 95 mm

** FP 155/60 S: B_{fl,s2}

Sealing against nonpressurized water.

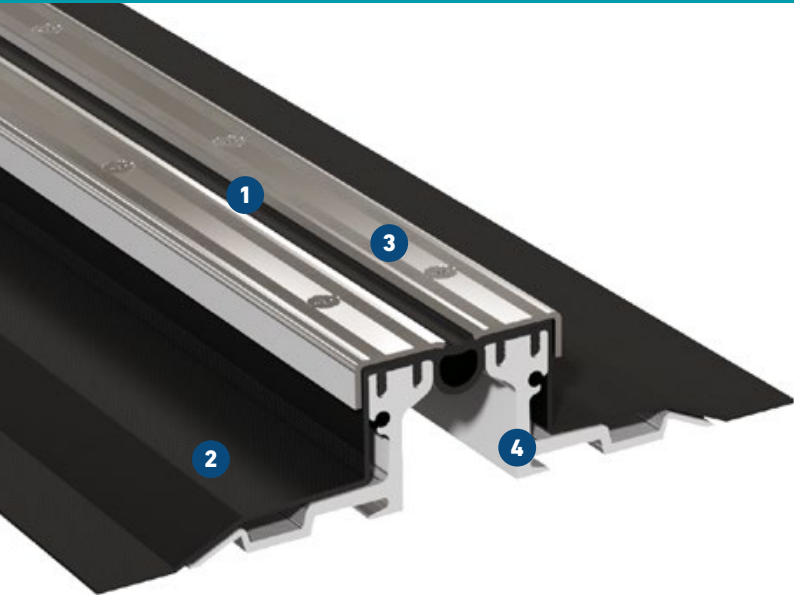


FPG 80 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available

Central insert with double-web to provide multilayered protection

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 3 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

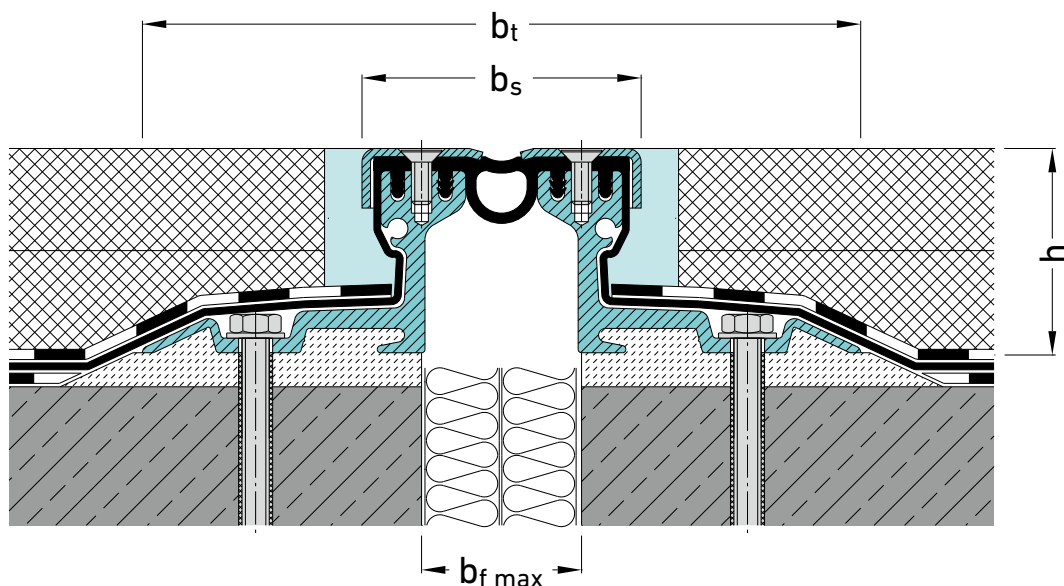


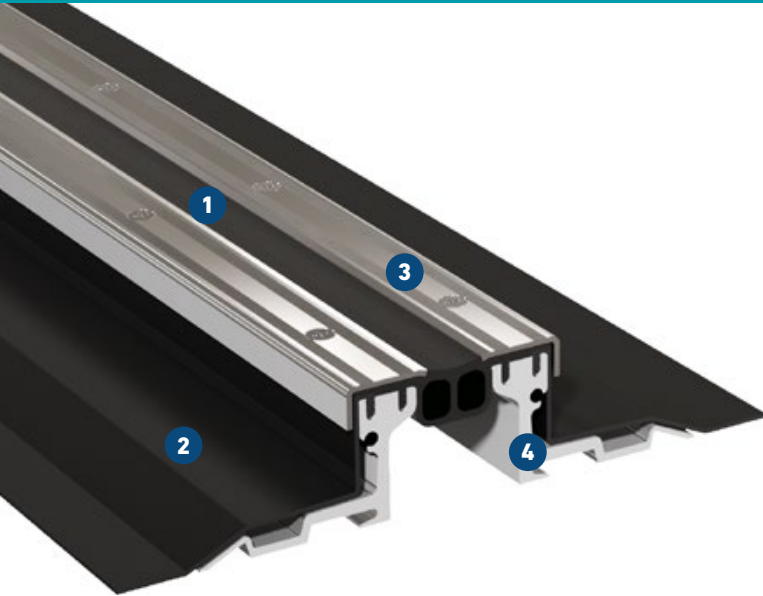
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 80/25 NI ls	45	16 (±8)	82	209	25				
FPG 80/35 NI ls	45	16 (±8)	82	209	35	35	600	130	6,5
FPG 80/45 NI ls	45	16 (±8)	82	198	46	35	300	70	
FPG 80/60 NI ls	45	16 (±8)	82	209	60	35	300	30	
FPG 80/80 NI ls	45	16 (±8)	82	209	81	35	120	30	
FPG 80/95 NI ls	45	16 (±8)	82	209	97	35	60		
FPG 80/115 NI ls	45	16 (±8)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.





Smooth central insert for increased hygienic requirements

Antibacterial and physiologically safe

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection

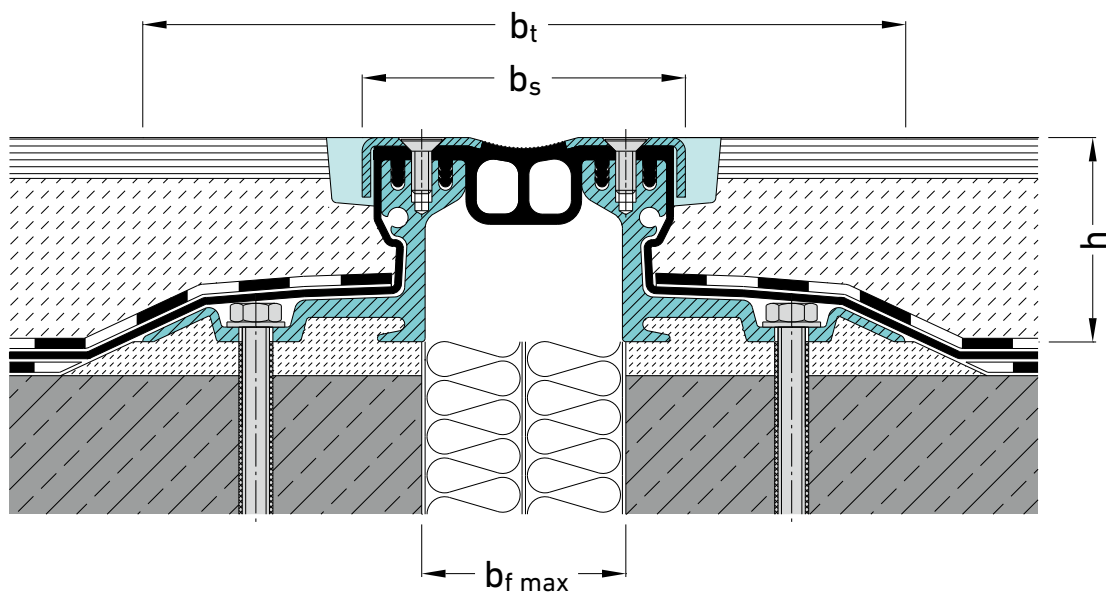


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPG 90/25 NI ls	60	20 (±10)	95	222	25				
FPG 90/35 NI ls	60	20 (±10)	95	222	35	35	600	130	4,3
FPG 90/45 NI ls	60	20 (±10)	95	211	46	35	300	70	
FPG 90/60 NI ls	60	20 (±10)	95	222	60	35	300	30	
FPG 90/80 NI ls	60	20 (±10)	95	222	81	35	120	30	
FPG 90/95 NI ls	60	20 (±10)	95	222	97	35	60		
FPG 90/115 NI ls	60	20 (±10)	95	222	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

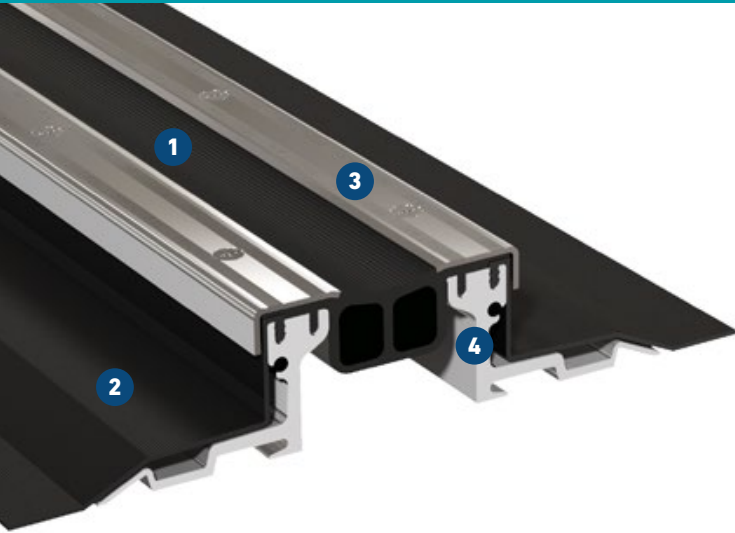


FPG 110 NI Is

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



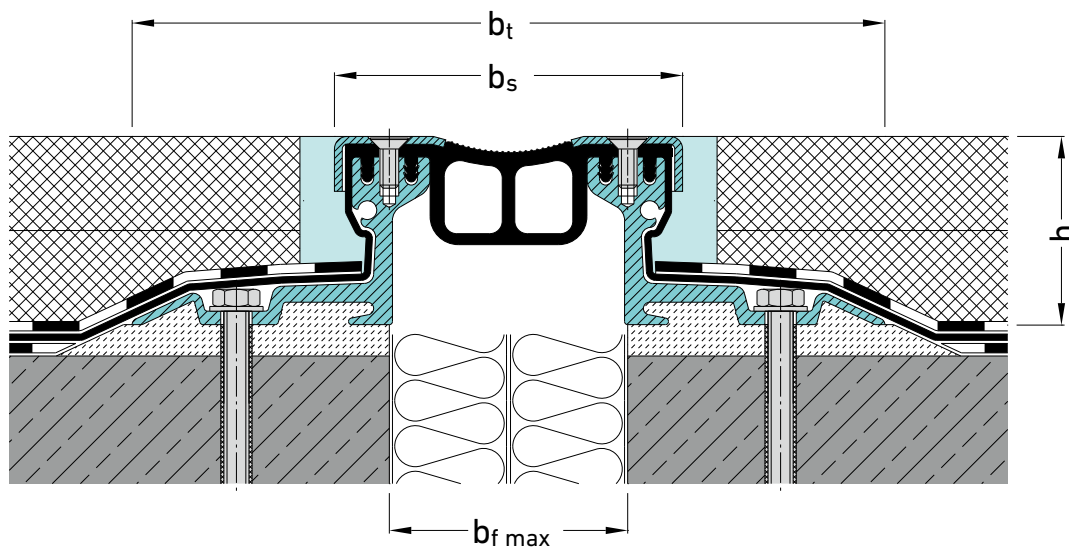
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 110/25 NI Is *	75	40 (±20)	111	238	25				
FPG 110/35 NI Is	75	40 (±20)	111	238	35	35	600	130	
FPG 110/45 NI Is	75	40 (±20)	111	227	46	35	300	70	
FPG 110/60 NI Is	75	40 (±20)	111	238	60	35	300	30	
FPG 110/80 NI Is	75	40 (±20)	111	238	81	35	120	30	
FPG 110/95 NI Is	75	40 (±20)	111	238	97	35	60		
FPG 110/115 NI Is	75	40 (±20)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

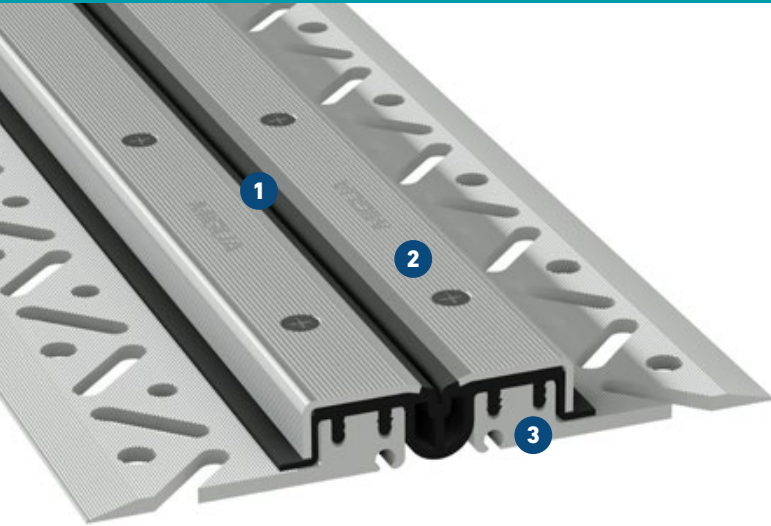


FP 80 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available
Central insert with double-web to provide multilayered protection

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 3 Connection joint with connection joint filler cover AAP 50/20**
Proper and economical connection of the coating system

Mounting brackets are made of high strength aluminium
High loads without any risk of rust

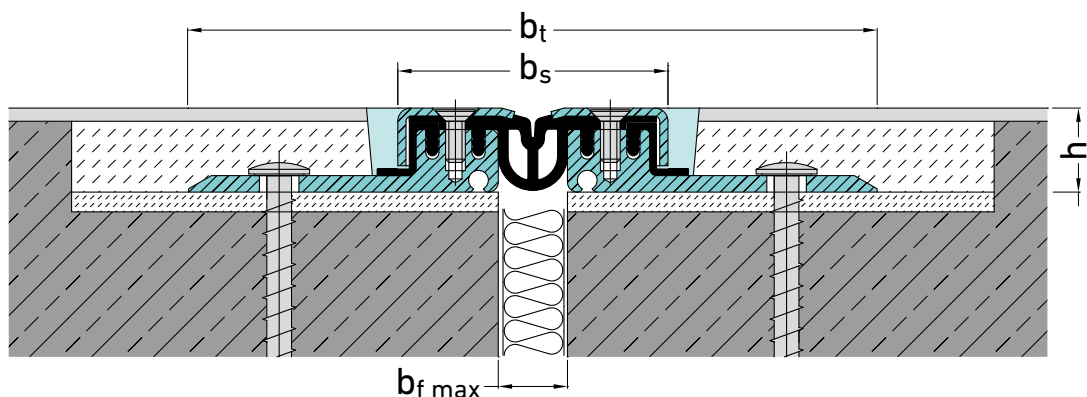


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 80/25 NI ss	45	20 (± 10)	82	209	25	35	600	130	6,5
FP 80/35 NI ss	45	20 (± 10)	82	209	35	35	600	130	6,5
FP 80/45 NI ss	45	20 (± 10)	82	198	46	35	300	70	
FP 80/60 NI ss	45	20 (± 10)	82	209	60	35	300	30	
FP 80/80 NI ss	45	20 (± 10)	82	209	81	35	120	30	
FP 80/95 NI ss	45	20 (± 10)	82	209	97	35	60		
FP 80/115 NI ss	45	20 (± 10)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

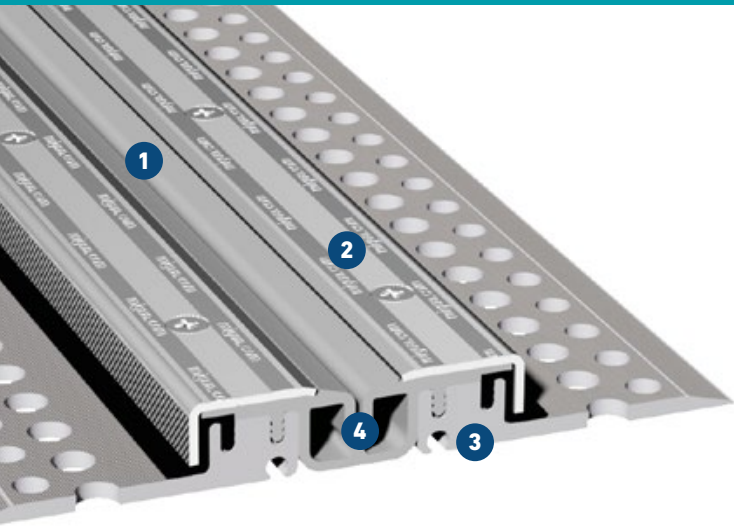


FP 90 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Central insert on top surface

Visual inspection and replacement without disrupting the surface

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Connection joint with connection joint filler cover AAP 50/20**
Clean and economical connection of the coating system
- 3 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

New: With grey insert

to perfectly match the adjacent covering

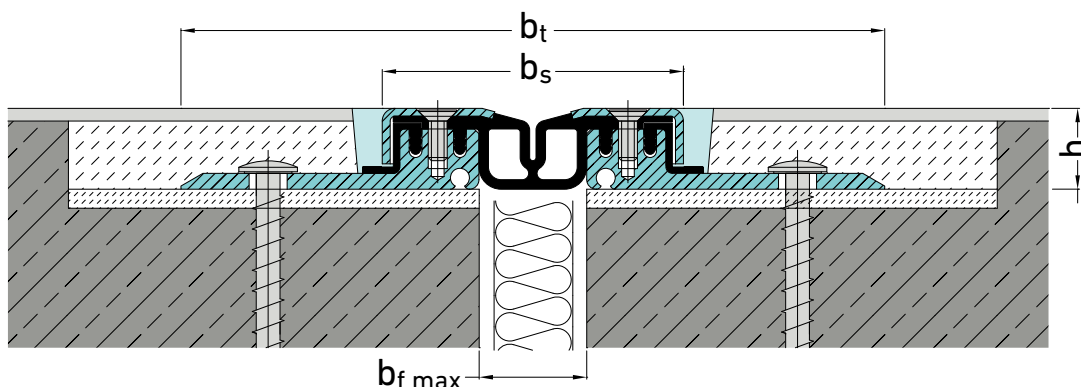


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 90/25 NI ss	60	40 (±20)	95	222	25	35	600	130	
FP 90/35 NI ss	60	40 (±20)	95	222	35	35	600	130	
FP 90/45 NI ss	60	40 (±20)	95	211	46	35	300	70	
FP 90/60 NI ss	60	40 (±20)	95	222	60	35	300	30	
FP 90/80 NI ss	60	40 (±20)	95	222	81	35	120	30	
FP 90/95 NI ss	60	40 (±20)	95	222	97	35	60		
FP 90/115 NI ss	60	40 (±20)	95	222	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FP 110 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

Connection joint with connection joint filler cover AAP 50/20

Proper and economical connection of the coating system



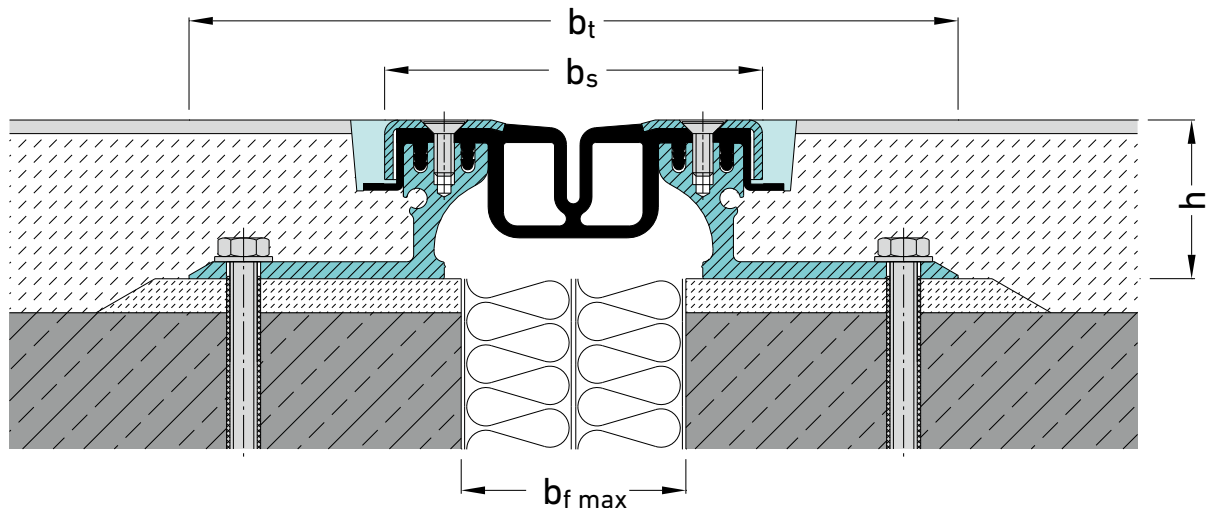
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 110/25 NI ss *	75	60 (± 30)	111	238	25	35	600	130	
FP 110/35 NI ss	75	60 (± 30)	111	238	35	35	600	130	
FP 110/45 NI ss	75	60 (± 30)	111	227	46	35	300	70	
FP 110/60 NI ss	75	60 (± 30)	111	238	60	35	300	30	
FP 110/80 NI ss	75	60 (± 30)	111	238	81	35	120	30	
FP 110/95 NI ss	75	60 (± 30)	111	238	97	35	60		
FP 110/115 NI ss	75	60 (± 30)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

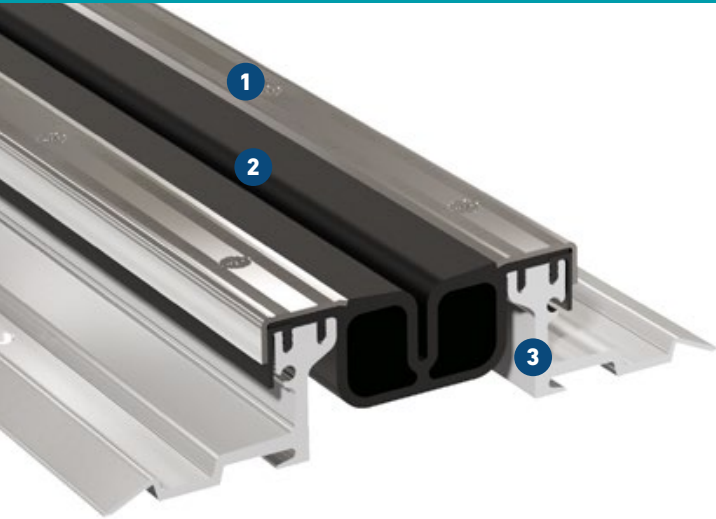


FP 130 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance
100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 3 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection

Connection joint with connection joint filler cover AAP 50/20
Proper and economical connection of the coating system



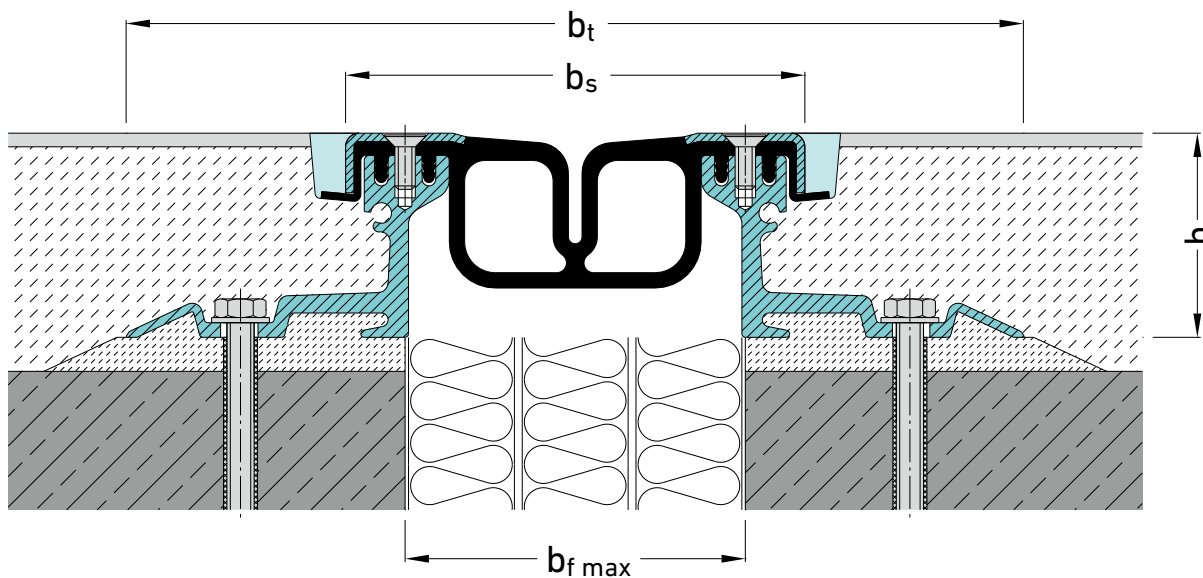
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 130/25 NI ss *	100	90 (±45)	133	260	25	35	600	130	
FP 130/35 NI ss *	100	90 (±45)	133	260	35	35	600	130	
FP 130/45 NI ss	100	90 (±45)	133	249	46	35	90	70	
FP 130/60 NI ss	100	90 (±45)	133	260	60	35	60	35	
FP 130/80 NI ss	100	90 (±45)	133	260	81	35	60	35	
FP 130/95 NI ss	100	90 (±45)	133	260	97	35			
FP 130/115 NI ss	100	90 (±45)	133	260	117	35			

* Minimum joint width 75 mm.

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FP 155 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

Connection joint with connection joint filler cover AAP 50/20

Proper and economical connection of the coating system



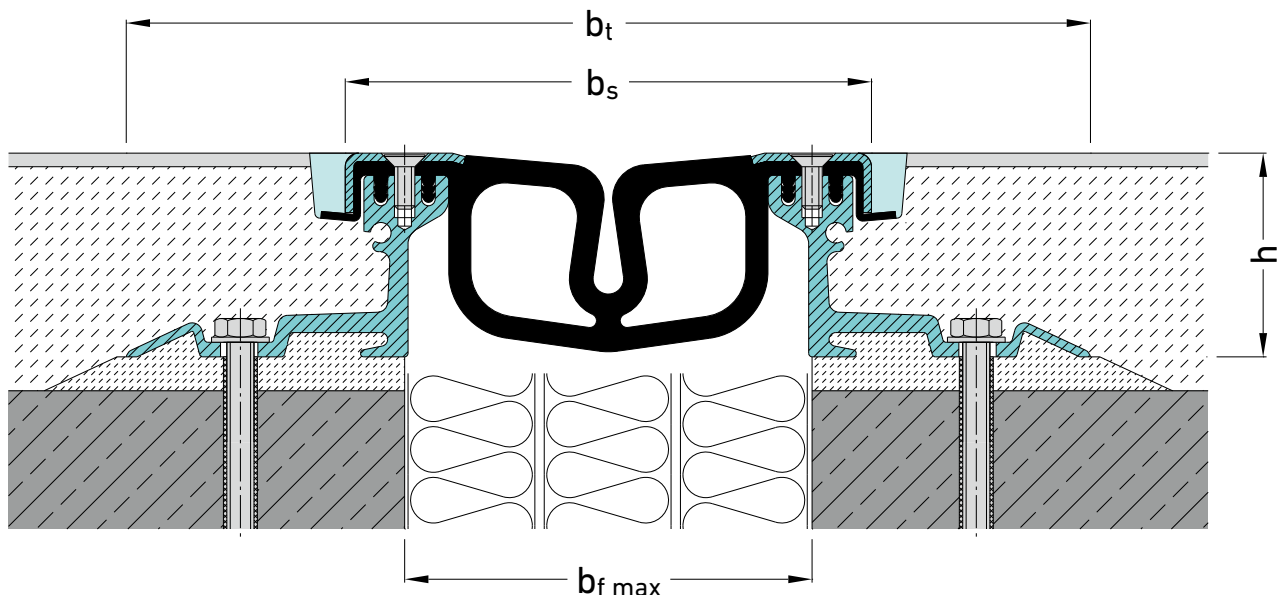
Fire tested Bfl-s2
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 155/25 NI ss *	120	120 (± 60)	155	282	25	35	120	35	
FP 155/35 NI ss *	120	120 (± 60)	155	282	35	35	120	35	
FP 155/45 NI ss *	120	120 (± 60)	155	271	46	35	60	35	
FP 155/60 NI ss *	120	120 (± 60)	155	282	60	35	35	35	
FP 155/80 NI ss *	120	120 (± 60)	155	282	81	35	35	35	
FP 155/95 NI ss	120	120 (± 60)	155	282	97	35			
FP 155/115 NI ss	120	120 (± 60)	155	282	117	35			

* Minimum joint width 95 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FP(G) .../60 S NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS). HEAVY DUTY

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

Connection joint with connection joint filler cover AAP 50/20

Proper and economical connection of the coating system



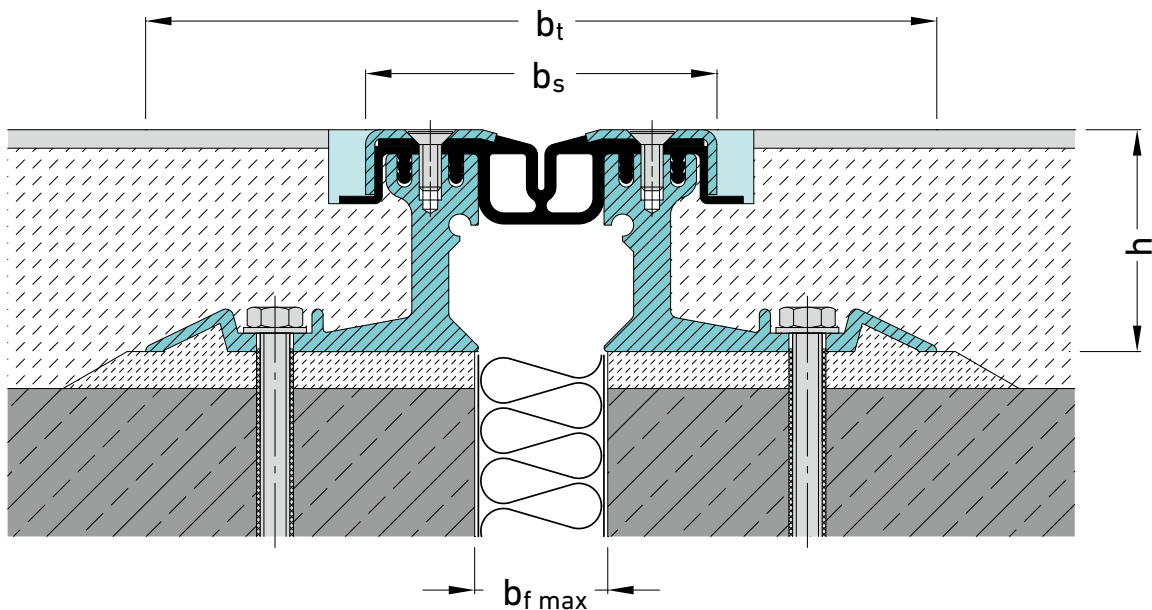
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 80/60 S NI ss	35	20 (± 10)	82	201	60	35	600	130	6,5
FPG 80/60 S NI ss	35	16 (± 8)	82	201	60	35	600	130	6,5
FP 90/60 S NI ss	50	40 (± 20)	95	214	60	35	600	130	
FPG 90/60 S NI ss	50	20 (± 10)	95	214	60	35	600	130	4,3
FP 110/60 S NI ss	65	60 (± 30)	111	230	60	35	600	130	
FPG 110/60 S NI ss	65	40 (± 20)	111	230	60	35	600	130	
FP 130/60 S NI ss	90	90 (± 45)	133	260	60	35	600	130	
FP 155/60 S NI ss **	110	120 (± 60)	155	274	60	35	300	70	

* Minimum joint width 95 mm

** FP 155/60 S: B_{fl,s2}

Sealing against nonpressurized water.



FPG 80 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

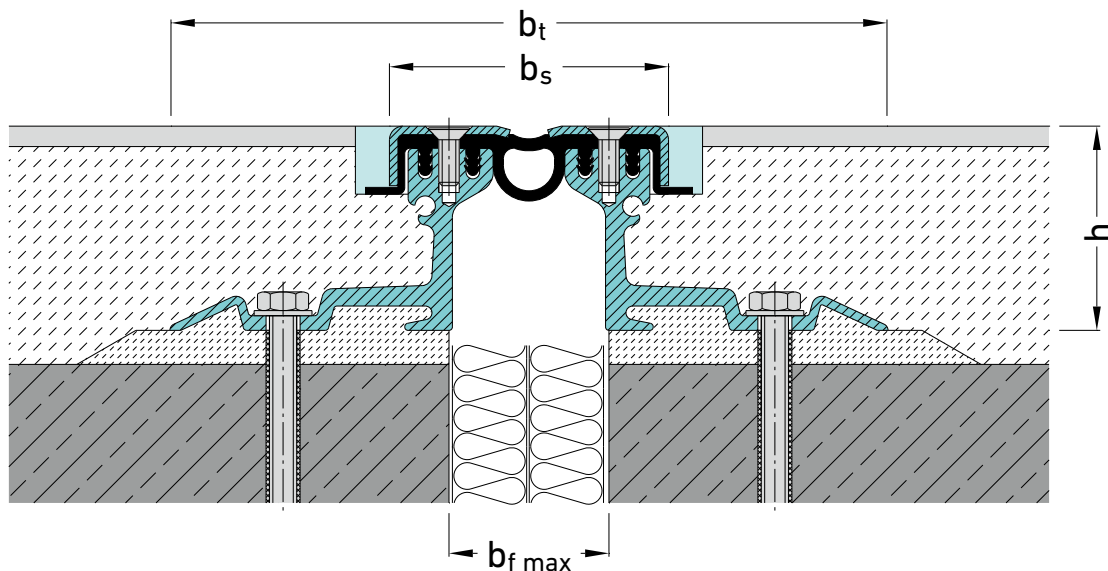


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 80/25 NI ss	45	16 (±8)	82	209	25	35	600	130	6,5
FPG 80/35 NI ss	45	16 (±8)	82	209	35	35	600	130	6,5
FPG 80/45 NI ss	45	16 (±8)	82	198	46	35	300	70	
FPG 80/60 NI ss	45	16 (±8)	82	209	60	35	300	30	
FPG 80/80 NI ss	45	16 (±8)	82	209	81	35	120	30	
FPG 80/95 NI ss	45	16 (±8)	82	209	97	35	60		
FPG 80/115 NI ss	45	16 (±8)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FPG 90 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1** **Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2** **Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3** **Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4** **Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection

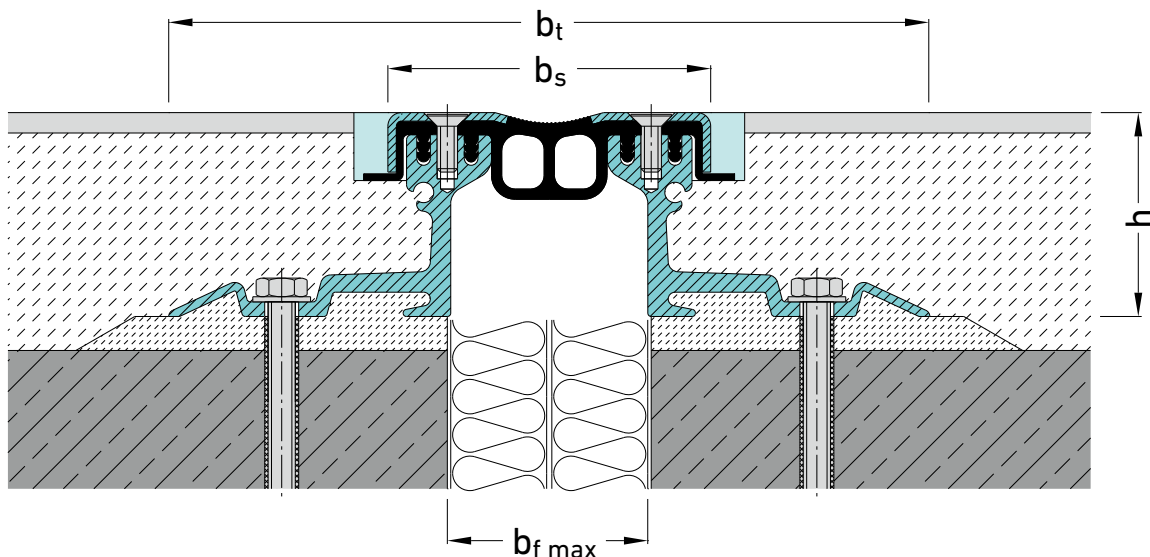


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPG 90/25 NI ss	60	20 (± 10)	95	222	25	35	600	130	4,3
FPG 90/35 NI ss	60	20 (± 10)	95	222	35	35	600	130	4,3
FPG 90/45 NI ss	60	20 (± 10)	95	211	46	35	300	70	
FPG 90/60 NI ss	60	20 (± 10)	95	222	60	35	300	30	
FPG 90/80 NI ss	60	20 (± 10)	95	222	81	35	120	30	
FPG 90/95 NI ss	60	20 (± 10)	95	222	97	35	60		
FPG 90/115 NI ss	60	20 (± 10)	95	222	115	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FPG 110 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1** **Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically s
- 2** **Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3** **Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4** **Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



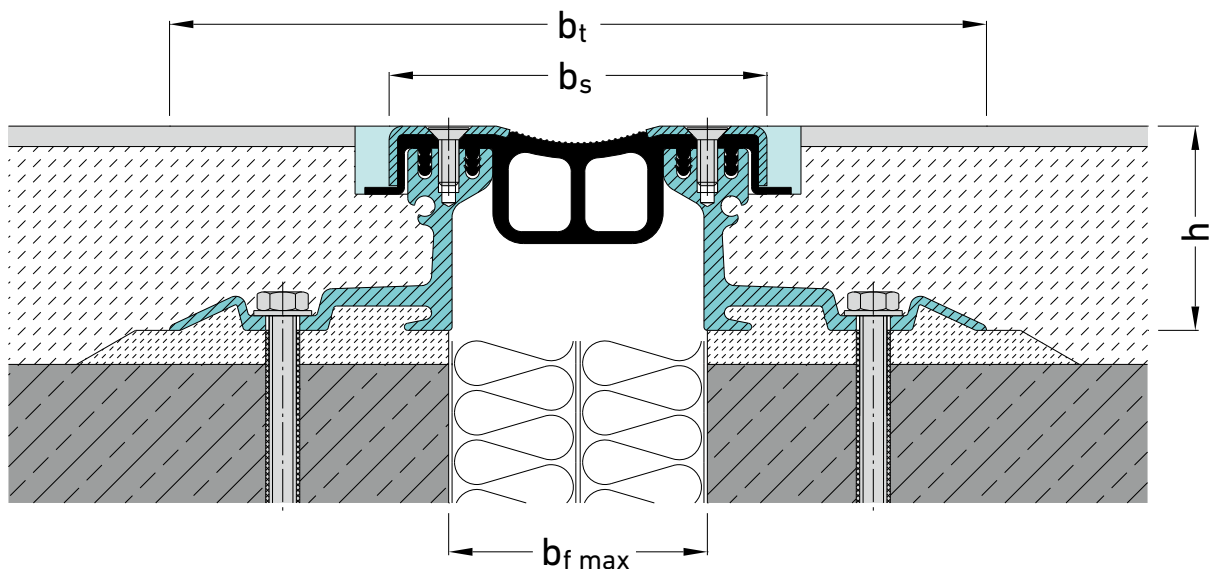
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 110/25 NI ss *	75	40 (± 20)	111	238	25	35	600	130	
FPG 110/35 NI ss	75	40 (± 20)	111	238	35	35	600	130	
FPG 110/45 NI ss	75	40 (± 20)	111	227	46	35	300	70	
FPG 110/60 NI ss	75	40 (± 20)	111	238	60	35	300	30	
FPG 110/80 NI ss	75	40 (± 20)	111	238	81	35	120	30	
FPG 110/95 NI ss	75	40 (± 20)	111	238	97	35	60		
FPG 110/115 NI ss	75	40 (± 20)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

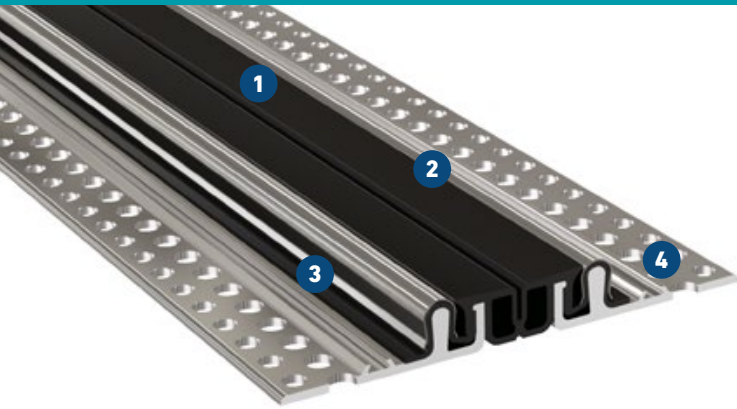


FPL 85/27 NI

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



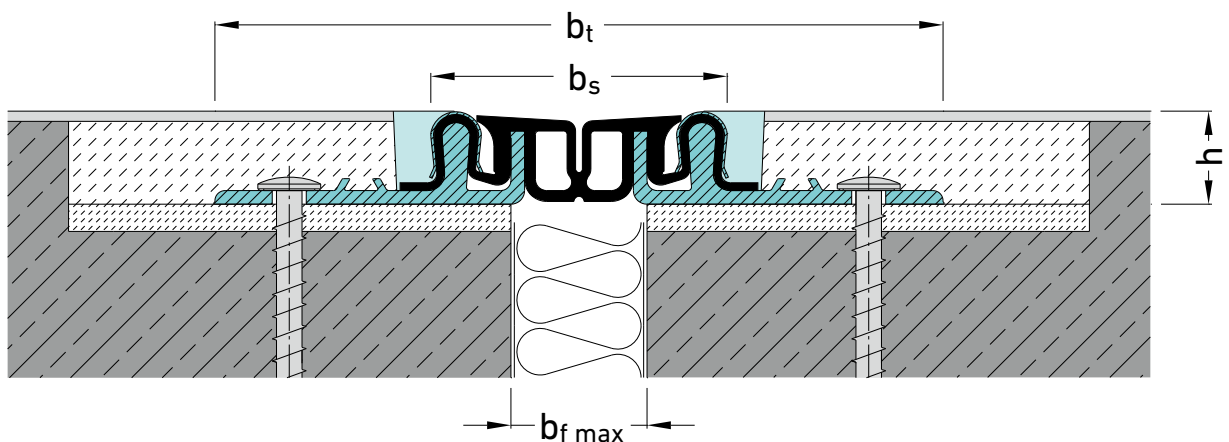
- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Stainless steel clip-on-cappings, made of spring steel**
Easy and cost saving assembly
- 3 100% watertight**
In connection with a coating system and connection joint
- 4 MultiHole mounting brackets**
for secure fixing

Connection joint with connection joint filler cover AAP 110/23

Proper and economical connection of the coating system

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPL 85/27 NI	50	40 (±20)	85	214	27	35	300	70	

Sealing against nonpressurized water.

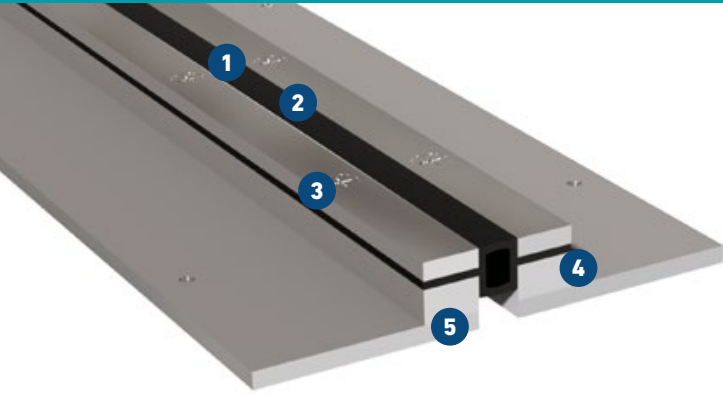


FPSG 68 ES

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



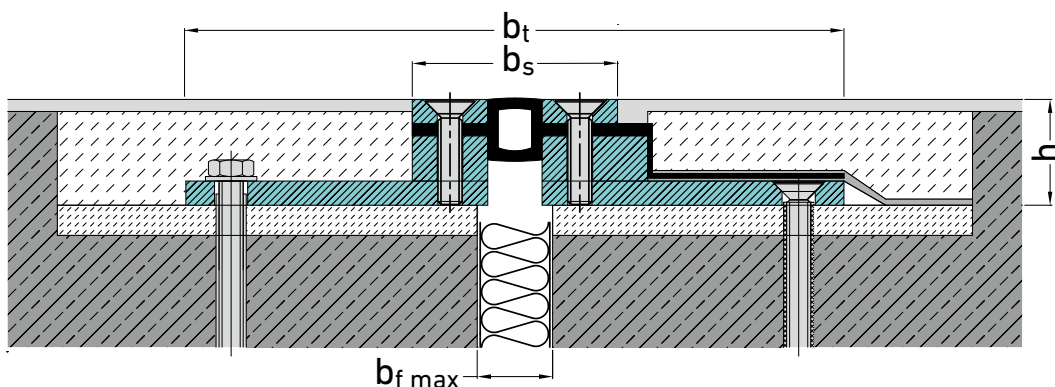
- 1 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 100% watertight**
In connection with a coating system and a connection joint
- 4 Solid metal design**
High load capacity (Heavy duty) up to 600 kN
- 5 Flexible use**
Sub-construction can be adapted acc. to requirements

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPSG 68/25 ES	25	10 (±5)	68	218	25	35	600	130	12,5
FPSG 68/30 ES	25	10 (±5)	68	218	30	35	600	130	12,5
FPSG 68/35 ES	25	10 (±5)	68	218	35	35	600	130	12,5
FPSG 68/40 ES	25	10 (±5)	68	218	40	35	600	130	12,5

Production length: 1,98 m

Intersections and end pieces can be manufactured according to your requirements. The installation should be done by experienced companies. Variations on request. The system can be installed with and without connection joint. With connection joint and combined with a coating system 100% watertightness is possible. Material: medium-affected: alloy 304 or 316 Ti Sub-construction: on request

FPSG 68/35 without side connection to joint



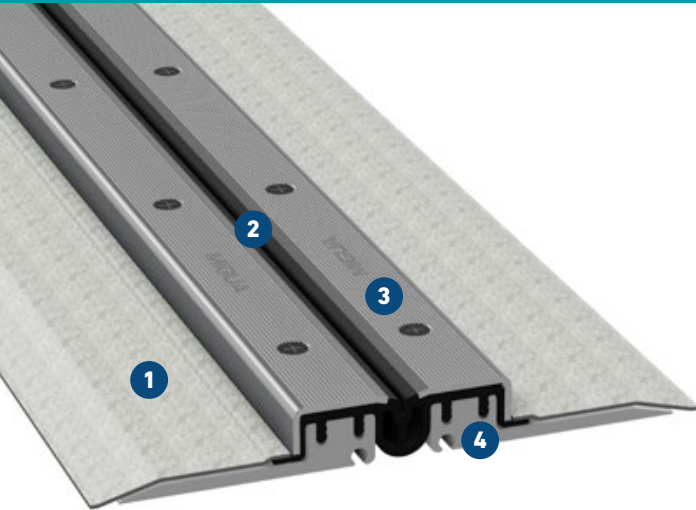
FPSG 68/35 ES with side connection to joint sealing in liquid plastic (with XA sheets)

FP 80 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available

Central insert with double-web to provide multilayered protection

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

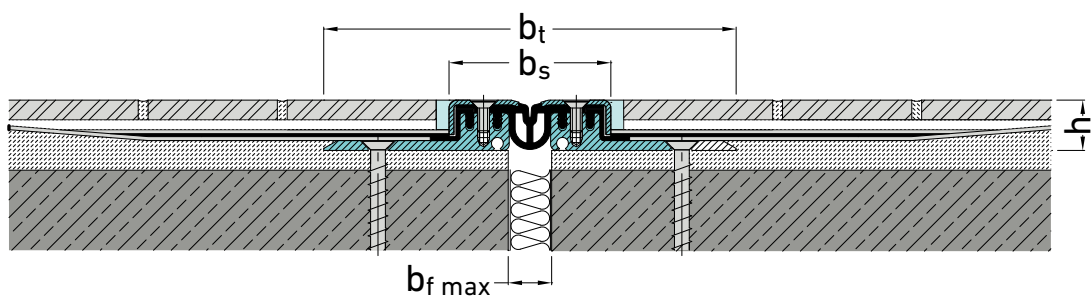


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 80/25 NI XA	45	20 (±10)	82	209	25	35	600	130	6,5
FP 80/35 NI XA	45	20 (±10)	82	209	35	35	600	130	6,5
FP 80/45 NI XA	45	20 (±10)	82	198	46	35	300	70	
FP 80/60 NI XA	45	20 (±10)	82	209	60	35	300	30	
FP 80/80 NI XA	45	20 (±10)	82	209	81	35	120	30	
FP 80/95 NI XA	45	20 (±10)	82	209	97	35	60		
FP 80/115 NI XA	45	20 (±10)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

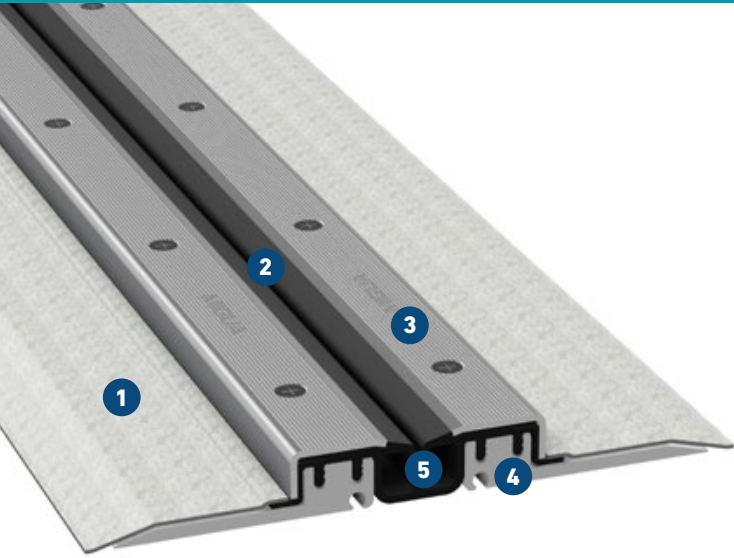


FP 90 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available
Central insert with double-web to provide multilayered protection

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 3 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 5 New: With grey insert**
to perfectly match the adjacent covering

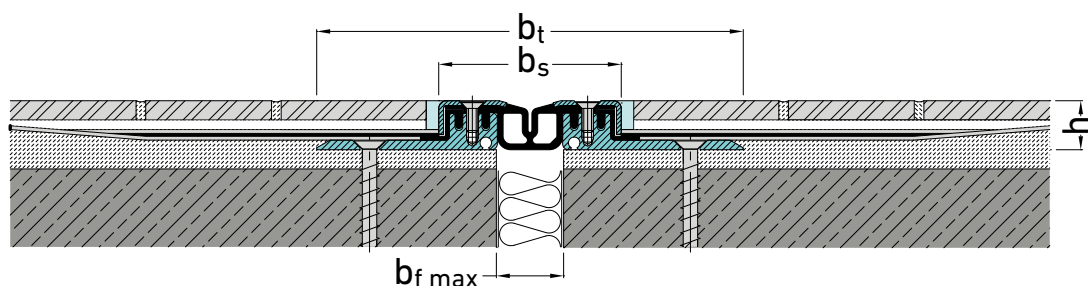


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]								
FP 90/25 NI XA	60	40 (±20)	95	222	25	35	600	130	
FP 90/35 NI XA	60	40 (±20)	95	222	35	35	600	130	
FP 90/45 NI XA	60	40 (±20)	95	211	46	35	300	70	
FP 90/60 NI XA	60	40 (±20)	95	222	60	35	300	30	
FP 90/80 NI XA	60	40 (±20)	95	222	81	35	120	30	
FP 90/95 NI XA	60	40 (±20)	95	222	97	35	60		
FP 90/115 NI XA	60	40 (±20)	95	222	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

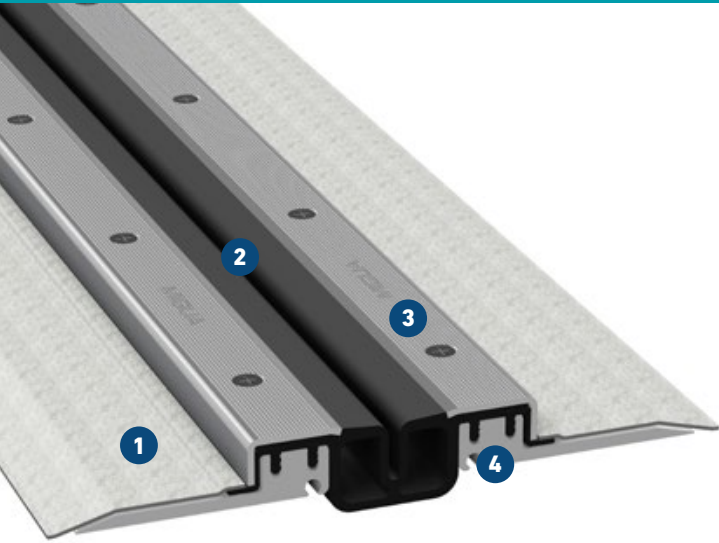


FP 110 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Central insert on top surface

Visual inspection and replacement without disrupting the surface

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



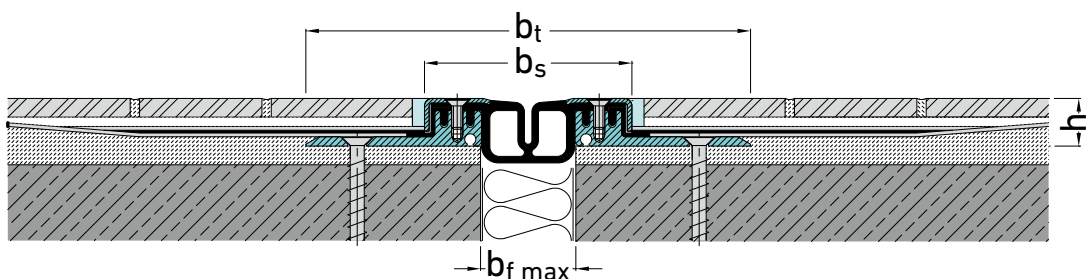
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 110/25 NI XA *	75	60 (±30)	111	238	25	35	600	130	
FP 110/35 NI XA	75	60 (±30)	111	238	35	35	600	130	
FP 110/45 NI XA	75	60 (±30)	111	227	46	35	300	70	
FP 110/60 NI XA	75	60 (±30)	111	238	60	35	300	30	
FP 110/80 NI XA	75	60 (±30)	111	238	81	35	120	30	
FP 110/95 NI XA	75	60 (±30)	111	238	97	35	60		
FP 110/115 NI XA	75	60 (±30)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

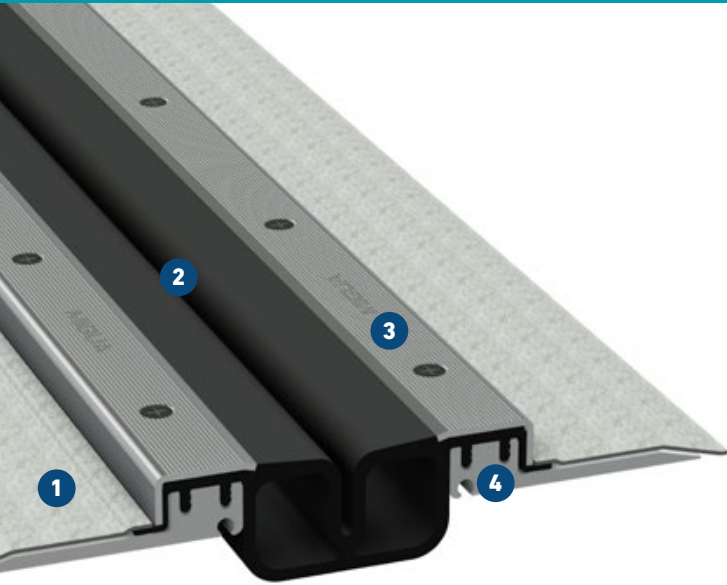


FP 130 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Central insert on top surface

Visual inspection and replacement without disrupting the surface

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



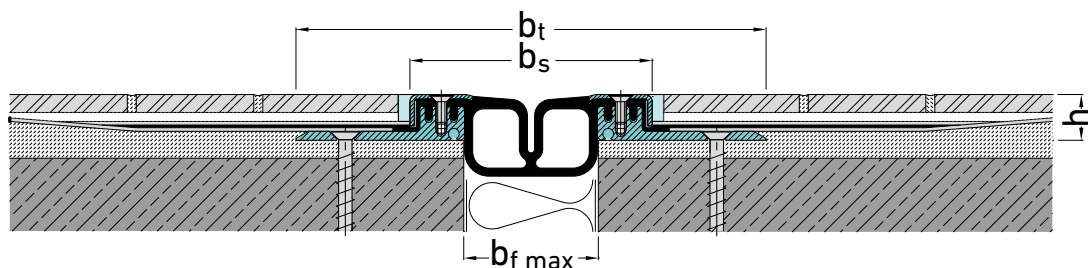
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 130/25 NI XA *	100	90 (±45)	133	260	25	35	600	130	
FP 130/35 NI XA *	100	90 (±45)	133	260	35	35	600	130	
FP 130/45 NI XA	100	90 (±45)	133	249	46	35	90	70	
FP 130/60 NI XA	100	90 (±45)	133	260	60	35	60	35	
FP 130/80 NI XA	100	90 (±45)	133	260	81	35	60	35	
FP 130/95 NI XA	100	90 (±45)	133	260	97	35			
FP 130/115 NI XA	100	90 (±45)	133	260	117	35			

* Minimum joint width 75 mm.

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

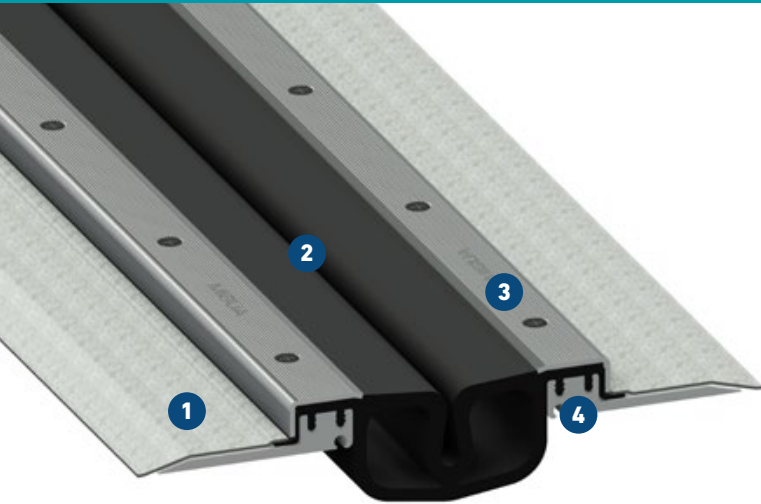


FP 155 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



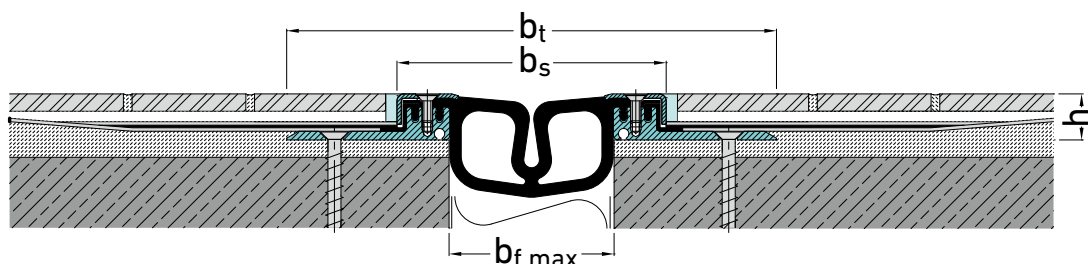
Fire tested Bfl-s2
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 155/25 NI XA *	120	120 (±60)	155	282	25	35	120	35	
FP 155/35 NI XA *	120	120 (±60)	155	282	35	35	120	35	
FP 155/45 NI XA *	120	120 (±60)	155	271	46	35	60	35	
FP 155/60 NI XA *	120	120 (±60)	155	282	60	35	35	35	
FP 155/80 NI XA *	120	120 (±60)	155	282	81	35	35	35	
FP 155/95 NI XA	120	120 (±60)	155	282	97	35			
FP 155/115 NI XA	120	120 (±60)	155	282	117	35			

* Minimum joint width 95 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

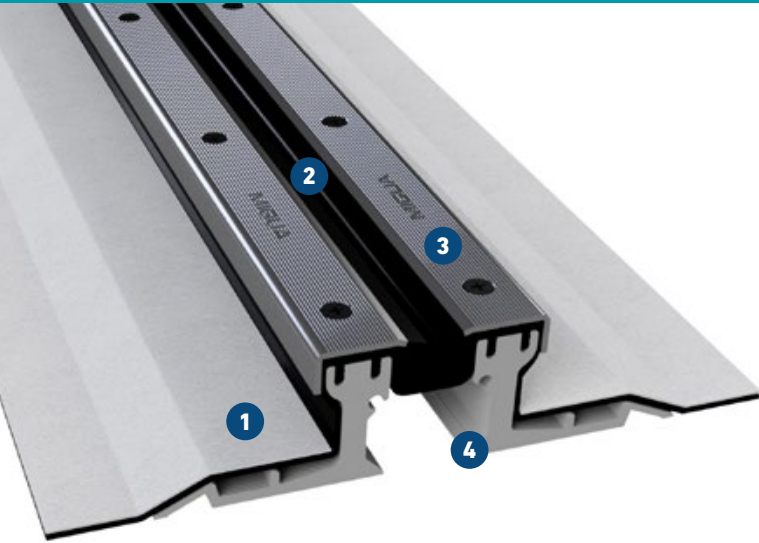


FP(G) .../60 S NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). HEAVY DUTY

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance
100% watertight by max. pressure

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Long AAS sheets on both sides with striations**
Best possible connection with the sealing layer
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



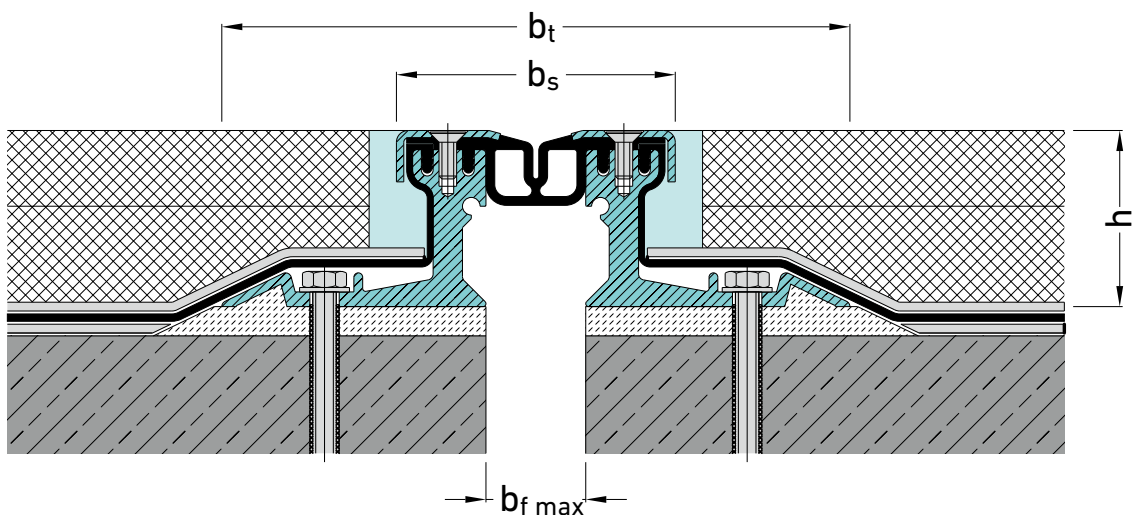
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FP 80/60 S NI XA	35	20 (± 10)	82	201	60	35	600	130	6,5
FPG 80/60 S NI XA	35	16 (± 8)	82	201	60	35	600	130	6,5
FP 90/60 S NI XA	50	40 (± 20)	95	214	60	35	600	130	
FPG 90/60 S NI XA	50	20 (± 10)	95	214	60	35	600	130	4,3
FP 110/60 S NI XA	65	60 (± 30)	111	230	60	35	600	130	
FPG 110/60 S NI XA	65	40 (± 20)	111	230	60	35	600	130	
FP 130/60 S NI XA	90	90 (± 45)	133	252	60	35	600	130	
FP 155/60 S NI XA */**	110	120 (± 60)	155	274	60	35	300	70	

* Minimum joint width 95 mm

** FP 155/60 S: $B_{fl,s2}$

Sealing against nonpressurized water.

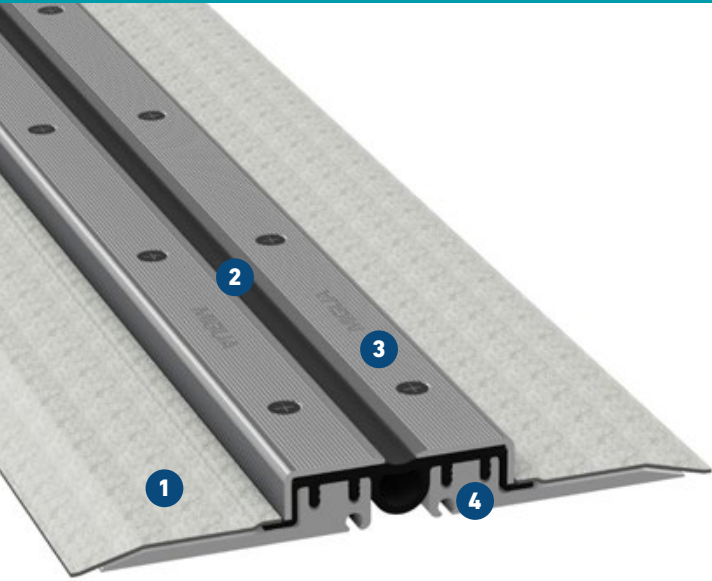


FPG 80 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Official test certificates for watertightness available

Central insert with double-web to provide multilayered protection

- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 3 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

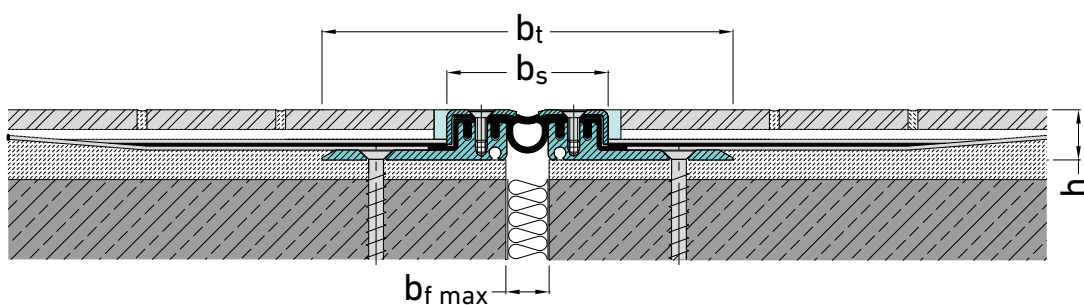


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 80/25 NI XA	45	16 (±8)	82	209	25	35	600	130	6,5
FPG 80/35 NI XA	45	16 (±8)	82	209	35	35	600	130	6,5
FPG 80/45 NI XA	45	16 (±8)	82	198	46	35	300	70	
FPG 80/60 NI XA	45	16 (±8)	82	209	60	35	300	30	
FPG 80/80 NI XA	45	16 (±8)	82	209	81	35	120	30	
FPG 80/95 NI XA	45	16 (±8)	82	209	97	35	60		
FPG 80/115 NI XA	45	16 (±8)	82	209	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

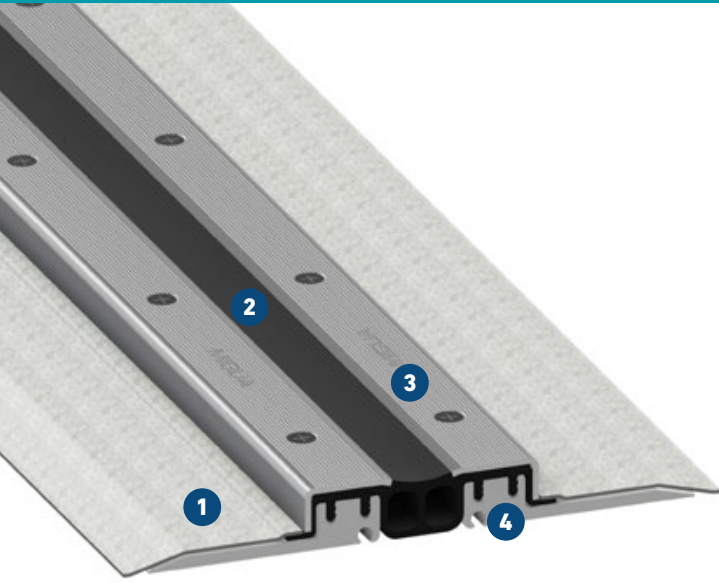


FPG 90 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Smooth central insert for increased hygienic requirements

Antibacterial and physiologically safe

- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4 Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection

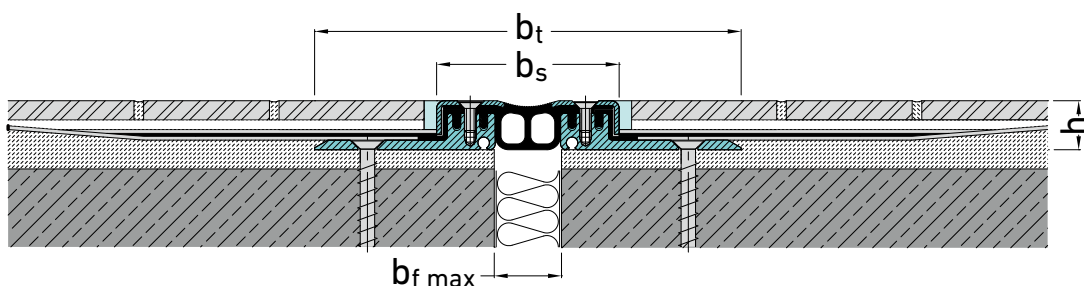


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPG 90/25 NI XA	60	20 (±10)	95	222	25	35	600	130	4,3
FPG 90/35 NI XA	60	20 (±10)	95	222	35	35	600	130	4,3
FPG 90/45 NI XA	60	20 (±10)	95	211	46	35	300	70	
FPG 90/60 NI XA	60	20 (±10)	95	222	60	35	300	30	
FPG 90/80 NI XA	60	20 (±10)	95	222	81	35	120	30	
FPG 90/95 NI XA	60	20 (±10)	95	222	97	35	60		
FPG 90/115 NI XA	60	20 (±10)	95	222	117	35	60		

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.

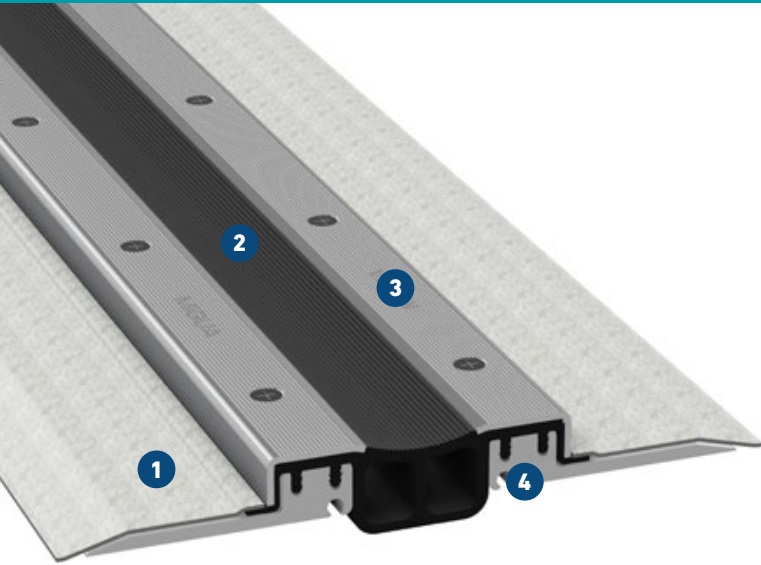


FPG 110 NI XA

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS). SMOOTH INSERT

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

- 1** **Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2** **Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3** **Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- 4** **Official test certificates for watertightness available**
Central insert with double-web to provide multilayered protection



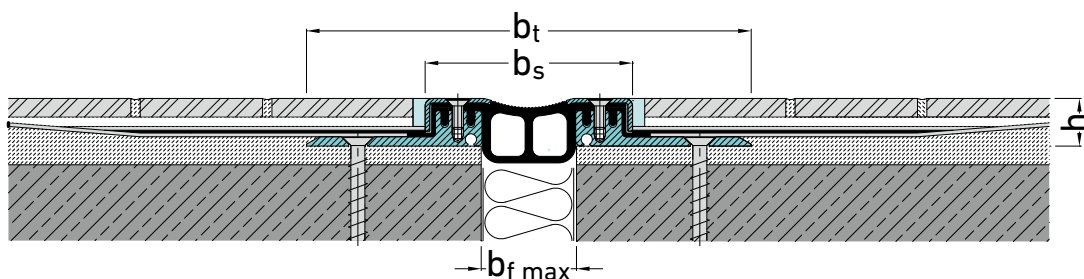
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]	Δb_f [mm]	b_s [mm]	b_t [mm]	h [mm]	[kN]	[kN]	[kN]	solid plastic tyres [kg/mm]
FPG 110/25 NI XA *	75	40 (±20)	111	238	25	35	600	130	
FPG 110/35 NI XA	75	40 (±20)	111	238	35	35	600	130	
FPG 110/45 NI XA	75	40 (±20)	111	227	46	35	300	70	
FPG 110/60 NI XA	75	40 (±20)	111	238	60	35	300	30	
FPG 110/80 NI XA	75	40 (±20)	111	238	81	35	120	30	
FPG 110/95 NI XA	75	40 (±20)	111	238	97	35	60		
FPG 110/115 NI XA	75	40 (±20)	111	238	117	35	60		

* Minimum joint width 50 mm

Sealing against nonpressurized water.

Expansion joints with an installation height from 60 mm upwards can be adjusted to higher load capacity. Please ask for our advice.



FP(G) .../90 B NI

WITH ANCHOR RODS. FOR FLUSH INSTALLATION IN CONCRETE DECKS
WITH COATING SYSTEMS

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

1 Central insert on top surface
Visual inspection and replacement without disrupting the surface

2 Official test certificates for watertightness available
Central insert with double-web to provide multilayered protection

Connection joint with connection joint filler cover AAP 50/20
Proper and economical connection of the coating system

3 Designed for additive floors / precast concrete slabs
Slidable loop anchors for adjustable welding to the reinforcement



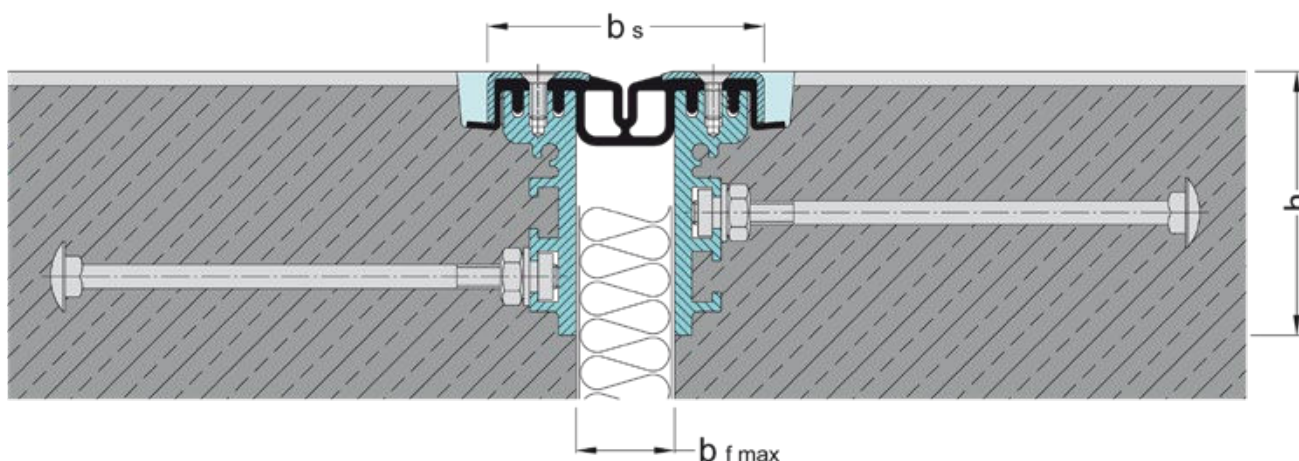
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max.	Total movement	Visible width	Joint width total	Joint height	Load bearing capacity	Load bearing capacity	Load bearing capacity	Load bearing capacity
	$b_f \text{ max}$ [mm]								
FP 80/90 B NI	21	20 (± 10)	82		91	35	300	70	
FPG 80/90 B NI	21	16 (± 8)	82		91	35	300	70	
FP 90/90 B NI	34	40 (± 20)	95		91	35	300	70	
FPG 90/90 B NI	34	20 (± 10)	95		91	35	300	70	
FP 110/90 B NI	50	60 (± 30)	111		91	35	300	70	
FPG 110/90 B NI	50	40 (± 20)	111		91	35	300	70	
FP 130/90 B NI	74	90 (± 45)	133		91	35	120	35	
FP 155/90 B NI	94	120 (± 60)	155		91	35	120	35	

* FP 155/90 B NI: Bfl, s2

Sealing against nonpressurized water.

Distance of anchor rods to each other ≤ 170 mm



FP(G) .../90 B NI

WITH LOOP ANCHORS. FOR FLUSH INSTALLATION IN CONCRETE DECKS WITH COATING SYSTEMS

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Striated stainless steel cappings ensures good skid resistance

100% watertight by max. pressure

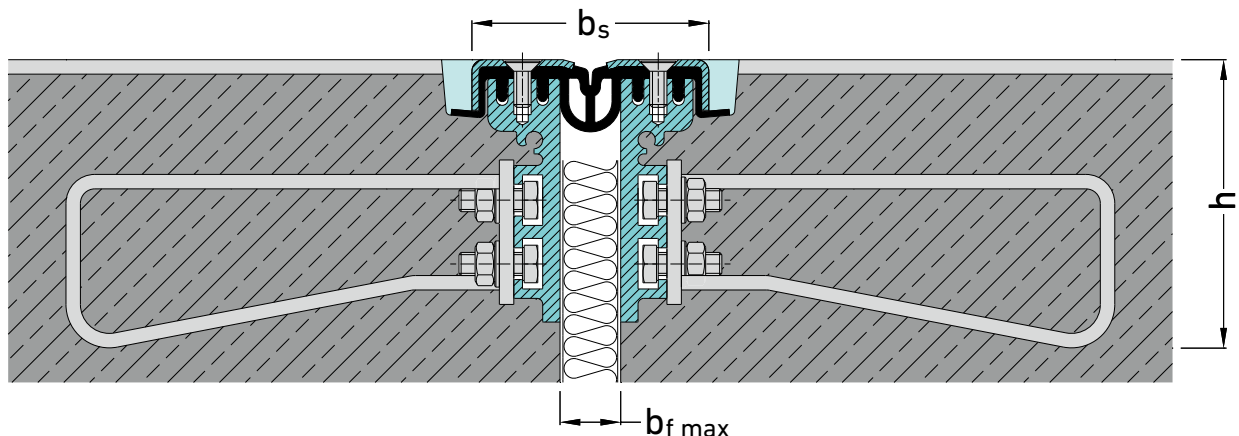
- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Defigi 21A6 striated insert for top surface with 12 different striations available**
Best road safety with electric drive with the special layered protection
Mounting brackets are made of high strength aluminium
Connection joint with connection joint filler cover AAP 50/20
Proper and economical connection of the coating system
Official test certificates for watertightness available
- 3 Designed for additive floors / precast concrete slabs**
Striated loop anchors for adjustable welding to the reinforcement



Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 80/90 B NI	21	20 (±10)	82	..	100	35	600	130	6,5
FPG 80/90 B NI	21	16 (±8)	82		100	35	600	130	6,5
FP 90/90 B NI	34	40 (±20)	95		100	35	600	130	
FPG 90/90 B NI	34	20 (±10)	95		100	35	600	130	4,3
FP 110/90 B NI	50	60 (±30)	111		100	35	600	130	
FPG 110/90 B NI	50	40 (±20)	111		100	35	600	130	
FP 130/90 B NI	74	90 (±45)	133		100	35	300	70	
FP 155/90 B NI	94	120 (±60)	155		100	35	300	70	

* FP 155/90 B NI: Bfl, s2
Sealing against nonpressurized water.
Distance of anchor loops ≤ 340 mm



FPL 85/75 B NI

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

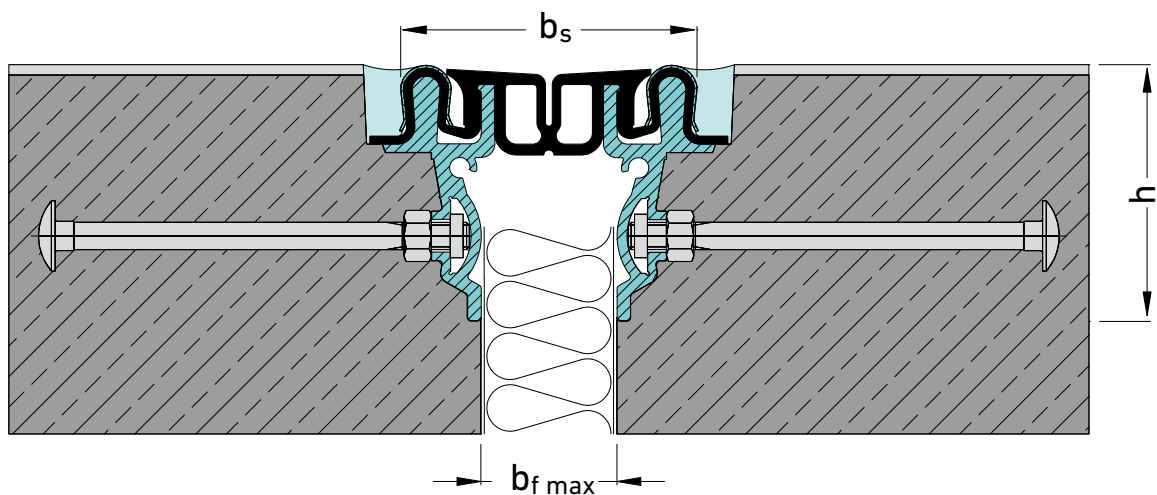
WATERTIGHT EXPANSION JOINT SOLUTIONS



- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Stainless steel clip-on-cappings, made of spring steel**
Easy and cost saving assembly
- 100% watertight**
In connection with a coating system and connection joint
- 3 MultiHole mounting brackets**
for secure fixing
- 4 Connection joint with connection joint filler cover AAP 110/23**
Proper and economical connection of the coating system

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPL 85/75 B NI	40	40 (±20)	85		75	35	300	70	

Sealing against nonpressurized water.
Distance of anchor rods to each other ≤ 170 mm





Structural stainless steel cover plate with appealing visual appearance

good skid resistance acc. to official test certificate

Surface for special requirements

Caroplan, Oval-Matt, Sand, Cross hatch

Mounting brackets are made of high strength aluminium

High loads without any risk of rust

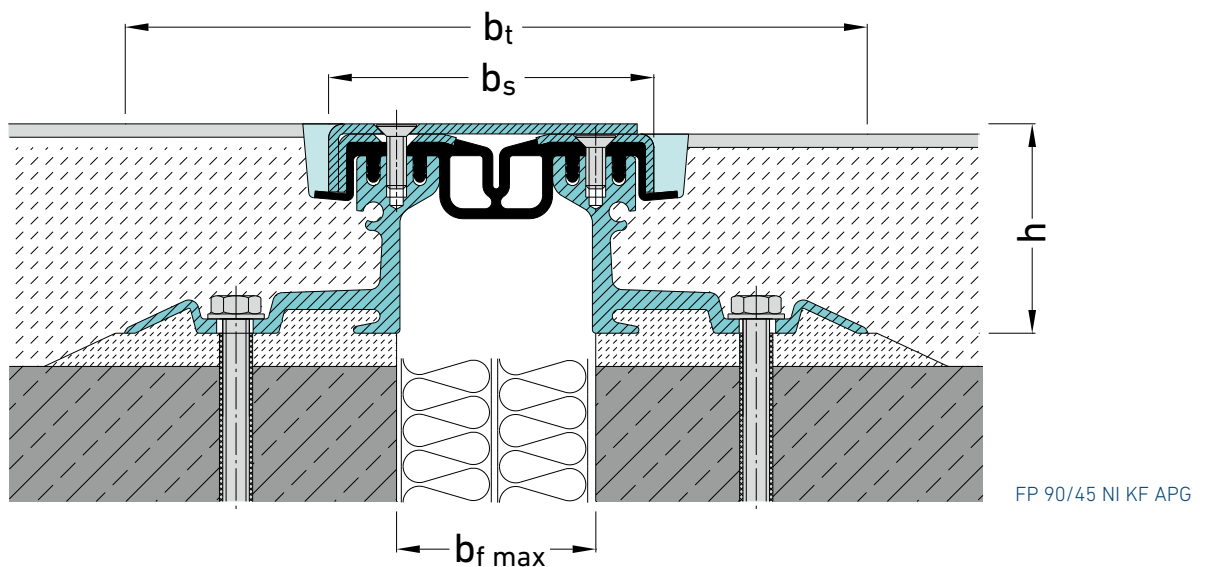
Massive stainless steel caps

Absolute tightness by maximum contact pressure

Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]
FP 80/... NI APF	45	20 (± 10)
FPG 80/... NI APF	45	16 (± 8)
FP 90/... NI APF	60	40 (± 20)
FPG 90/... NI APF	60	20 (± 10)
FP 110/... NI APF	75	60 (± 30)
FPG 110/... NI APF	75	40 (± 20)
FP 130/... NI APF	100	90 (± 45)
FP 155/... NI APF	120	120 (± 65)

For widths and heights as well as load capacity of the expansion joint cover, please refer to the corresponding technical data sheets of the very joint.

Available in different, officially tested anti-slip categories.

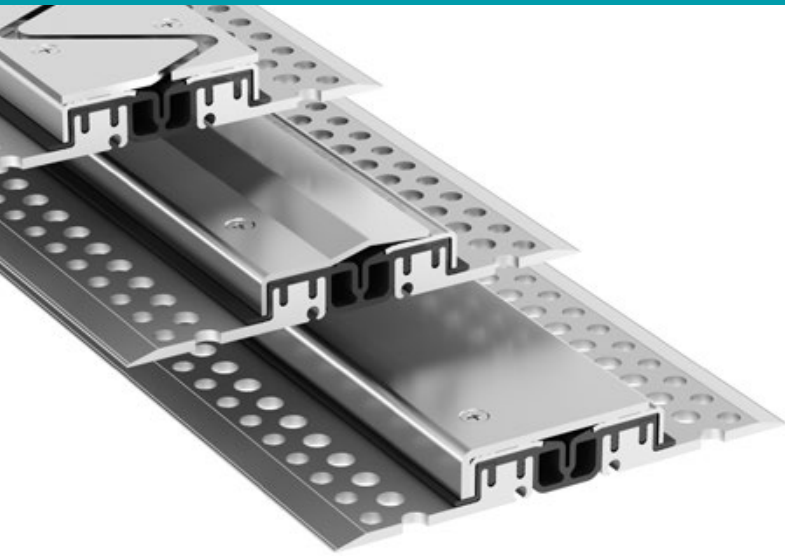


FP .../... APG + AP800

MIGUTAN WITH LOAD-TRANSFERRING COVER PLATES

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



Description

Solid stainless steel cover plates for various loads in different thicknesses

Material

Stainless alloy 1.4301 Legierung, 1.4571 available on demand.

Surfaces

Available with various anti-slip surfaces on demand

Design

Chamfered APG cover plates available on demand starting from a thickness of 4 mm

Cover plate	FP(G) 80	FP(G) 90	FP(G) 110	FP130	FP155
APG 3 mm	X	X	X	X	X
APG 4 mm	X	X	X	X	X
APG 5 mm	X	X	X	X	X
AP800 2,5 mm		X			
APS 3 mm	X	X	X		
APS 4 mm	X	X	X		
APS 5 mm	X	X	X		

All APS cover plates for MIGUTAN FP 80 to FP 110 available in 4, 5 and 6 mm thickness (movement capability ± 10 mm).

DIFFERENT DESIGN VERSIONS

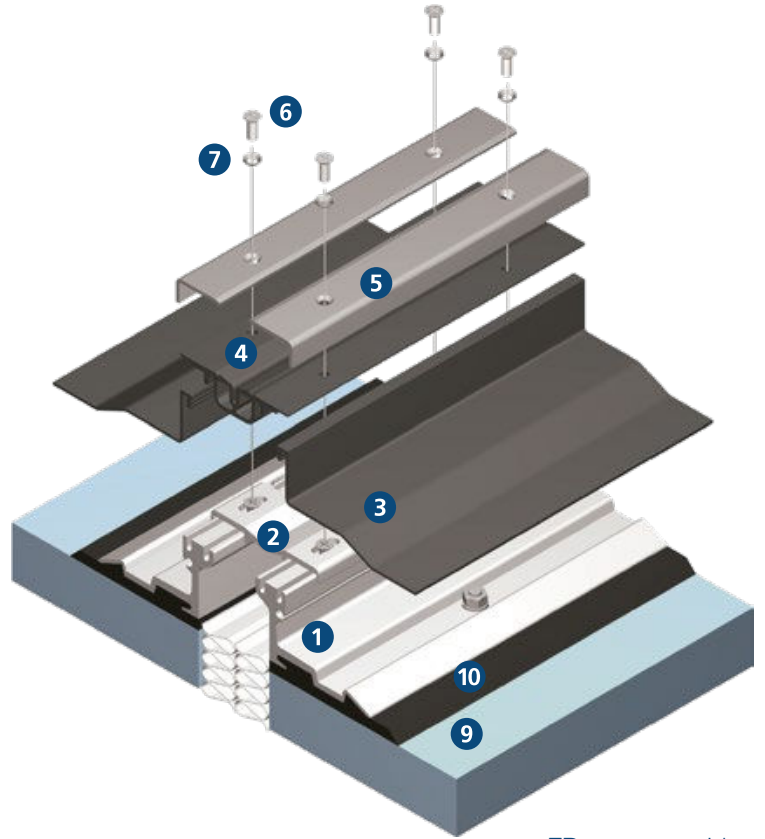
OF THE SUPPORTING PROFILES OF THE MIGUTAN EXPANSION JOINT COVER SYSTEM



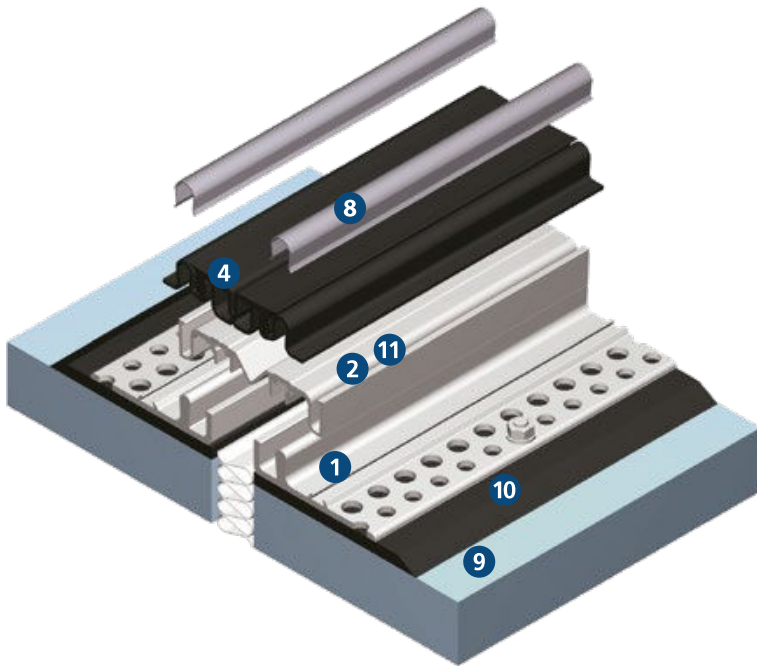
SYSTEM STRUCTURE

MIGUTAN expansion joint covers

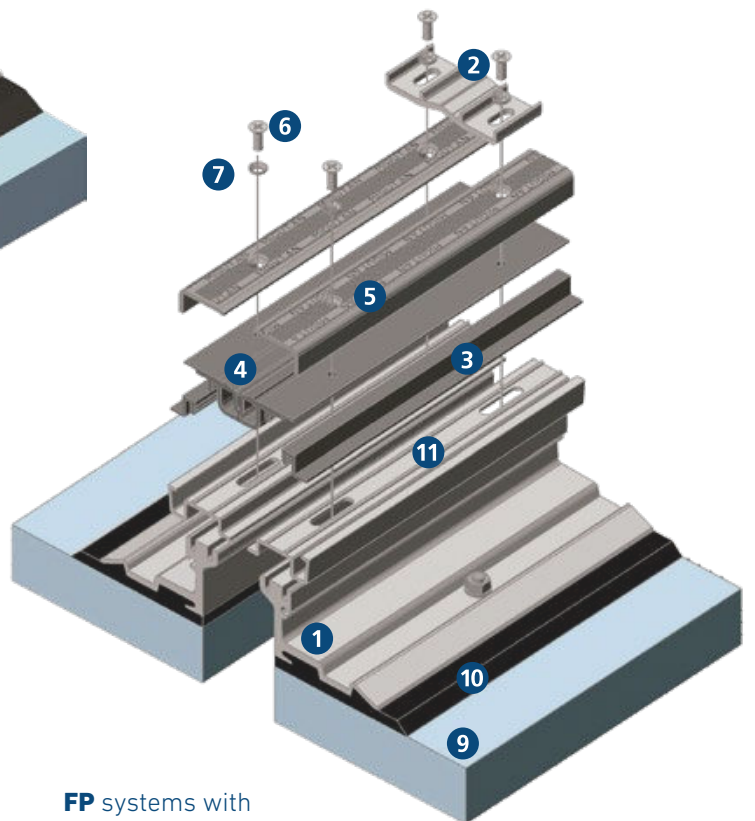
- 1 = Aluminium sub-structure
- 2 = Installation spacer
- 3 = MIGUFLEX-AAS sheet
- 4 = MIGUFLEX seal insert
- 5 = Stainless steel cover caps
- 6 = Stainless steel cross-headed screws
- 7 = Nylon seal
- 8 = Strip
- 9 = Load-bearing surface
- 10 = Pressure-bearing and shrinkage-free cement (e.g. epoxy resin or PCC cement)
- 11 = Connection joint cut-out expansion joint cover AAP



FP systems with long AAS sheets



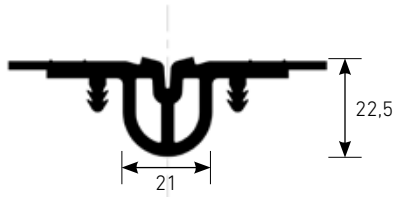
FPL systems



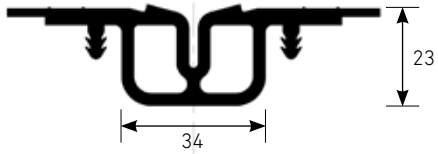
FP systems with short AAS sheets

SEAL INSERTS

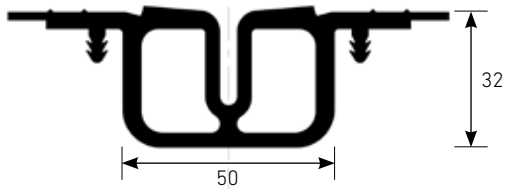
FP/FPG



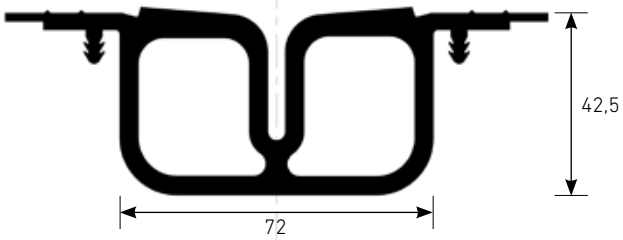
Seal insert **FP 80**



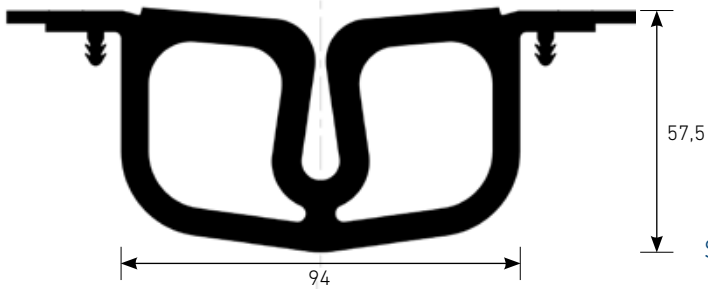
Seal insert **FP 90**



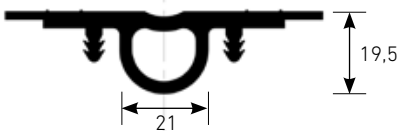
Seal insert **FP 110**



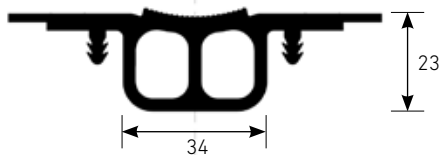
Seal insert **FP 130**



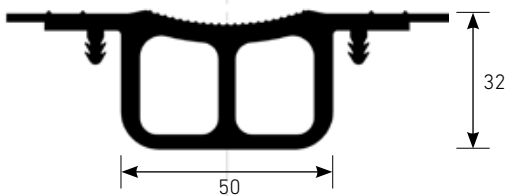
Seal insert **FP 155**



Seal insert **FPG 80**



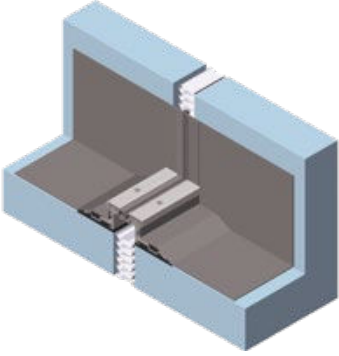
Seal insert **FPG 90**



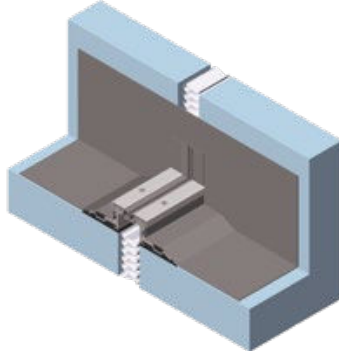
Seal insert **FPG 110**

MOULDED PARTS

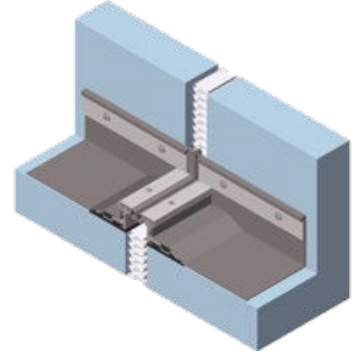
A 1



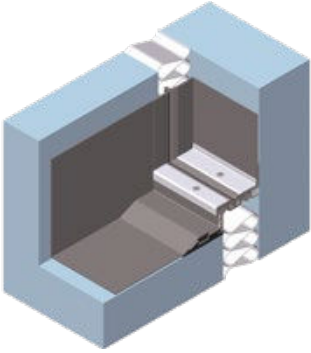
A 2



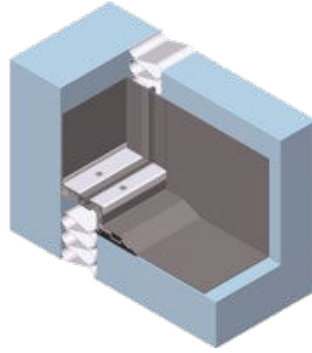
B



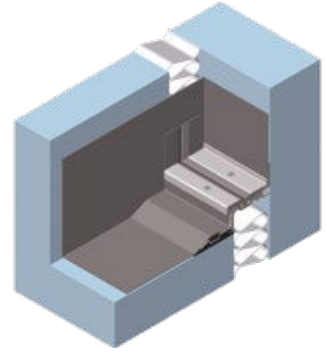
C right



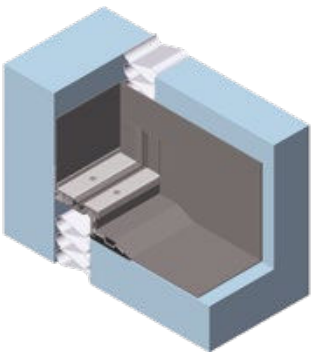
C left



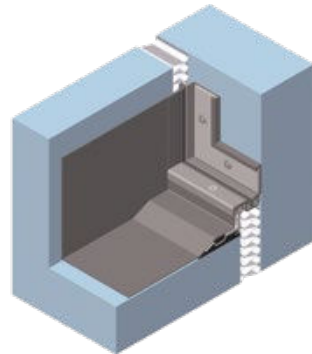
D right



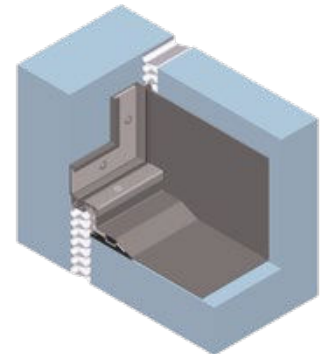
D left



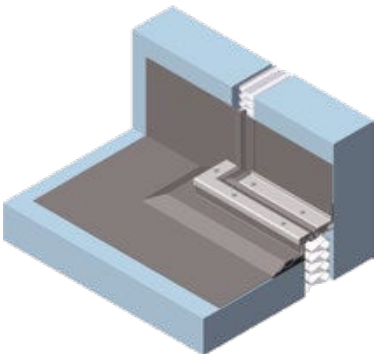
E right



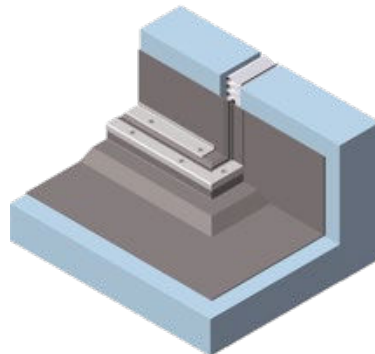
E left



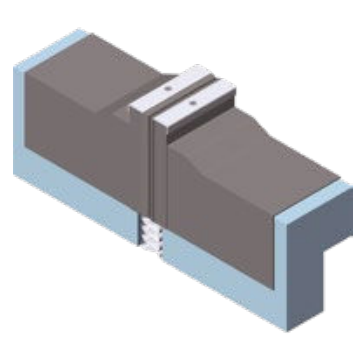
F right



F left

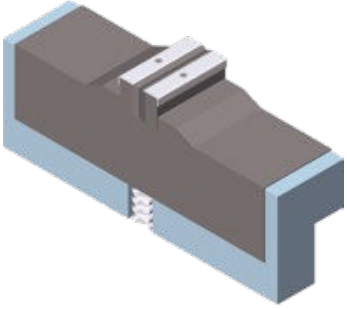


G 1

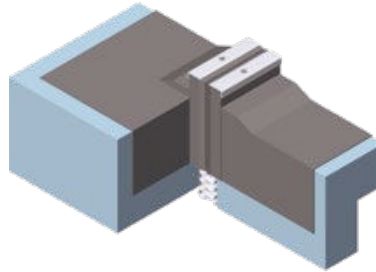


MOULDED PARTS

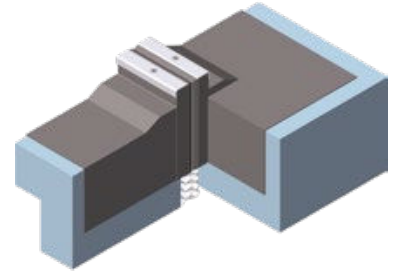
G 2



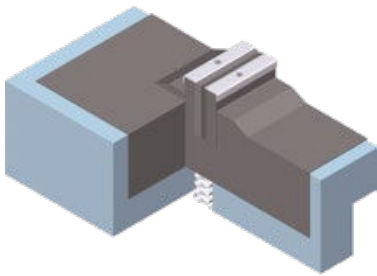
H 1 right



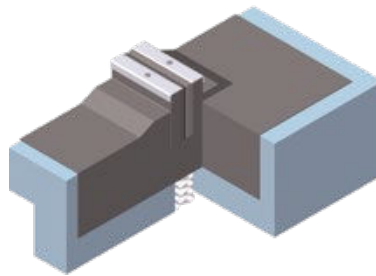
H 1 left



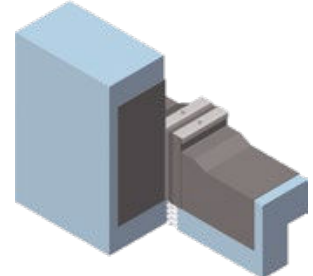
H 2 right



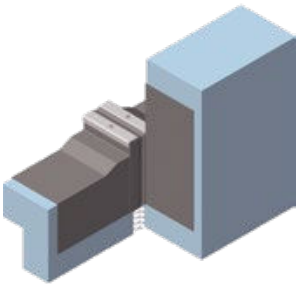
H 2 left



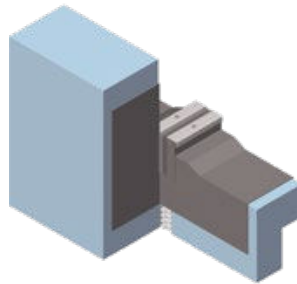
I 1 right



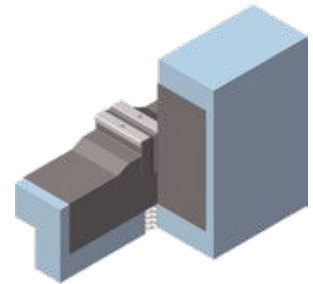
I 1 left



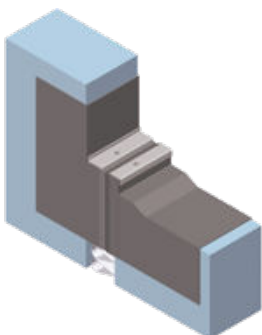
I 2 right



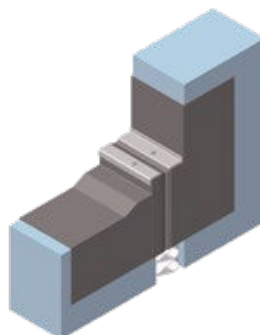
I 2 left



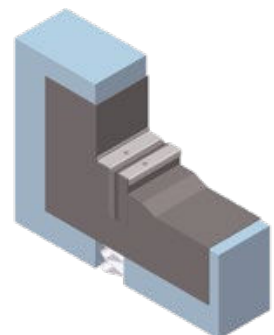
J 1 right



J 1 left

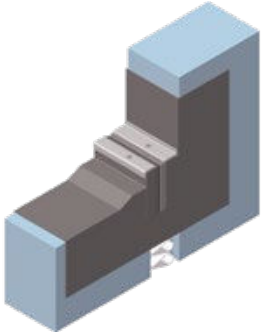


J 2 right

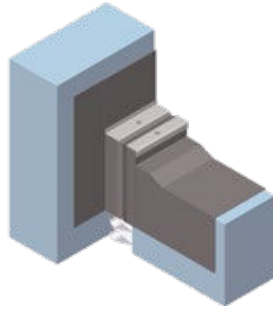


MOULDED PARTS

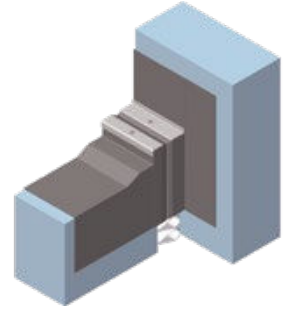
J 2 left



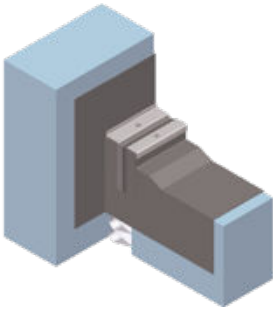
K 1 right



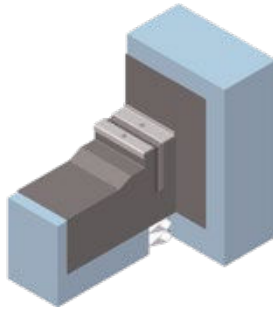
K 1 left



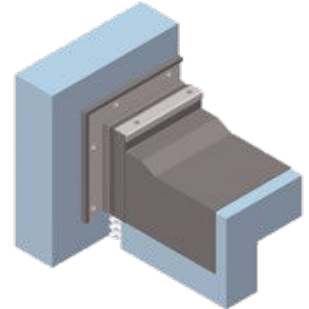
K 2 right



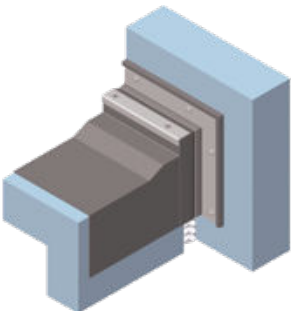
K 2 left



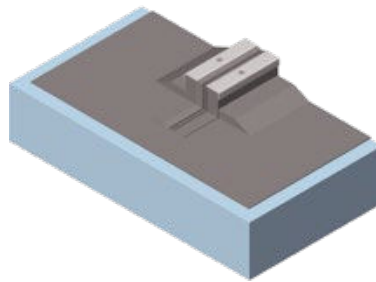
L right



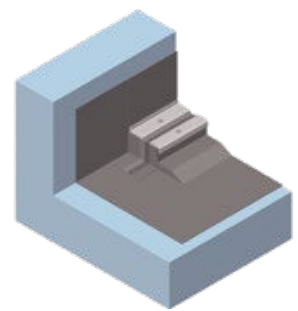
L left



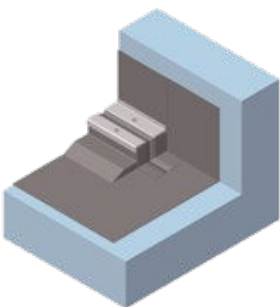
M



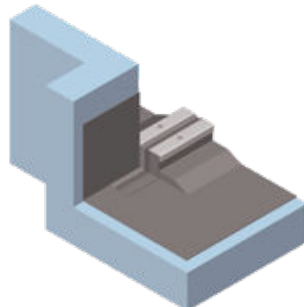
N right



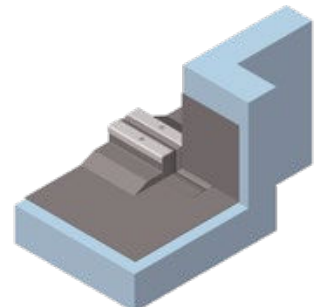
N left



O right

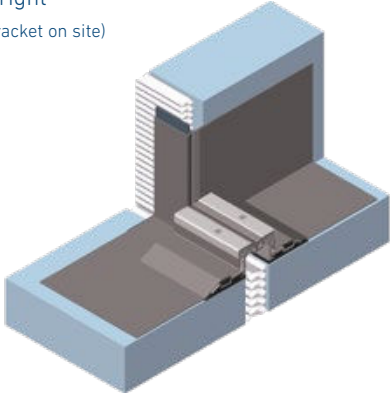


O left

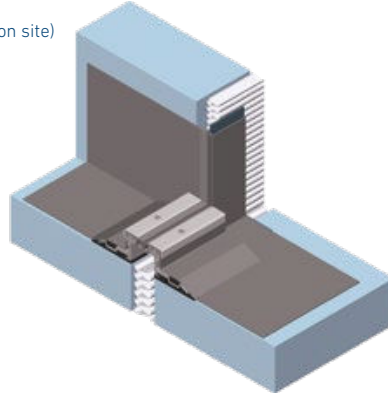


MOULDED PARTS

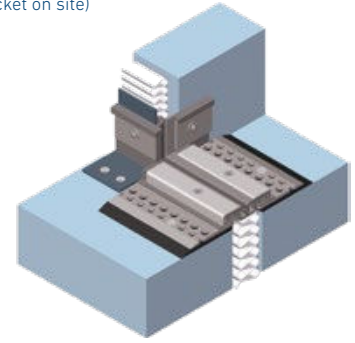
P right
(bracket on site)



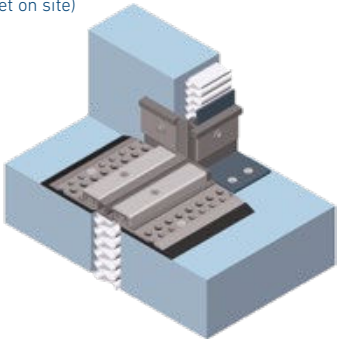
P left
(bracket on site)



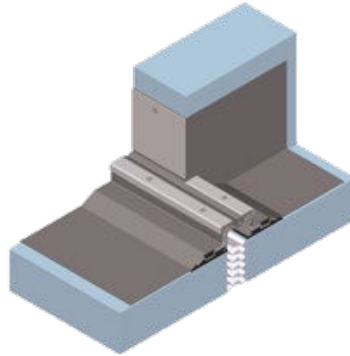
P 1 right
(bracket on site)



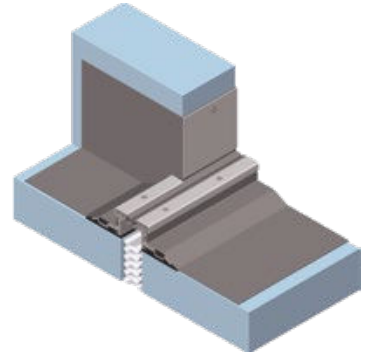
P 1 left
(bracket on site)



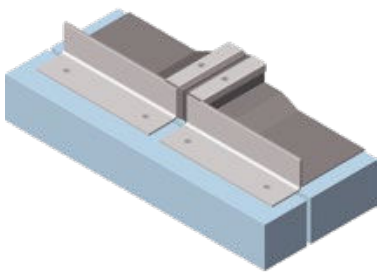
Q right



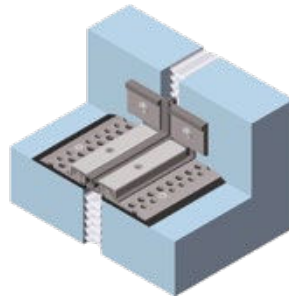
Q left



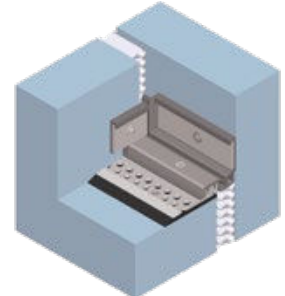
R



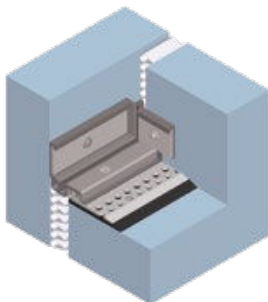
S



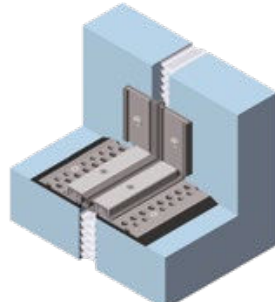
T right



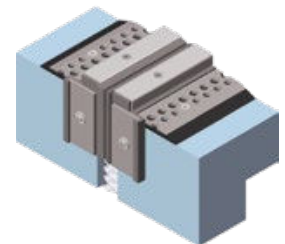
T left



U

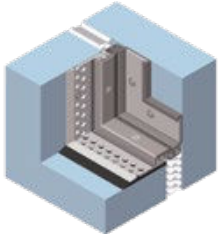


U 1

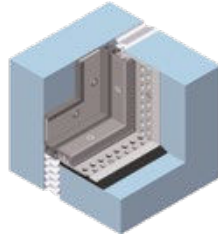


MOULDED PARTS

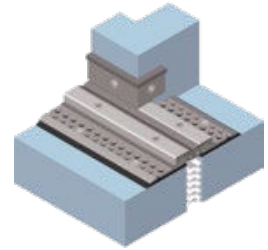
V right



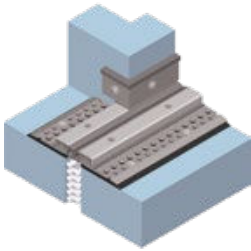
V left



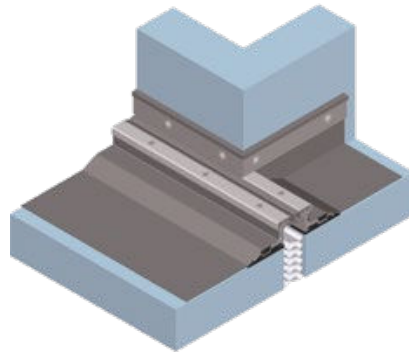
W right



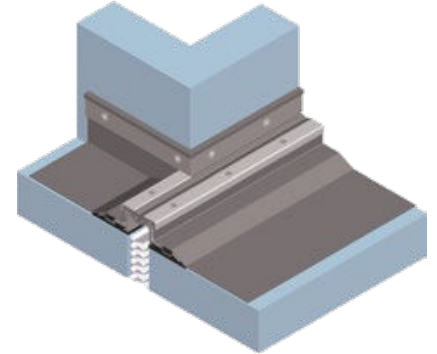
W left



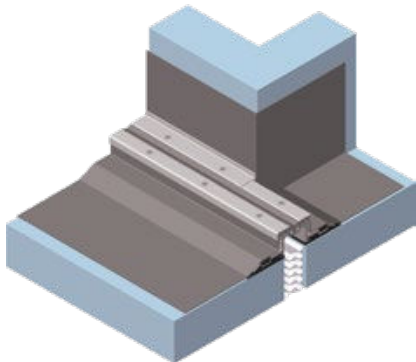
W 1 right



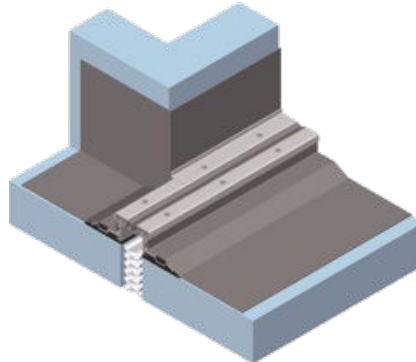
W 1 left



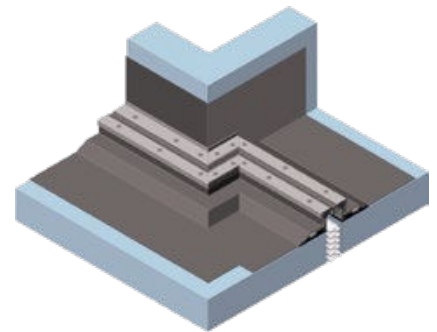
W 2 right



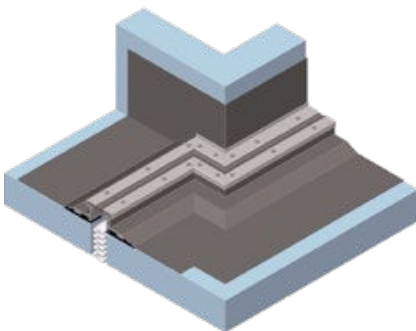
W 2 left



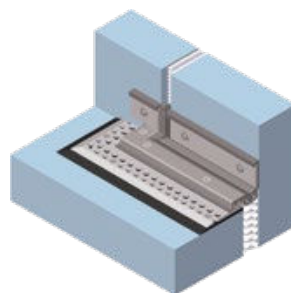
W 3 right



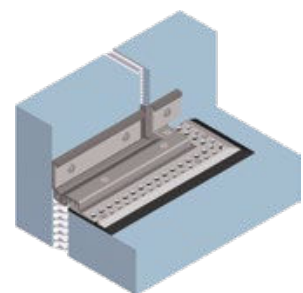
W 3 left



X right

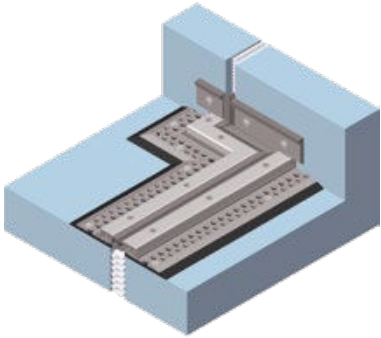


X left

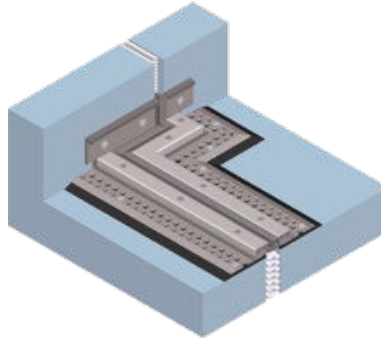


MOULDED PARTS

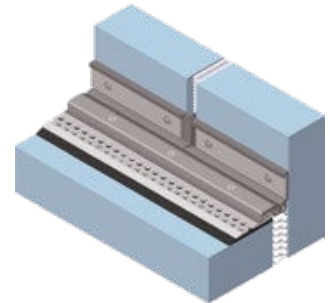
X 1 right



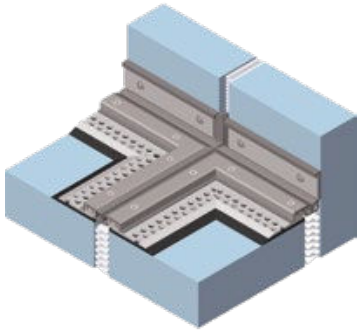
X 1 left



Y



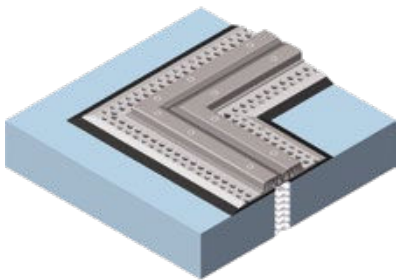
Z



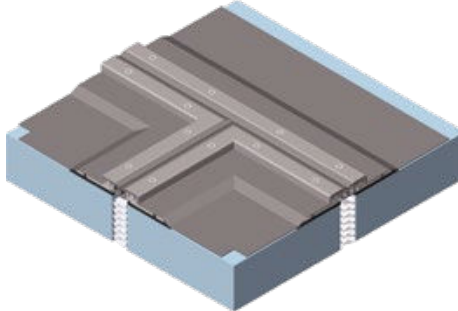
The represented intersections A–Z show a selection of the intersections that are possible. We are able to offer all kinds of intersections and connections, and even make the most complicated joint watertight.

STANDARD INTERSECTIONS

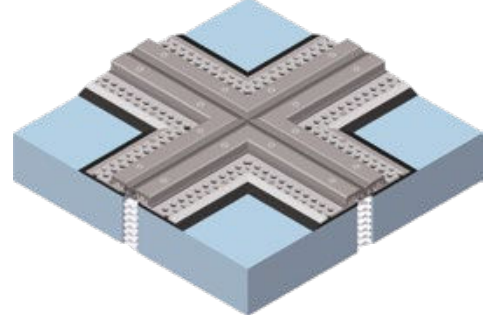
Angle, flat short AAS sheets



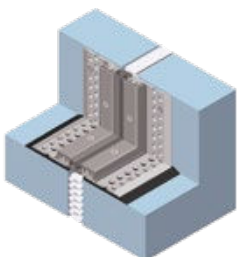
T-piece long AAS sheets



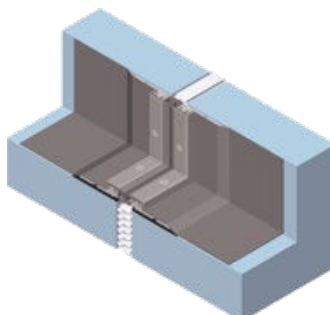
Crosspiece short AAS sheets



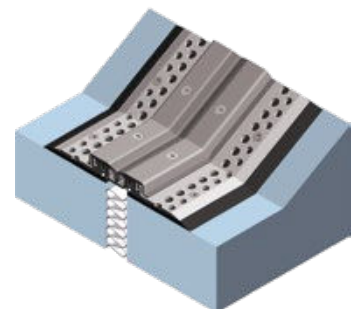
Upturn short AAS sheets



Upturn long AAS sheets



Slope end point

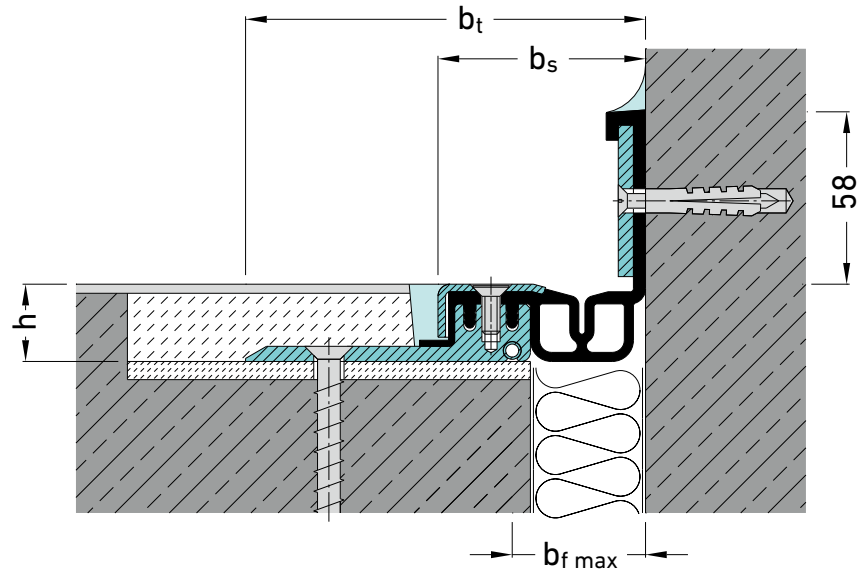


SUPPORTS WALL CONNECTIONS WITH SHORT AAS SHEETS FOR FLOORING AREAS WITH COATINGS

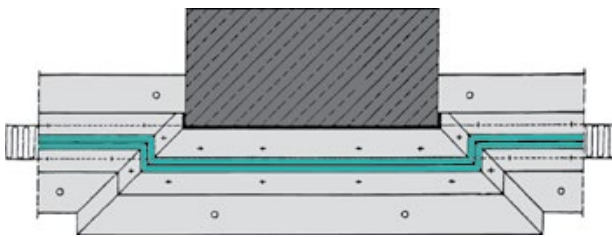
E 4 version

in conjunction with the expansion joint covers:

- FP(G) 80 NI
- FP(G) 90 NI
- FP(G) 110 NI
- FP 130 NI
- FP 155 NI



FP 90/25 NI E 4



Column skirt wall connection version E 2 or E 3

Important when using versions E2 and E3:

If the joint is located immediately next to a column or wall, at the beginning and end, two flat brackets are required as intersections (see drawing). This ensures that the expansion joint cover in the floor-floor section is located centrally over the joint. The intersections may be left out if the joint is located in the column-wall vicinity **approximately 40 mm from the column/wall**. In this case, a floor-wall connection of the AAS sheet is only required at each corner.

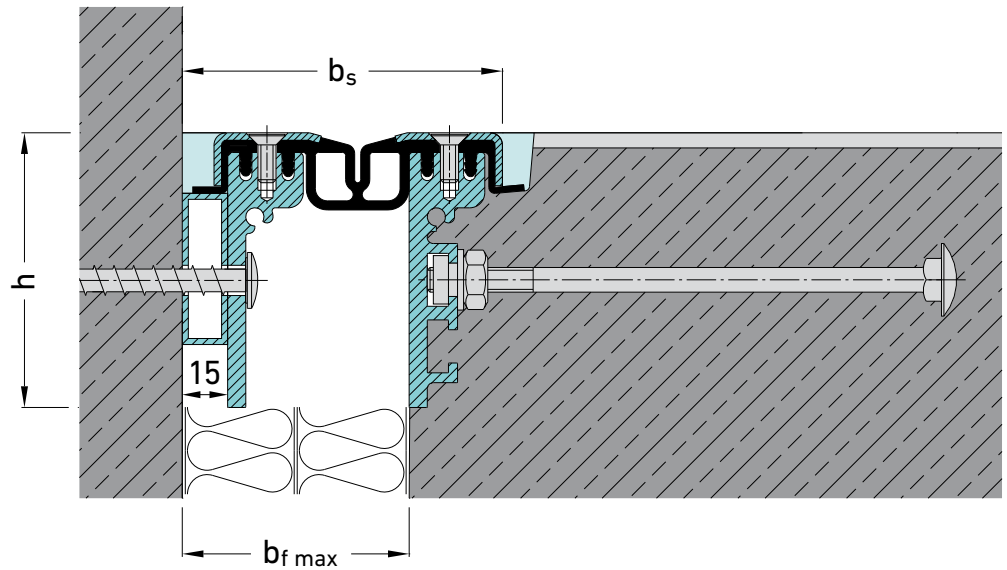
Version	E 2		E 3		E 4		E 5	
Expansion joint cover	b _s	b _t	b _s	b _t	b _s	b _t	b _s	b _t
FP(G) 80 NI	96	159	93	156	56	119	55	118
FP(G) 90 NI	109	172	106	169	69	132	68	131
FP(G) 110 NI	125	188	122	185	85	148	84	147
FP 130 NI	149	212	146	209	107	170	106	169
FP 155 NI	169	232	166	229	129	192	128	191
FP(G) 80/90 B NI	-	-	92	-	56	-	-	-
FP(G) 90/90 B NI	-	-	105	-	69	-	-	-
FP(G) 110/90 B NI	-	-	121	-	85	-	-	-
FP 130 B NI	-	-	143	-	107	-	-	-
FP 155 B NI	-	-	165	-	129	-	-	-
FPL 85/27 NI	-	-	-	-	69	-	-	-
FPL 85/75 B NI	-	-	-	-	69	-	-	-

SUPPORTS WALL CONNECTIONS WITH SHORT AAS SHEETS FOR FLOORING AREAS WITH COATINGS

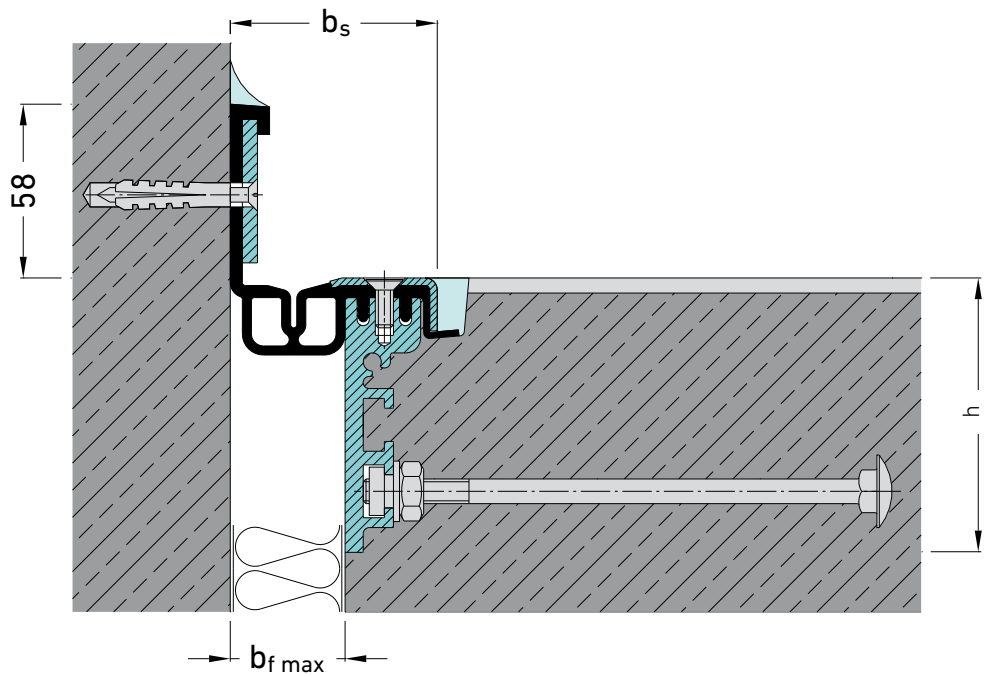
E 3 and E 4 versions

in conjunction with the expansion
joint covers:

- FP(G) 80/90 B NI
- FP(G) 90/90 B NI
- FP(G) 110/90 B NI
- FP 130/90 B NI
- FP 155/90 B NI



FP 90/90 B NI **E 3**



FP 90/90 B NI **E 4**

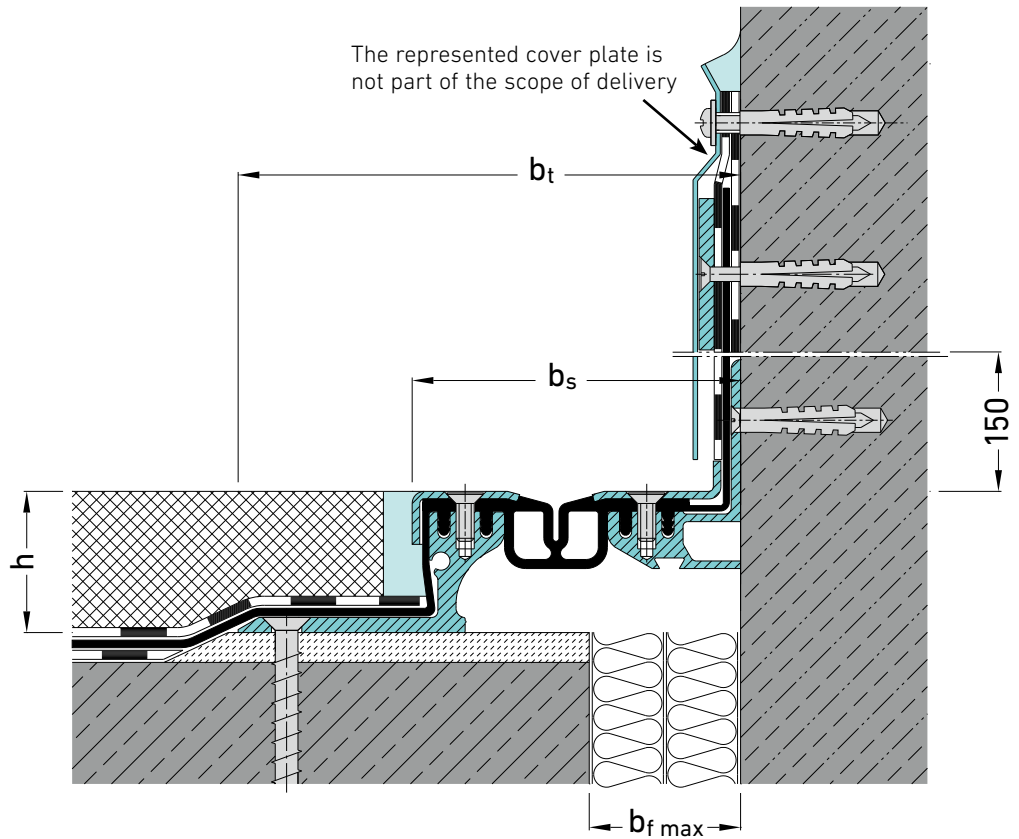
SUPPORTS WALL CONNECTIONS

WITH LONG AAS SHEETS FOR BITUMINOUS SEALS

E 2 version

for supports/wall connections in conjunction with the expansion joint covers:

- FP(G) 80 NI
- FP(G) 90 NI
- FP(G) 110 NI
- FP 130 NI
- FP 155 NI

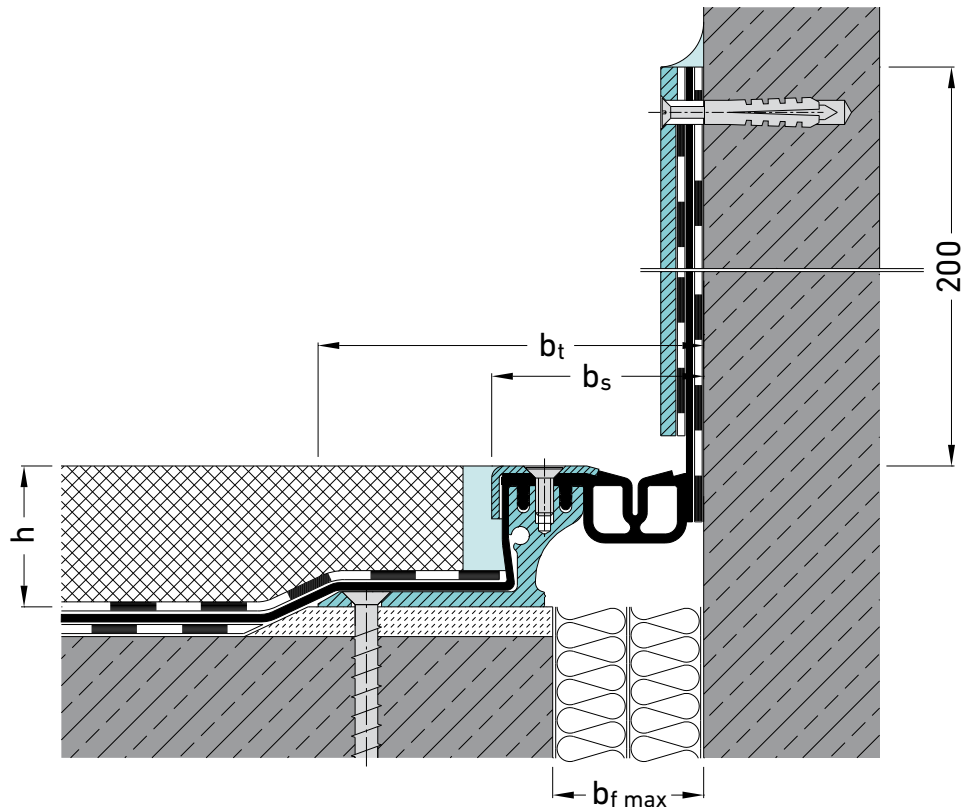


FP 90/45 NI E 2

E 5 version

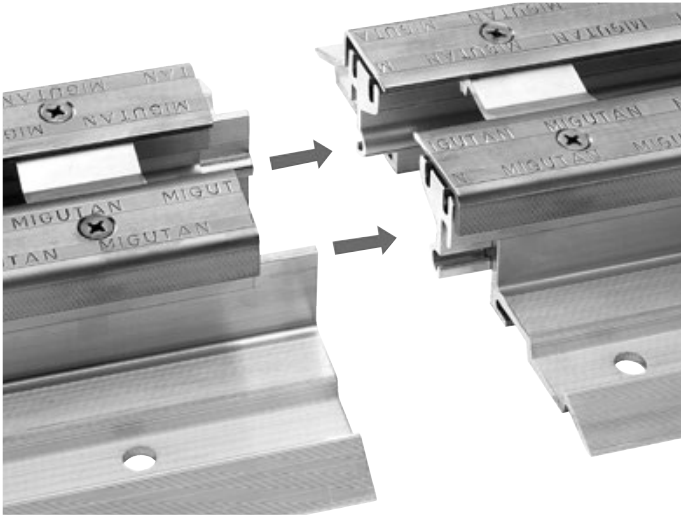
for column connections in connection with the expansion joint covers:

- FP(G) 80 NI
- FP(G) 90 NI
- FP(G) 110 NI
- FP 130 NI
- FP 155 NI



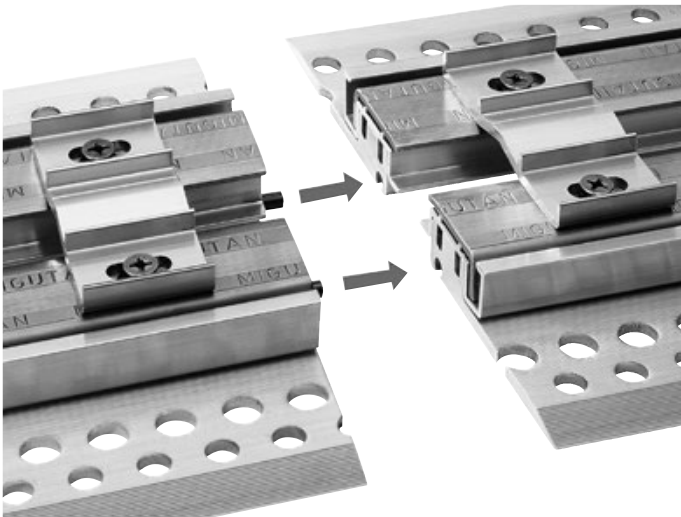
FP 90/45 NI E 5

JOINT CONNECTIONS

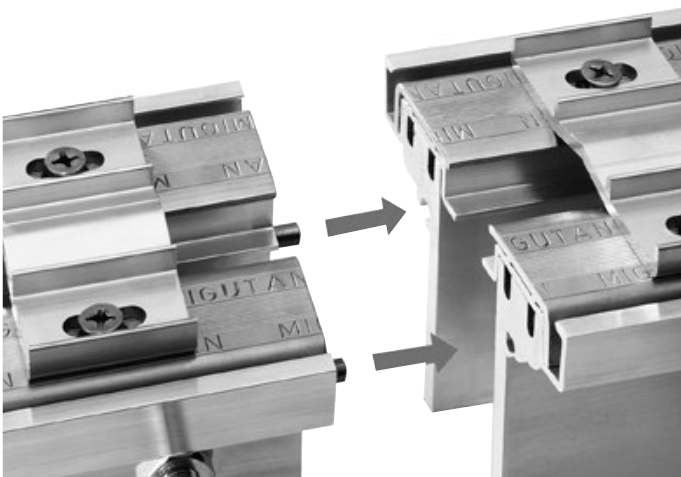


The plugged connections enable convenient equal height transitions.

Example **FP 90/80 NI**



Example **FP 90/25 NI**



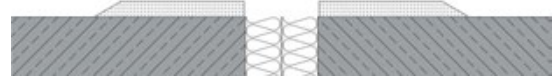
Example **FP 90/90 B NI**

ASSEMBLY SEQUENCE LONG AAS SHEET JOINT COVERS WITH THE EXAMPLE OF FP 90/45 NI LS

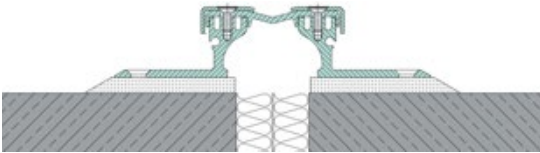
- 1 Cleaning and priming of the installation recess.



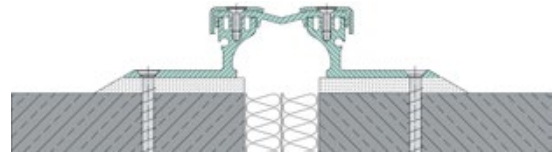
- 2 Application of a levelling layer with a pressure-resistant, shrinkage-free and waterproof mortar.



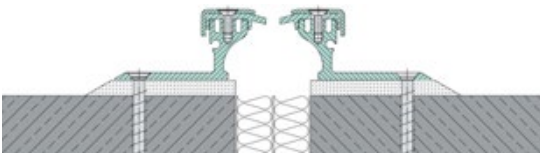
- 3 Cleaning, degreasing and priming of the aluminium brackets and height-adjusted levelling of the joint cover into the still fresh compensation layer (**upper edge of joint cover head is at the upper edge of the finished floor**).



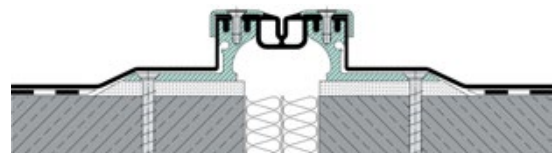
- 4 After curing of the compensation layer, dowel the perforated positioning brackets on both sides (as far out as possible) with compound anchors or screw anchors (distance 350 mm).



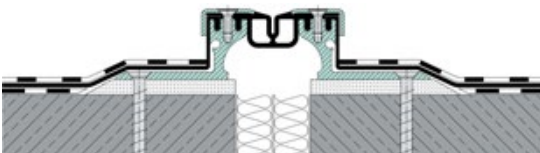
- 5 Cutting of the spacers. Before mounting the centre seal and long AAS sheets, the round cords and plugs must be removed!



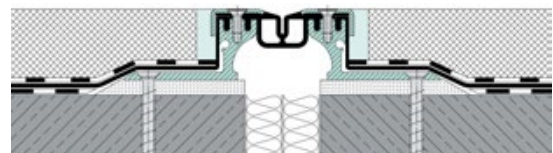
- 6 Press in the long AAS sheets and the middle seal and compress with the stainless steel cover caps and countersunk screws with nylon seals.



- 7 Embedding of the long AAS sheets into the on-site sealing using the sandwich method with polymer bitumen sealing sheeting and hot adhesive bitumen.



- 8 Production of a filling chamber with suitable filling material.

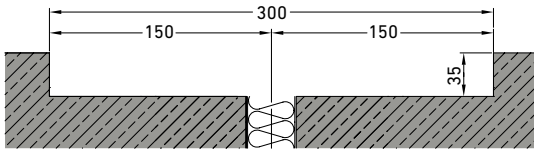


- 9 After approx. 14 days, retighten all fixing screws of the stainless steel cover caps with a torque wrench (7 NM).

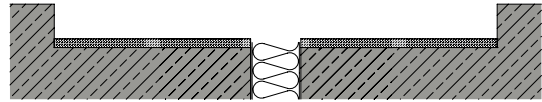
ASSEMBLY SEQUENCE SHORT AAS SHEET JOINT COVERS

USING THE EXAMPLE OF THE FP 90/25 NI SS – VERSION WITH PU CONNECTION JOINT

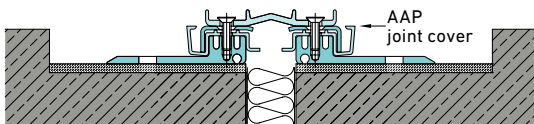
- 1** Cleaning and priming of the installation recess.



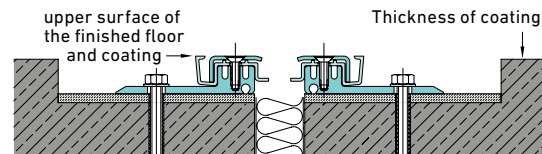
- 2** Application of a levelling layer with a pressure-resistant, shrinkage-free and waterproof mortar.



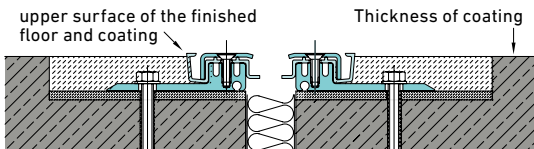
- 3** Cleaning, degreasing and priming of the aluminium brackets and height-adjusted levelling of the joint cover into the still fresh compensation layer (**upper edge of joint cover head is at the upper edge of the finished floor and thus above the adjacent covering by the coating thickness**).



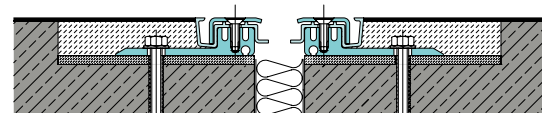
- 4** After curing of the compensation layer, dowel the perforated positioning brackets on both sides (as far out as possible) with compound anchors or screw anchors (distance 350 mm) and remove the spacers.



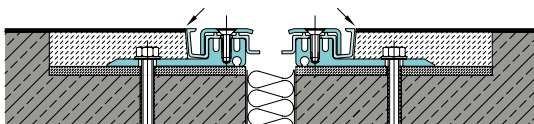
- 5** Filling and surface-flush removal of the installation recess with pressure-resistant, shrinkage-free and water-impermeable mortar. Attention: Observe the height difference of the coating!



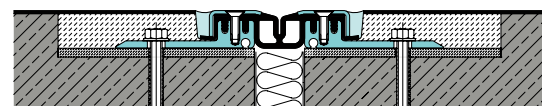
- 6** Processing of the surface coating **up to outer edge and upper edge of the filling chamber joining profile**.



- 7** Dismantling of the filling chamber joining profiles. If required (e.g. if reworked with coating material), cut the filling chamber joining profiles free (not part of the general installation procedure).



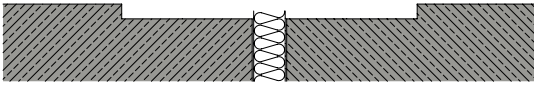
- 8** Pressing in of the middle seal and the short AAS sheets and compression with the stainless steel cover caps and countersunk screws. Filling of the filling chamber on both sides with PU sealant (3-flank adhesion).



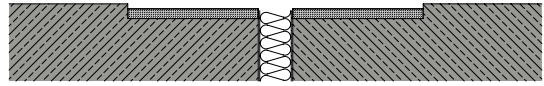
- 9** After approx. 14 days, retighten all fixing screws of the stainless steel cover caps with a torque wrench (7 NM).

ASSEMBLY SEQUENCE COATED AAS SHEET JOINT COVERS USING THE EXAMPLE OF THE FP 90/25 NI XA

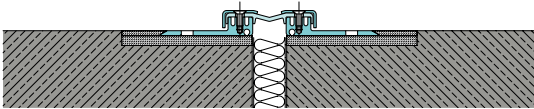
- 1 Cleaning and priming of the installation recess.



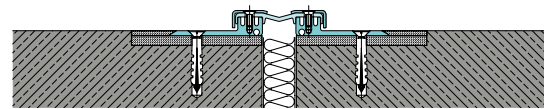
- 2 Application of a levelling layer with a pressure-resistant and shrinkage-free mortar **in a water-impermeable mixture.**



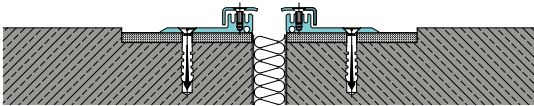
- 3 Cleaning, degreasing and priming of the aluminium brackets and height-adjusted levelling of the joint cover into the still fresh compensation layer (**upper edge of joint cover head is at the upper edge of the finished floor**).



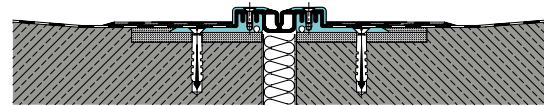
- 4 After curing of the compensation layer, dowel the perforated positioning brackets on both sides (as far out as possible) with compound anchors or screw anchors (distance 350 mm).



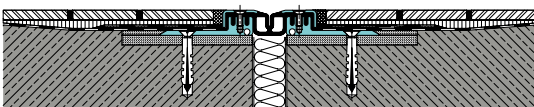
- 5 Cutting of the spacers. Before mounting the centre seal and coated AAS sheets, the round cords and plugs must be removed!



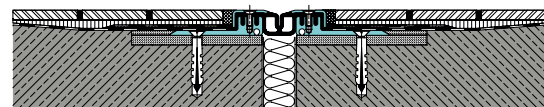
- 6 Press in the coated AAS sheets and the middle seal and compress with the stainless steel cover caps and countersunk screws with nylon seals. Incorporation of the coated sheets into the sealing in the sandwich.



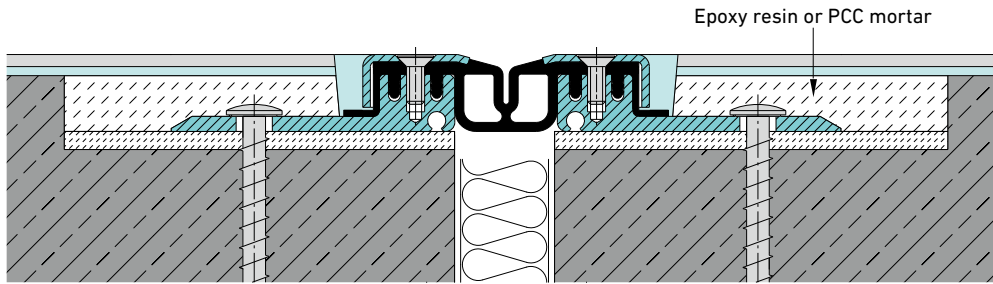
- 7 Installation of the adjacent covering. A filling chamber on both sides with suitable sealant must be made between the covering and the joint cover.



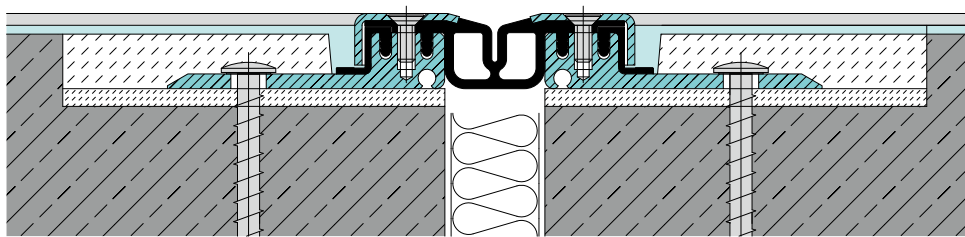
- 8 After approx. 14 days, retighten all fixing screws of the stainless steel cover caps with a torque wrench (7 NM).



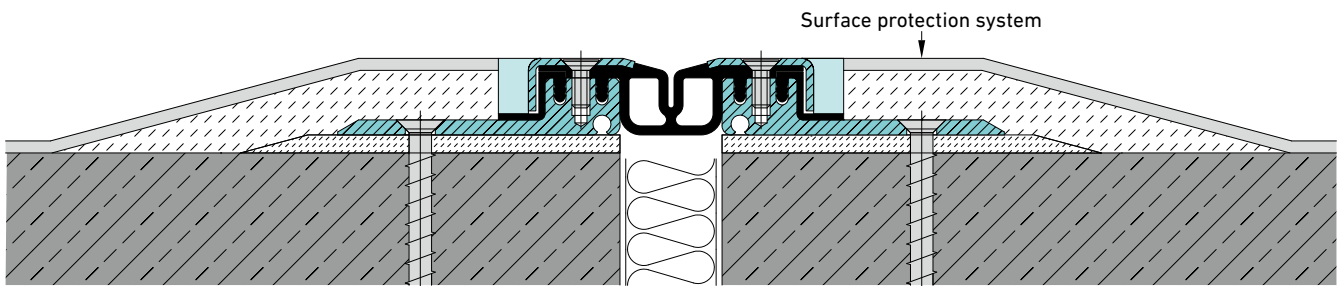
JOINT CONSTRUCTIONS APPLICATION EXAMPLES



FP 90/25 NI installation suggestion: MIGUTAN joint construction with short AAS sheets in conjunction with hard-aggregate floor screed or asphalt without area seal

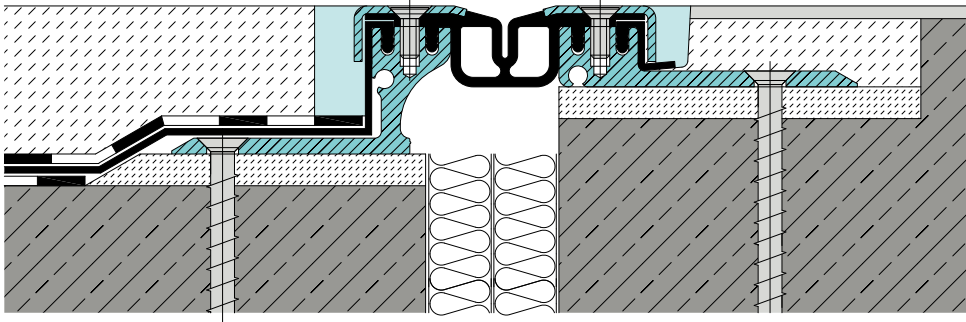


FP 90/25 NI installation suggestion: MIGUTAN joint construction with short AAS sheet laid on raw concrete floor

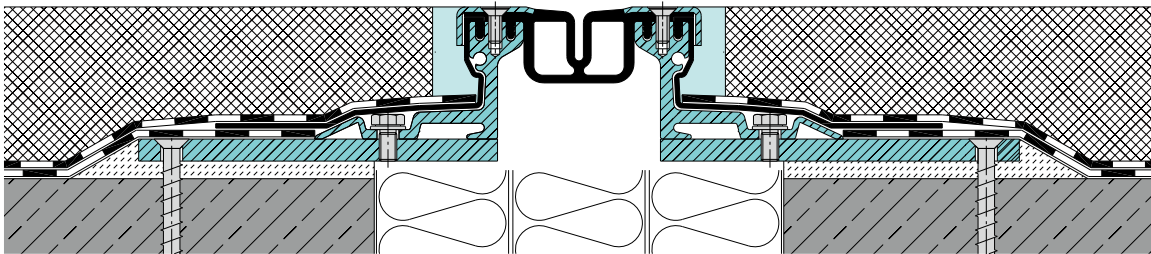


FP 90/25 NI Installation suggestion: MIGUTAN joint construction with short AAS sheets placed on raw concrete ceiling with sealing surface protection system

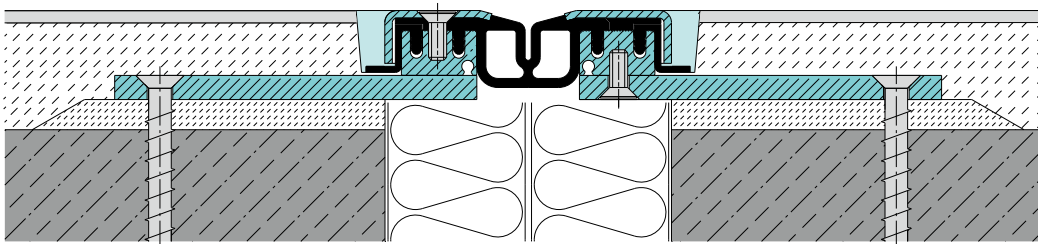
JOINT CONSTRUCTIONS APPLICATION EXAMPLES



Installation suggestion: expansion joint combination FP 90/60 NI (long AAS sheets) with FP 90/25 NI (short AAS sheets)

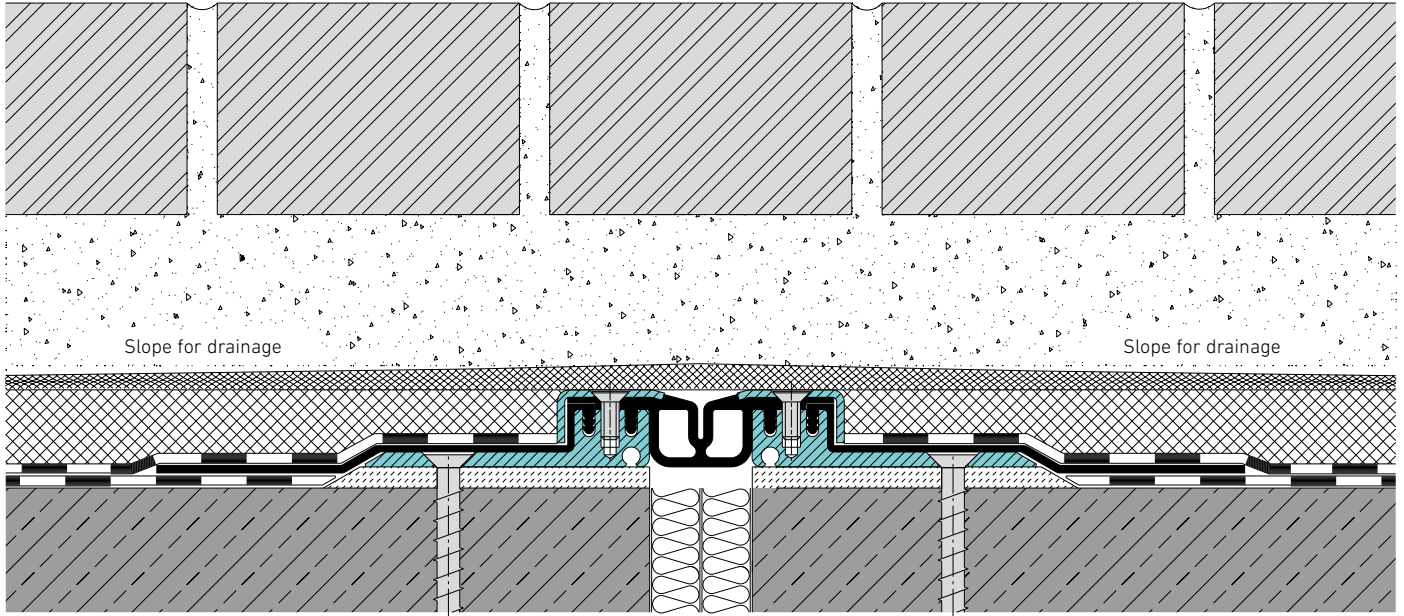


Installation suggestion: MIGUTAN joint construction with long AAS sheets and factory applied cover plates for extremely wide construction joints

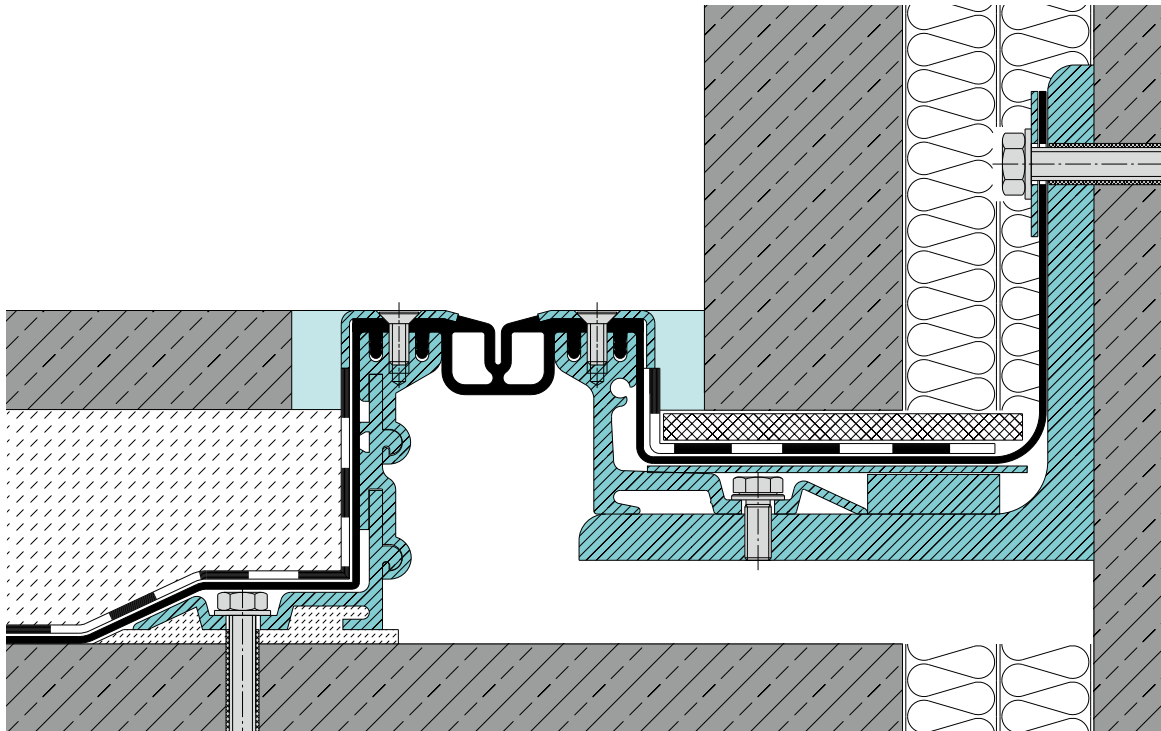


Installation suggestion: MIGUTAN joint construction with short AAS sheets and factory-bonded drag plates for very wide construction joints with the lowest possible construction heights.

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

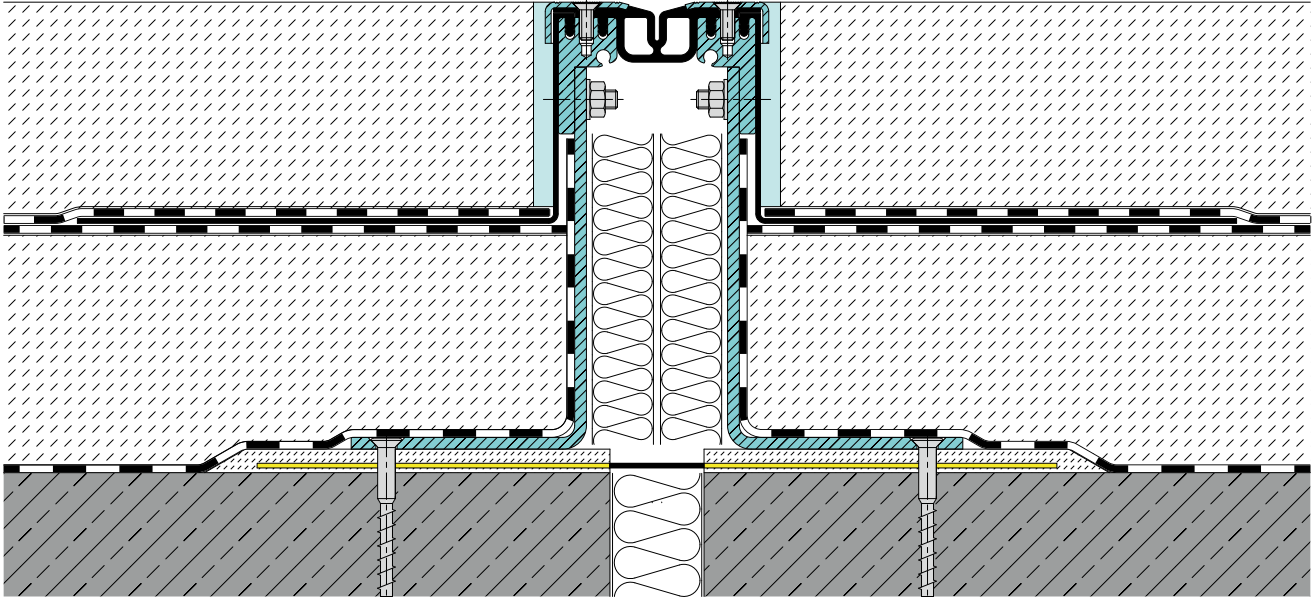


Installation suggestion: MIGUTAN joint construction with long AAS sheets used with over-construction

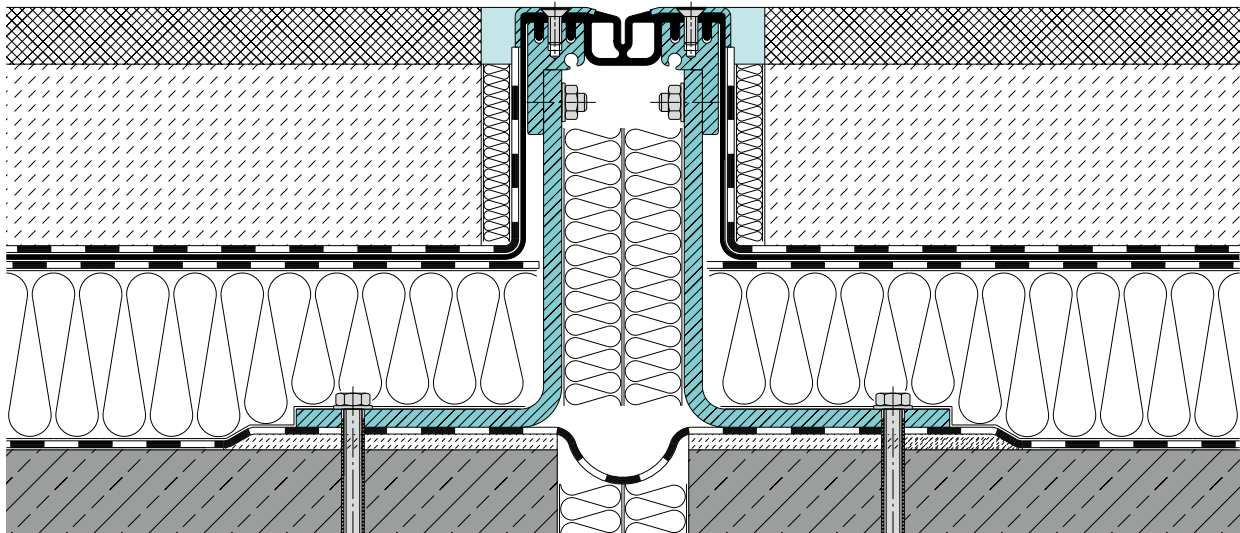


Installation suggestion: MIGUTAN joint construction with long AAS sheets as wall connection in special version

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

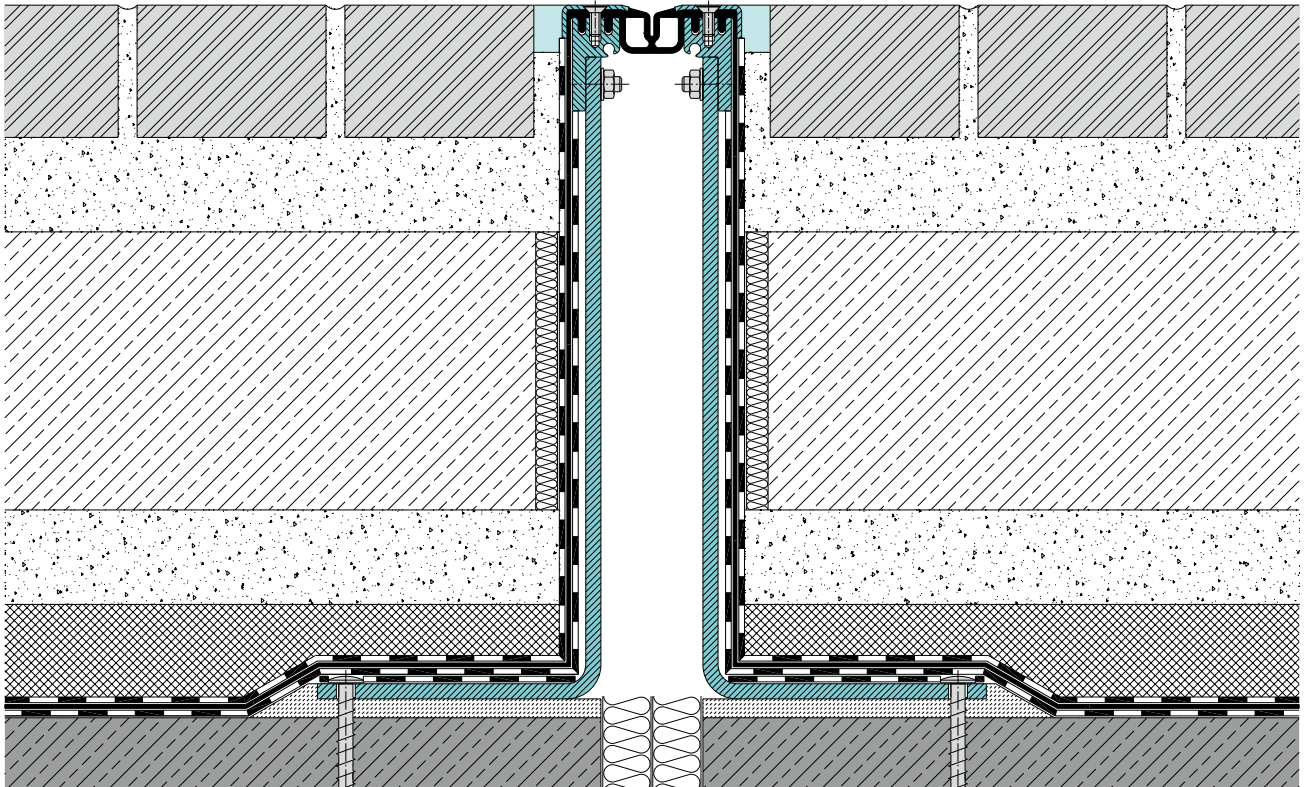


Installation suggestion: MIGUTAN expansion joint constructions with high profile structure in combination with a Migupren FlamLINE joint sealing tape as a vapour barrier.

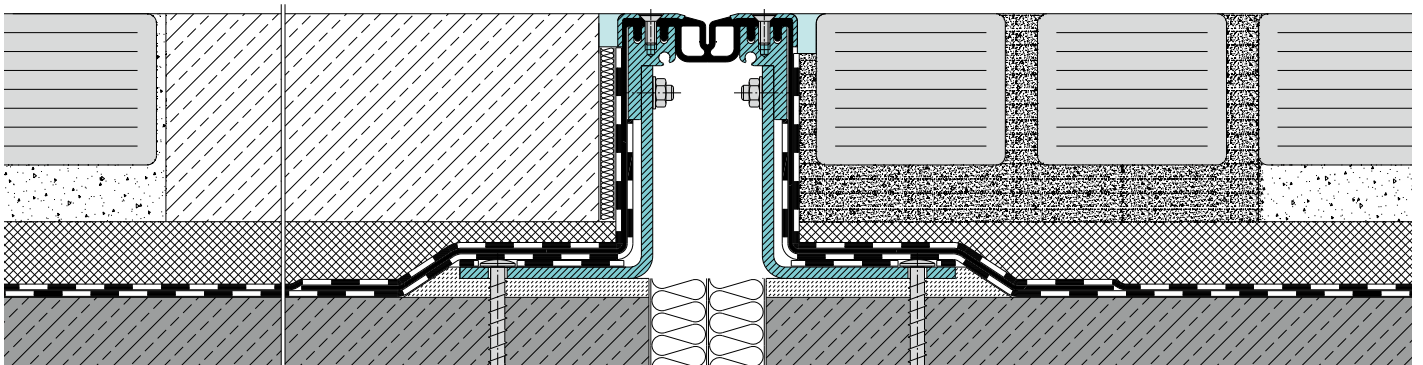


Installation suggestion: MIGUTAN joint construction in conjunction with long AAS sheets in conjunction with insulated structures

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

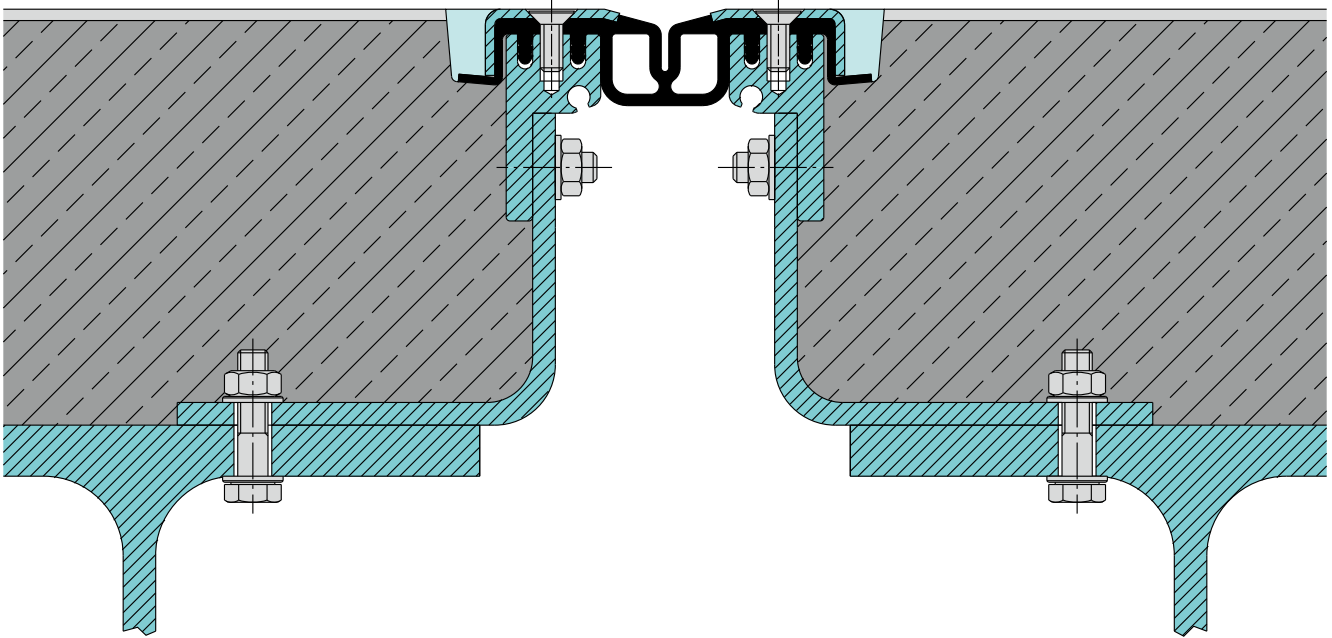


Installation suggestion: MIGUTAN joint construction with long AAS sheets for extremely large construction heights with pressure distribution plate

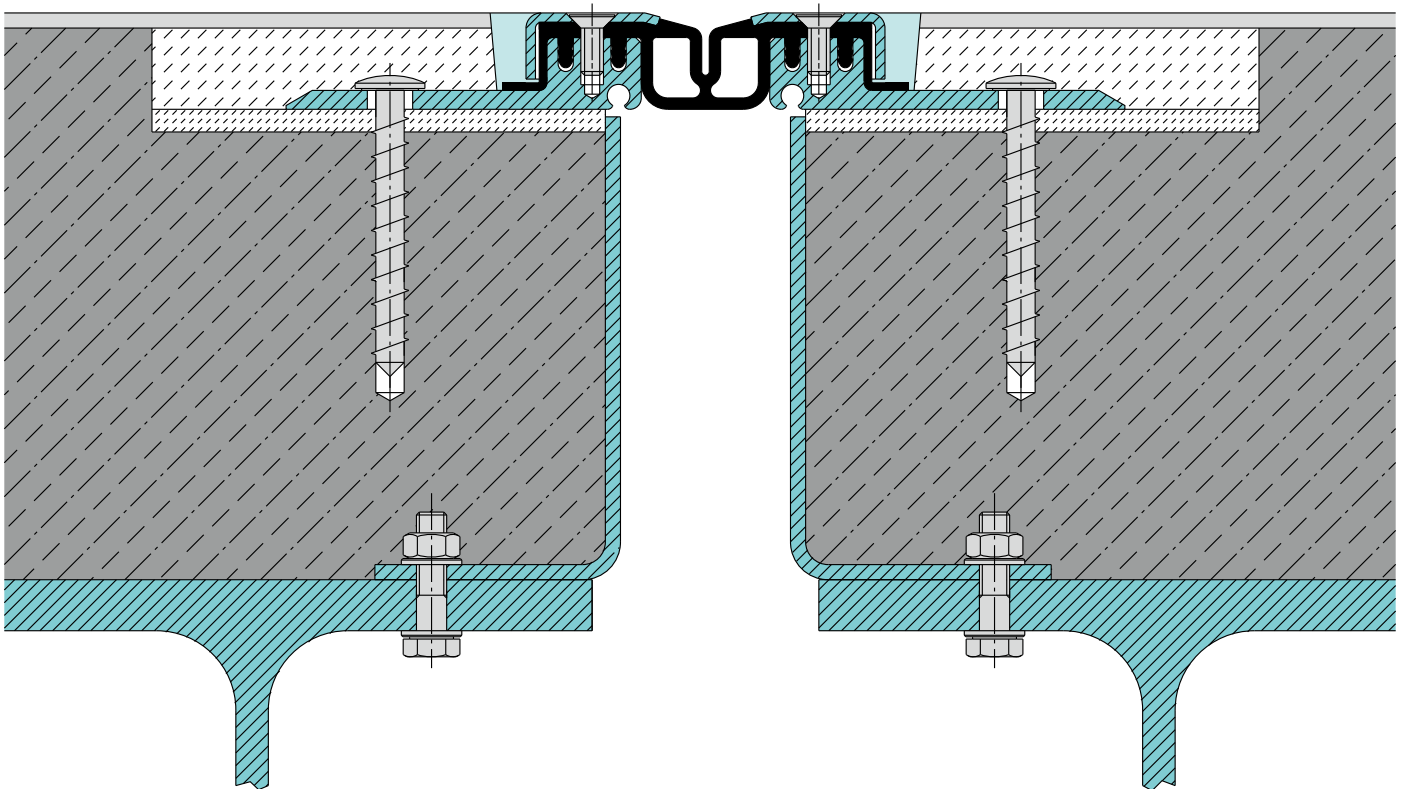


Installation suggestion: MIGUTAN joint construction with long AAS sheets for large construction heights

JOINT CONSTRUCTIONS APPLICATION EXAMPLES



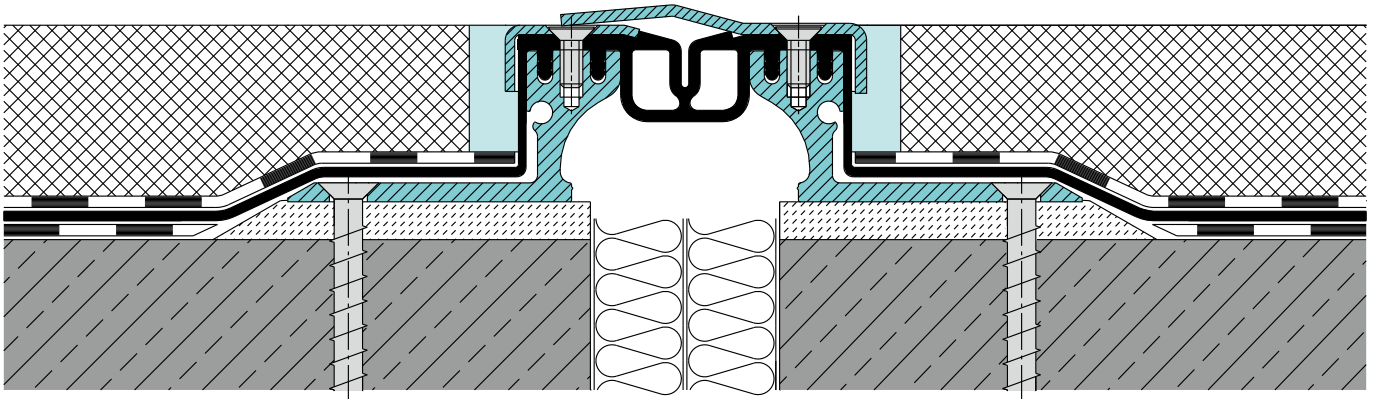
Installation suggestion: MIGUTAN joint construction in conjunction with short AAS sheets in conjunction with additive floors



JOINT CONSTRUCTIONS APPLICATION EXAMPLES WITH COVER PLATE

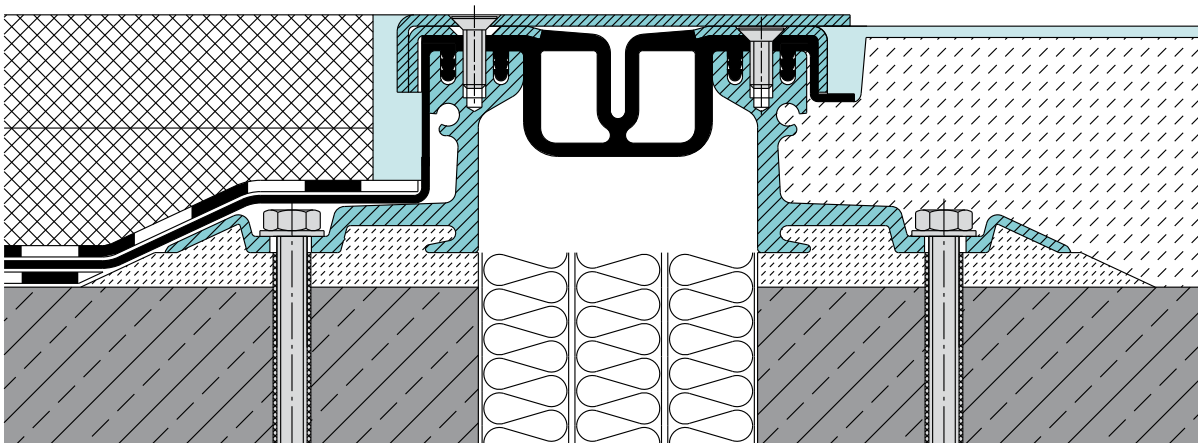
All installation proposals presented below must be checked and determined individually for each case according to the respective structural conditions. We have dispensed with the presentation of the functional layers; they must be carried out in accordance with the rules of technology.

All coatings shown below relate to the surface protection system OS 11 or OS 13 according to the guideline "Protection and Repair of Concrete Components" of 1990 and in the version of 2001. When using the previous system OS 3 (simple sealing), please consult our sales service centre first.



FP 90/45 NI AP 800

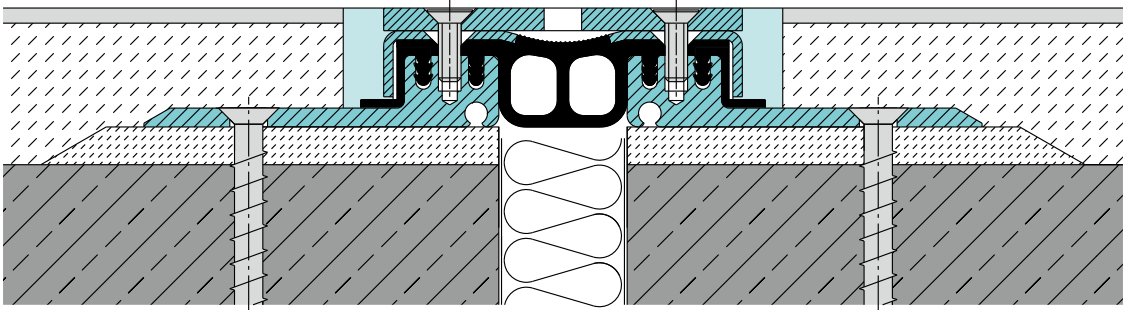
Stainless steel cover plate AP 800 in conjunction with the expansion joint covers from the range FP(G) 90. When using the cover plates, no accommodation for settlement is possible.



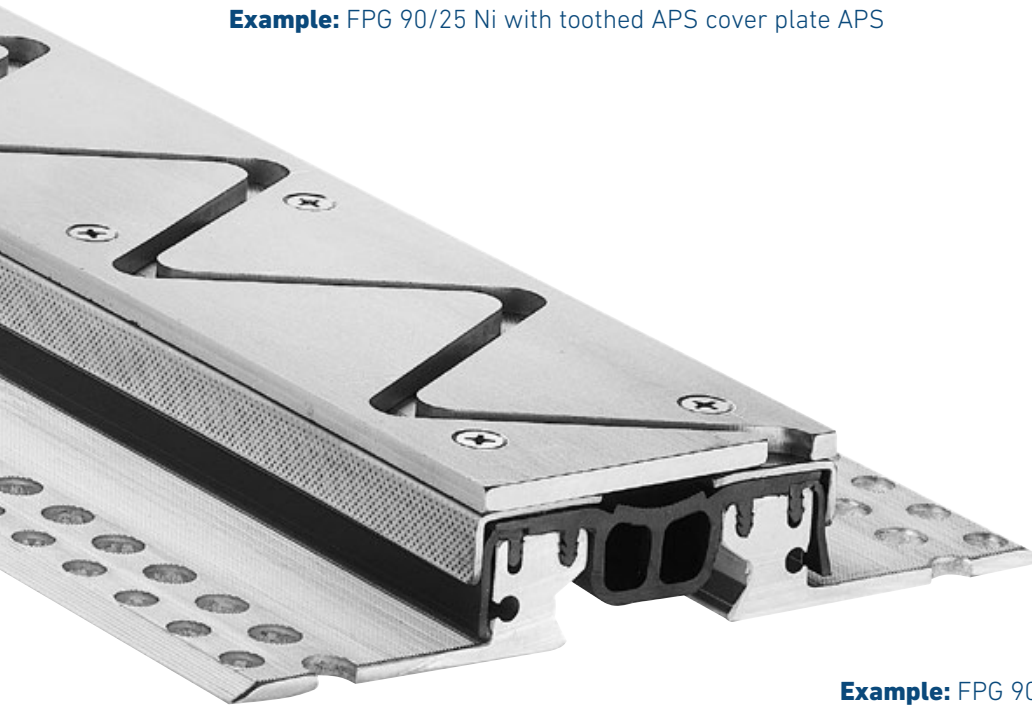
FP 110/60 NI APG 110/3

Smooth stainless steel cover plate APG in conjunction with the expansion joints from the range FP(G) 80 NI, FP(G) 90 NI, FP(G) 110 NI, FP 130 NI and FP 155 NI. When using the cover plates, no accommodation for settlement is possible.

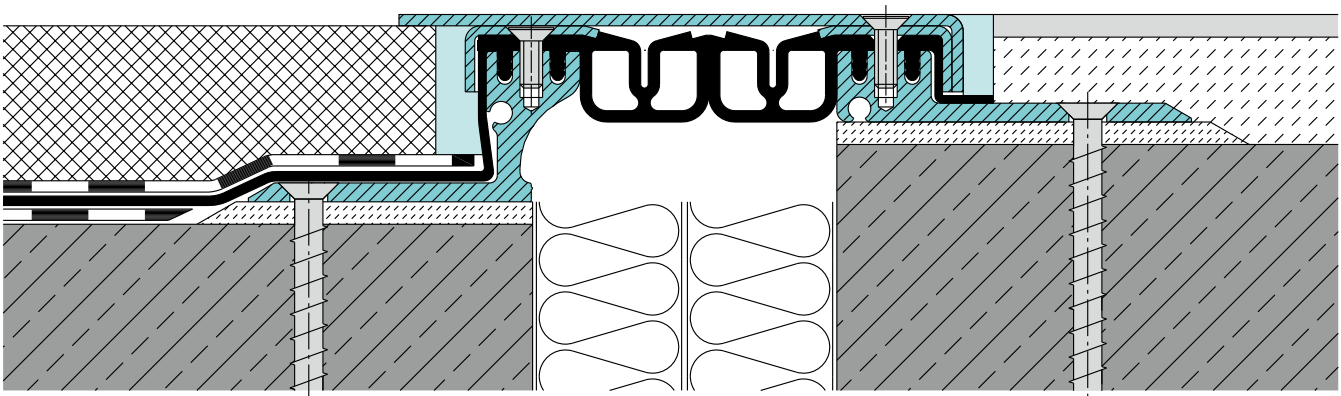
JOINT CONSTRUCTIONS APPLICATION EXAMPLES



Example: FPG 90/25 Ni with toothed APS cover plate APS



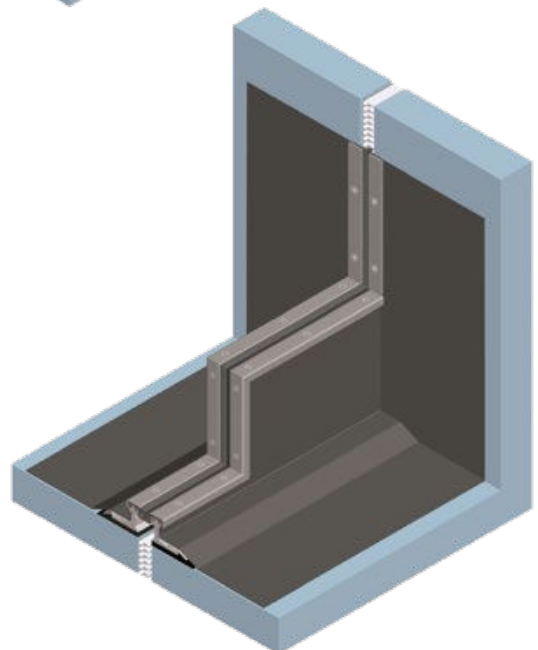
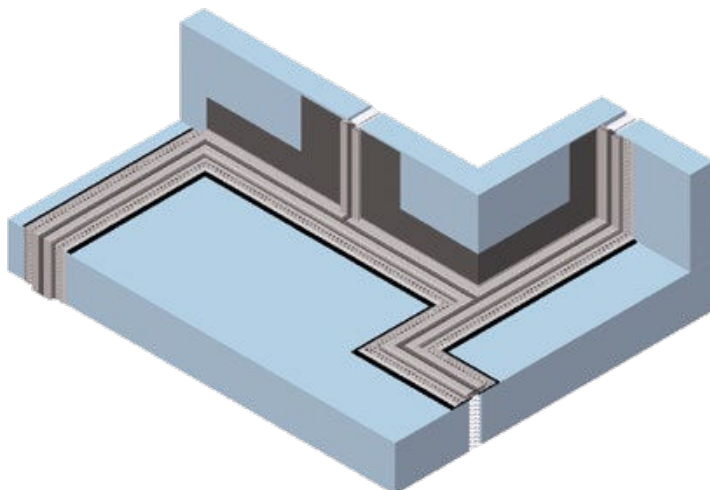
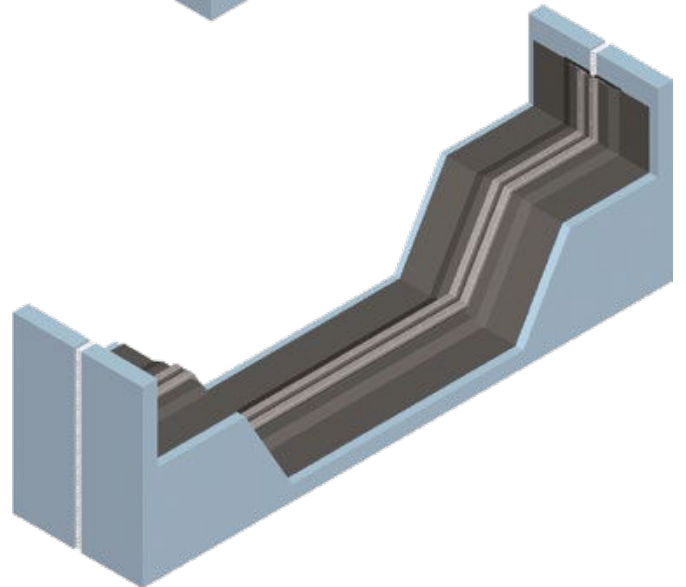
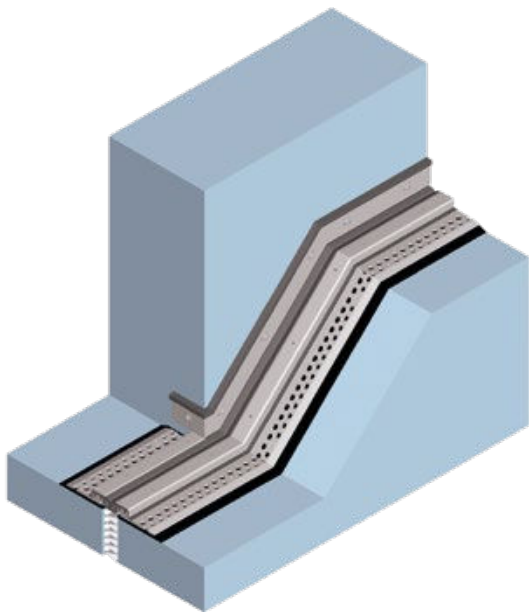
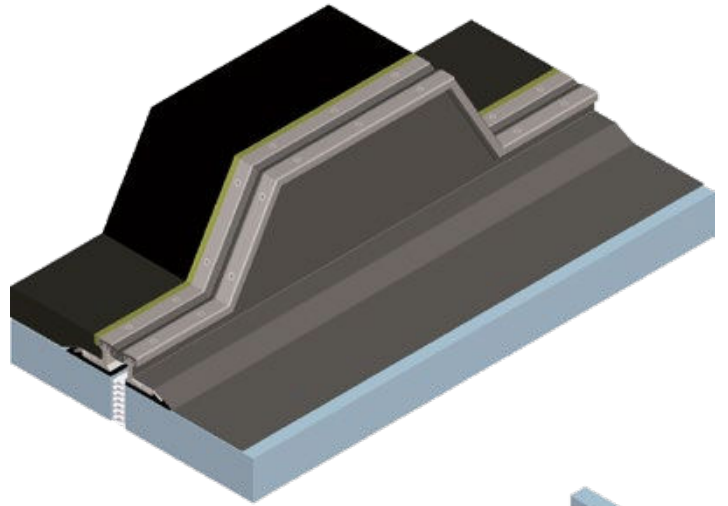
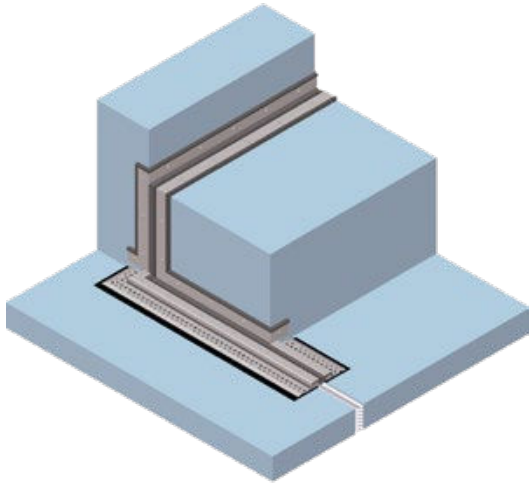
Example: FPG 90/35 Ni with APS cover plate



Installation suggestion: Expansion joint combinations FP .../25 NI (short AAS sheets) with FP .../45 NI (long AAS sheets) with APG cover plate for wide joints

SYSTEM FP 90

EXAMPLES



PRACTICAL APPLICATIONS



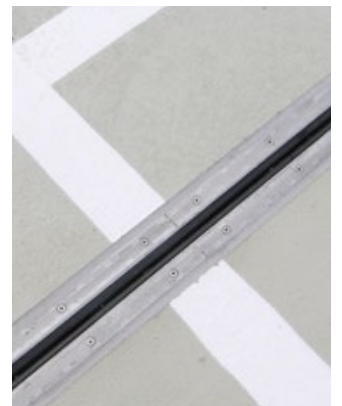
Airport Nuremberg, Germany – FP 90; FP 115



Airport Cologne, Germany – FP 90



Parking deck shopping mall Dresden, Germany





Parking garage Berlin, Germany Berlin, Beusselstraße



Refurbishment pedestrian bridge, Eilenburg, Germany



Parking garage Annaberg, Germany – FP 90



Airport Berlin Brandenburg, Germany – FP 90 BNI



Parking garage Weiterstadt, Germany – FP 90

LEGAL NOTES

All specifications in this catalogue, in particular the suggestions for processing and use of our products correspond to our current knowledge state. Despite the greatest possible care, we are not able to guarantee that the non-binding information is without errors.

Further, the installation details shown in this catalogue are theoretical in nature and do not represent real objects. We reserve the right to make technical changes.

The current version requested from us or downloaded from www.migua.com applies.

The texts and images are subject to copyright.

MIGUA Fugensysteme GmbH

Dieselstraße 20
42489 Wuelfrath, Germany

Fon +49 2058 774 0

Fax +49 2058 774 48

Mail info@migua.de

Web www.migua.com