

WATERTIGHT EXPANSION JOINT SYSTEMS

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



MIGUTAN

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 ensure that our outstanding product quality and innovative approach 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 a total of 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.



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

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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.

Specifications regarding the load capacity

Pictogram					
Meaning	Pedestrians	Private cars	Lorries DIN 1072	Forklift trucks DIN 1055	Hard castors

The load specifications of air-filled and solid plastic tyre trucks apply to a wheel contact patch of 200 x 200 mm.

Note regarding installation

Assembly and installation instructions are available on request. Please speak to us.

Alternatively, information can be downloaded from the Internet at **www.migua.com**.

SYSTEM DESCRIPTION MIGUTAN EXPANSION JOINT CONSTRUCTIONS WITH EXCHANGEABLE CENTRE SEAL

FOR SEALING AGAINST NON-PRESSURIZED WATER

Uses

MIGUTAN expansion joint covers have been in use for more than 30 years for sealing purposes in multi-storey car parks, parking decks (open air), underground car parks, swimming pools, industrial kitchens, pedestrian bridges, airports etc.

A wide variety of reference objects can be proven.

Special features

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

Joint covers with 300 mm AAS sheets on both sides (both sides with grooves, ensuring best-possible adhesion with area seal), for watertight incorporation in various sealing systems in accordance with DIN 18195 (e.g. sheet seals, bituminous seals and surface protection systems etc.) Anti-sliding thanks to structured stainless steel surface.

Solid stainless steel caps ensure, the compression of the sealing elements, thanks to screw attachment using the appropriate torque. Fixture of stainless steel caps with torque guarantees permanently uniform compression.

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

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

Test certification: A General Building Inspectorate Test Certificate has been granted for our waterproof expansion joint covers of the FP 90 series. This certificate serves a proof of usability according to German construction law.

Fire protection: The products FP 80 NI, FP 90 NI, FPG 90 NI, FP 110 NI, FPG 80 and FPG 110 have been subjected to comprehensive fire testing at MPA NRW. 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).



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

Suitability in accordance with WHG § 19: For applications to be executed in accordance with WHG § 19, we offer a special solution. Please contact us if this is required!

Application recommendations

Mastic asphalt: When using in mastic asphalt the 25 mm height expansion joint covers should be used only as connection joint on the basis of the low protrusion (vertical expansion joint cover).

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

Fixture/dowelling: For the fixture of expansion joint heights 35 mm and 45 mm in conjunction with long AAS sheets, counter-sunk screws of type MMS-F 7.5 x 80 are to be used. Gap between dowels approximately 300 mm.

For the following joint covers, the dowels must be used on both sides with a gap of approximately 300 mm:

- FP 80/25 NI with short AAS foils
- Series FP.../60 S NI.

For all other expansion joint covers, the gap between dowels is approximately 350 mm as standard.

Cover plates:

MIGUTAN in the swimming pool sector: If the MIGUTAN expansion joint constructions are used in a swimming pool area, due to the required chloride resistance, a higher quality stainless steel alloy must be employed. This must also be pickled. Thus, this area of use must always be specified for tenders and inquiries!

Stainless steel cover caps: After 10 to 14 days, tighten all screws of the stainless steel cover caps with a torque wrench (7 Nm).

Please request our installation and assembly instructions. Alternatively, there is a download function available on the Internet (www.migua.com).

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.

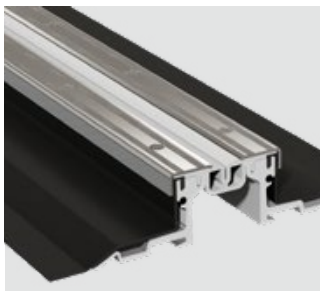
The connection of the individual lengths on the construction site is carried out using the pins installed at the factory. This ensures the height and side transitions of the individual joint lengths are the same.

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 expansion 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 expansion joints can be made economically and cleaning using the AAP 50/20 connection joint filler joint.

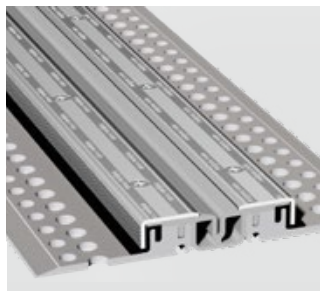
The **load specifications** of air-filled and rubberised tyre trucks apply to for a wheel contact patch of 200 x 200 mm.

EXPANSION JOINTS ACCORDING TO AREAS OF APPLICATION



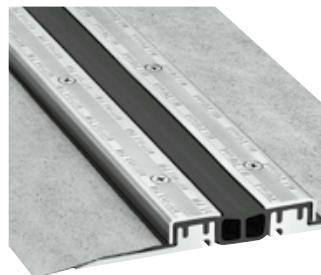
Expansion joints for bituminous seals
(long ASS sheets)

Characteristic for these products are the long ASS 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.



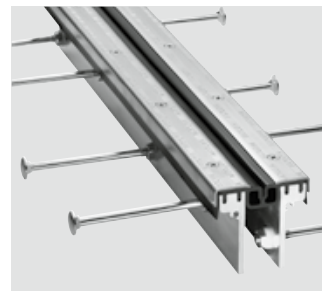
Expansion joints for coating systems
(short ASS sheets)

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 foils – XA)

With this innovative MIGUA technology for liquid seals, fleece concealed ASS 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	8
FP 90 NI ls	9
FP 110 NI ls	10
FP 130 NI ls	11
FP 155 NI ls	12
FP(G).../60 S NI ls	13
FPG 80 NI ls	14
FPG 90 NI ls	15
FPG 110 NI ls	16

Product	Page
FP 80 NI ss	17
FP 90 NI ss	18
FP 110 NI ss	19
FP 130 NI ss	20
FP 155 NI ss	21
FP(G).../60 S NI ss	22
FPG 80 NI ss	23
FPG 90 NI ss	24
FPG 110 NI ss	25
FPL 85/27 NI	26
FPSG 68 ES	27

Product	Page
FP(G) ... /... NI XA	28
FP.../...APF	29

Product	Page
FP(G).../90 B NI anchor rods	30
FP(G).../90 B NI loop anchors	31
FPL 85/75 B NI anchor rods	32



EXPANSION JOINTS IN ALPHABETICAL ORDER

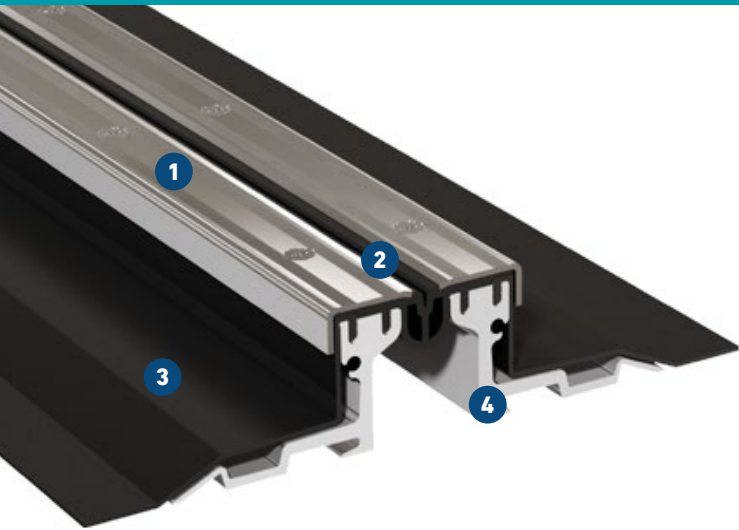
Product	Page	Product	Page
FP 80 NI ls	8	FP(G)../90 B NI	
FP 80 NI ss	17	anchor rods	30
FP 90 NI ls	9	FP(G)../90 B NI	
FP 90 NI ss	18	loop anchors	31
FP 110 NI ls	10	FPG 80 NI ls	14
FP 110 NI ss	19	FPG 80 NI ss	23
FP 130 NI ls	11	FPG 90 NI ls	15
FP 130 NI ss	20	FPG 90 NI ss	24
FP 155 NI ls	12	FPG 110 NI ls	16
FP 155 NI ss	21	FPG 110 NI ss	25
FP../...APF	29	FPL 85/27 NI	26
FP(G)../... NI XA	28	FPL 85/75 B NI	
FP(G)../60 S NI ls	13	anchor rods	32
FP(G)../60 S NI ss	22	FPSG 68 ES	27

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

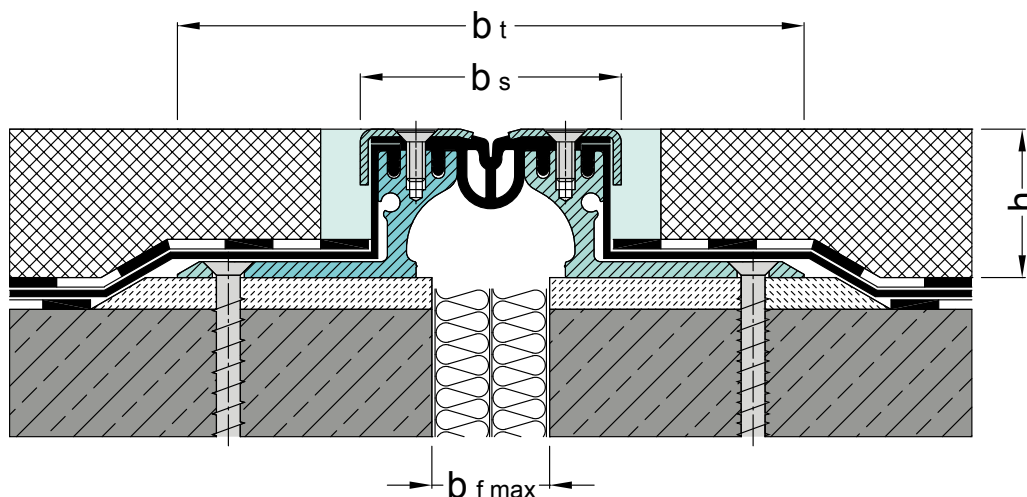


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [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 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.

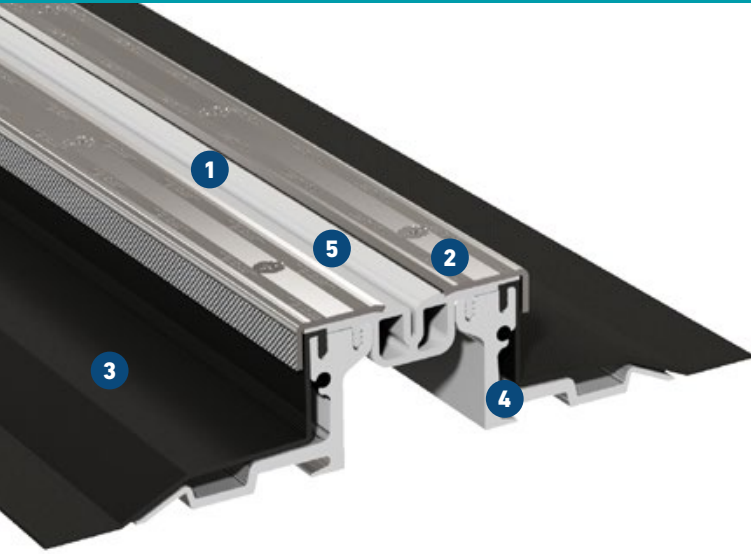


FP 90 NI ls

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

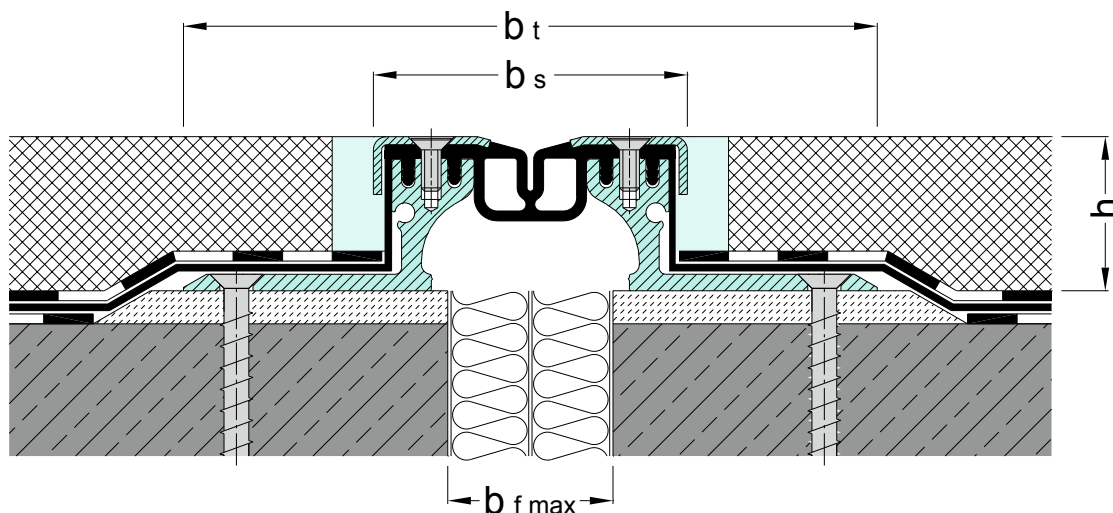


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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.

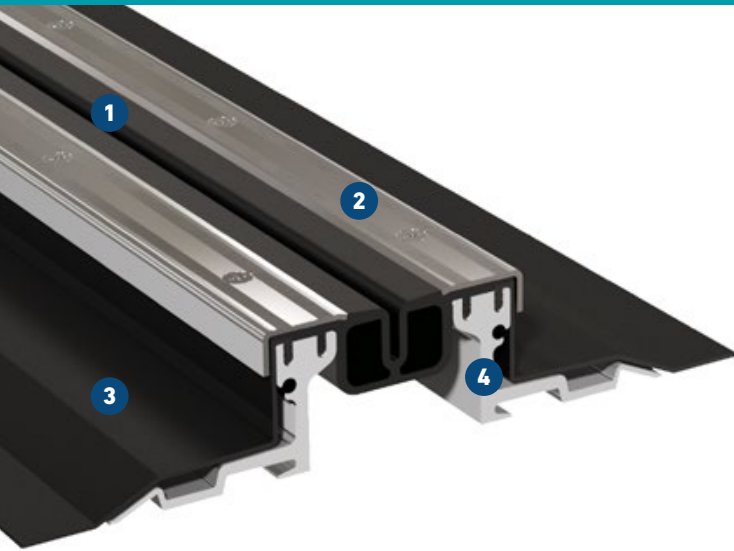


FP 110 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

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



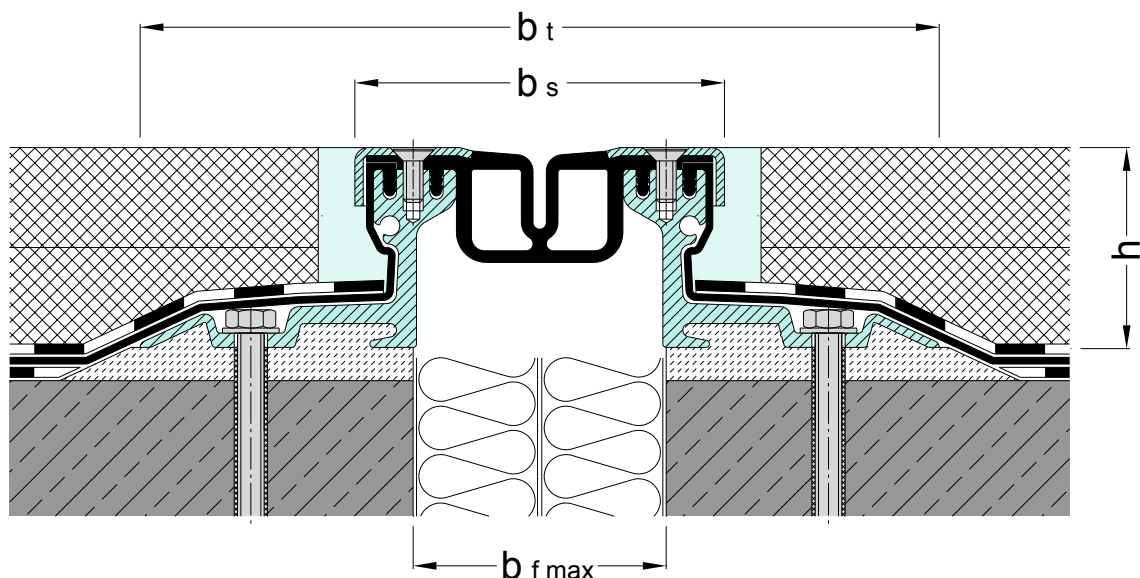
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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.

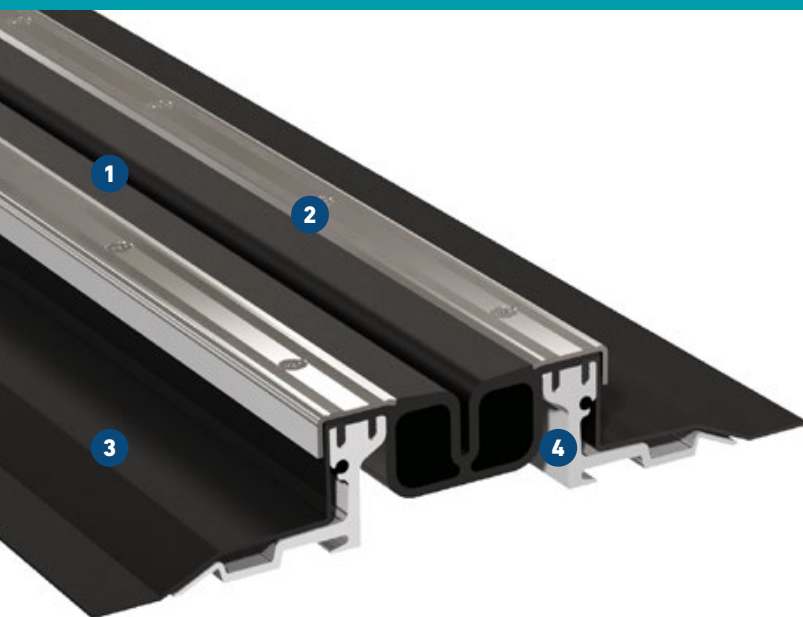


FP 130 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

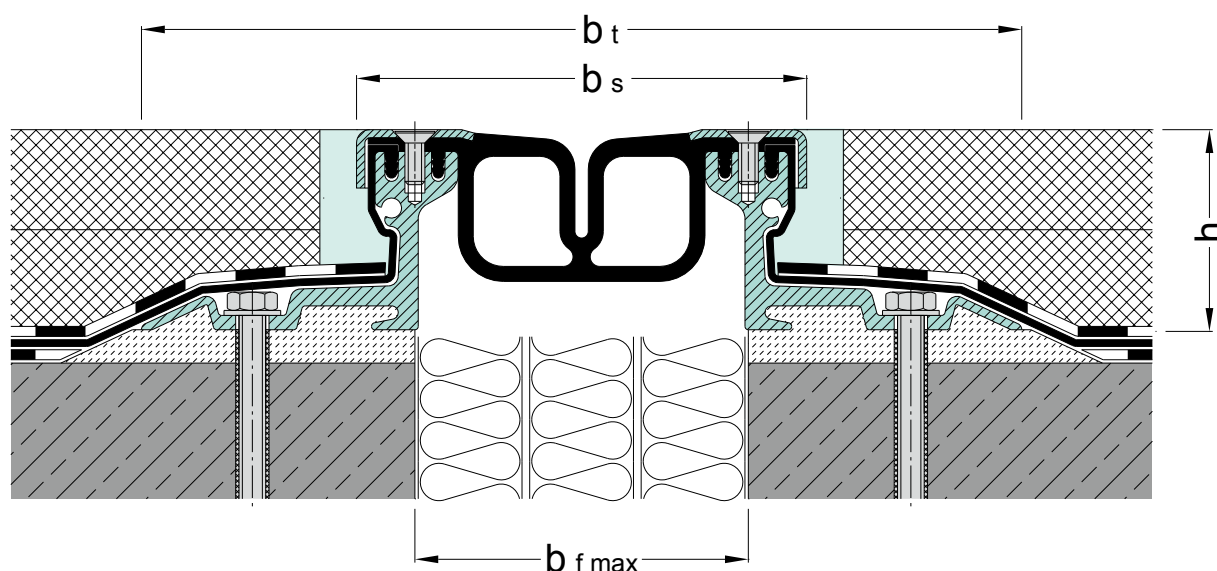
Official test certificates for watertightness available
Central insert with double-web to provide multilayered protection

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 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.

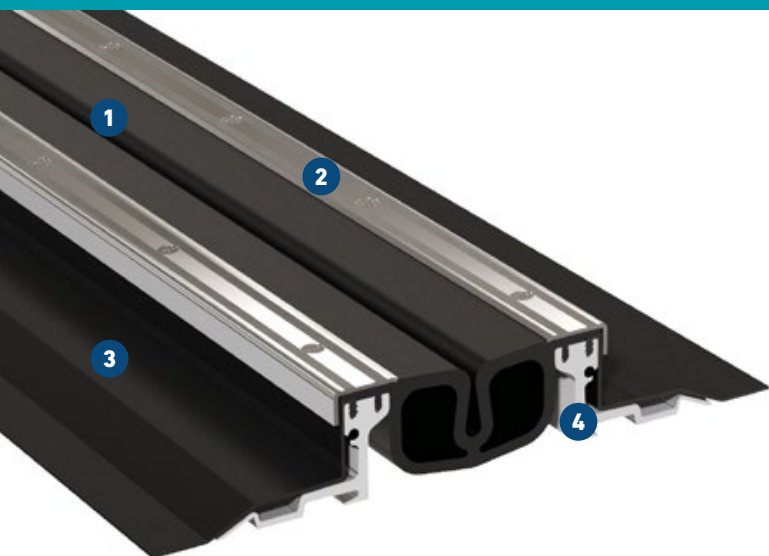


FP 155 NI ls

FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

Official test certificates for watertightness available

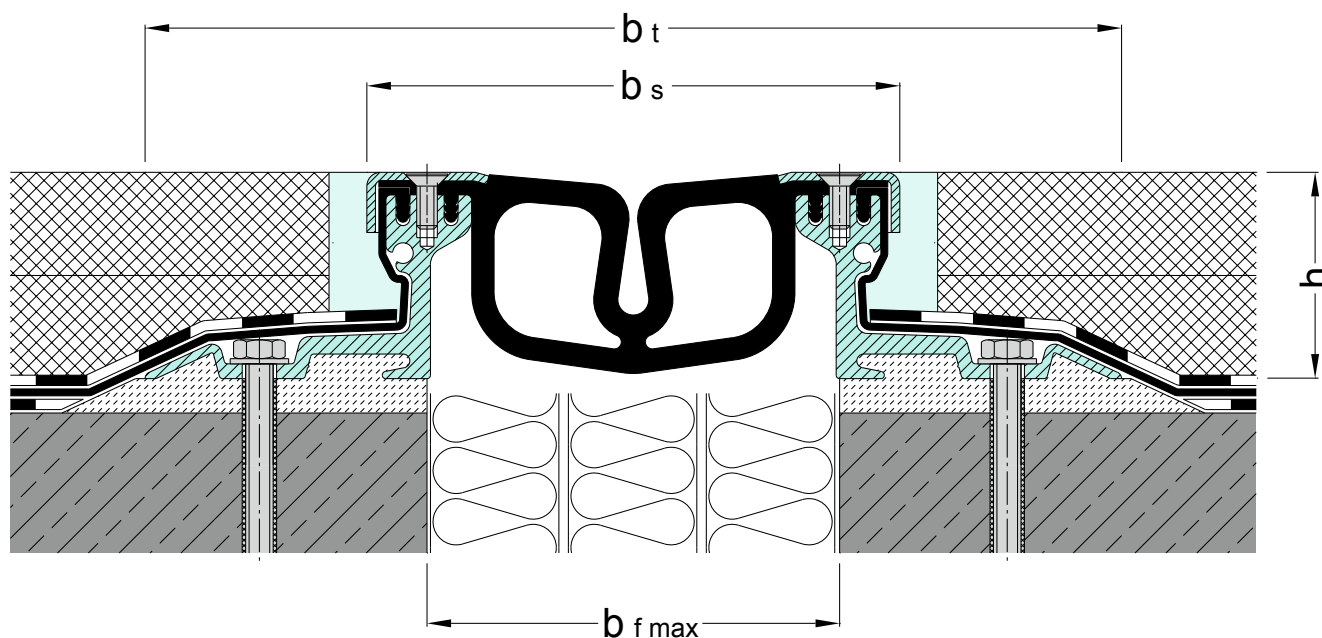
Central insert with double-web to provide multilayered protection

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 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.

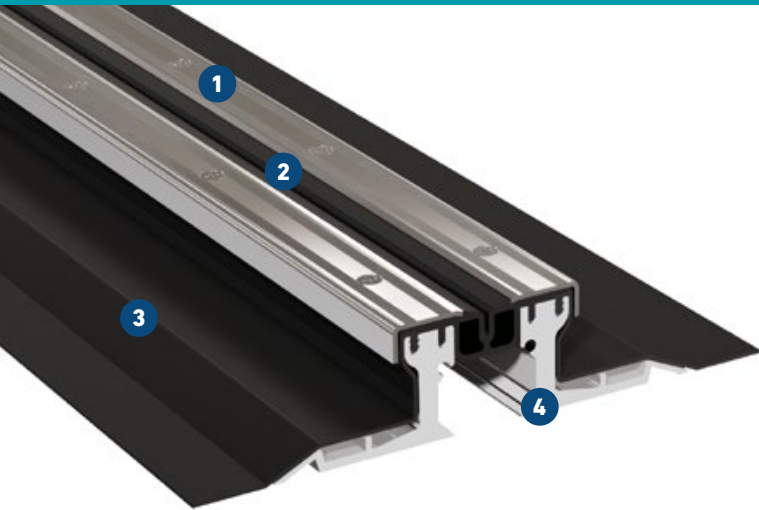


FP(G) .../60 S NI ls

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

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

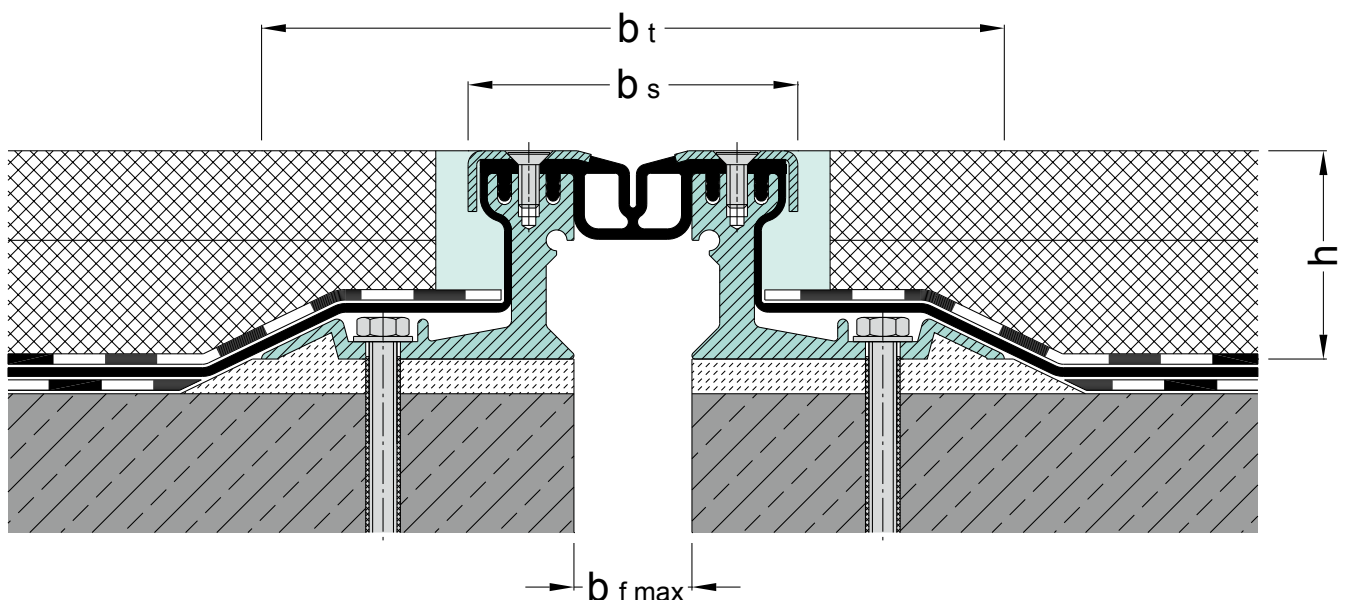


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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	

Sealing against nonpressurized water.

* Fire resistance test does not apply to FP 130/60 S NI ls and FP 155/60 S NI ls



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

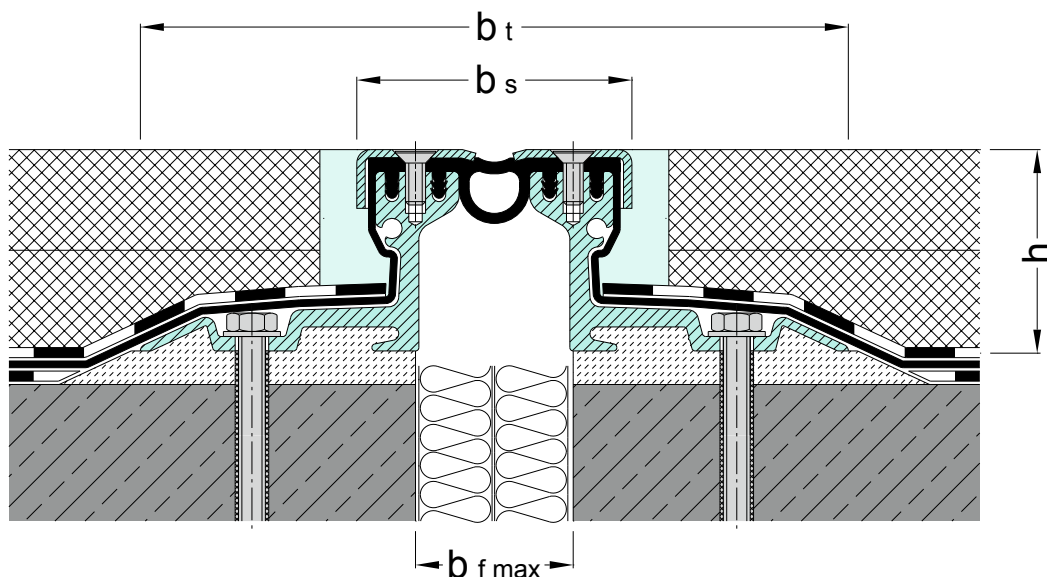


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [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 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.

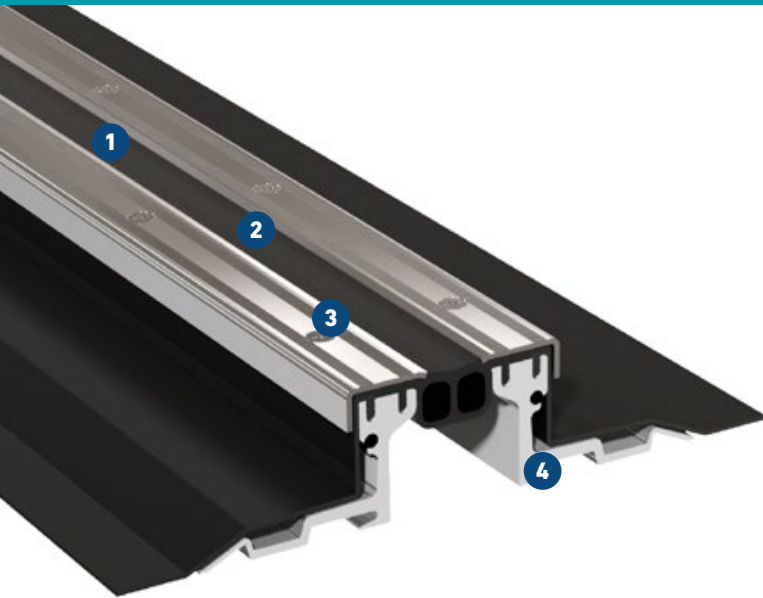


FPG 90 NI ls

FOR BITUMINOUS SEALING LAYER (LONG 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 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 4 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

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

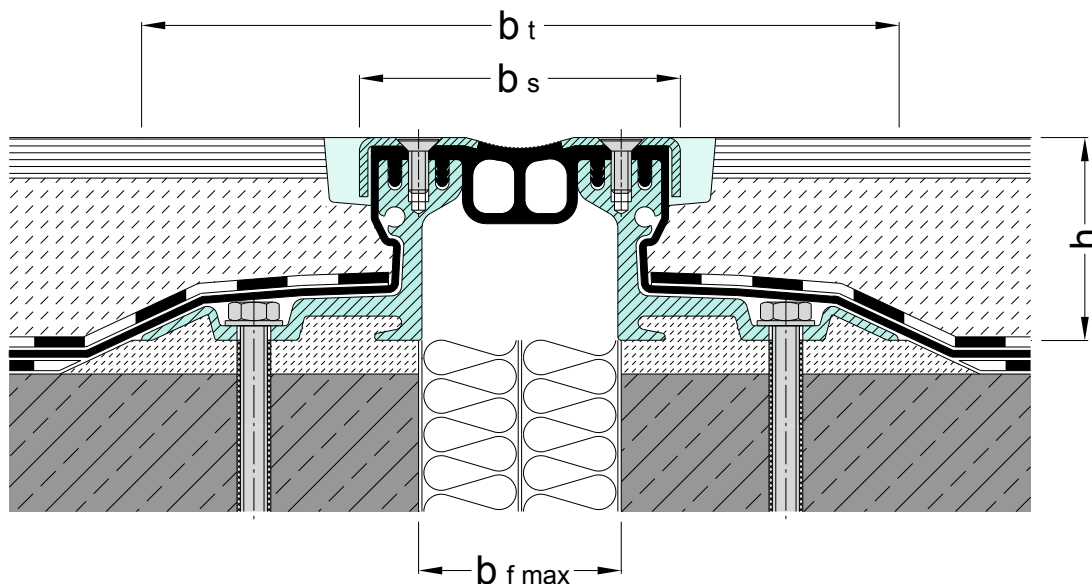


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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.

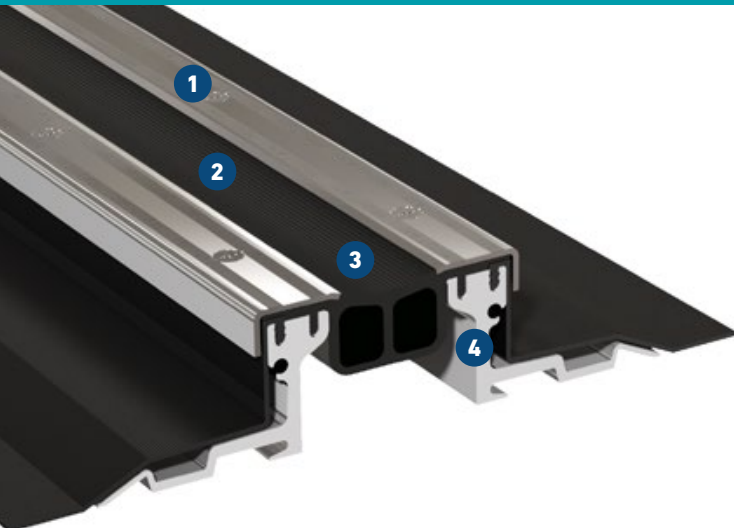


FPG 110 NI ls

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

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



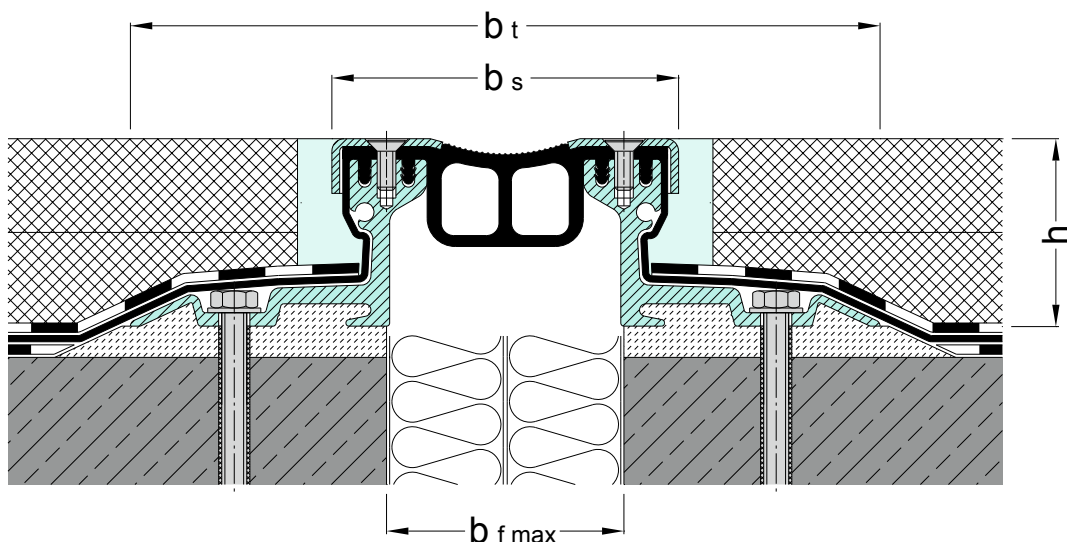
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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 110/25 NI ls *	75	40 (± 20)	111	238	25				
FPG 110/35 NI ls	75	40 (± 20)	111	238	35	35	600	130	
FPG 110/45 NI ls	75	40 (± 20)	111	227	46	35	300	70	
FPG 110/60 NI ls	75	40 (± 20)	111	238	60	35	300	30	
FPG 110/80 NI ls	75	40 (± 20)	111	238	81	35	120	30	
FPG 110/95 NI ls	75	40 (± 20)	111	238	97	35	60		
FPG 110/115 NI ls	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
- Connection joint with connection joint filler cover AAP 50/20**
Proper and economical connection of the coating system
- 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust

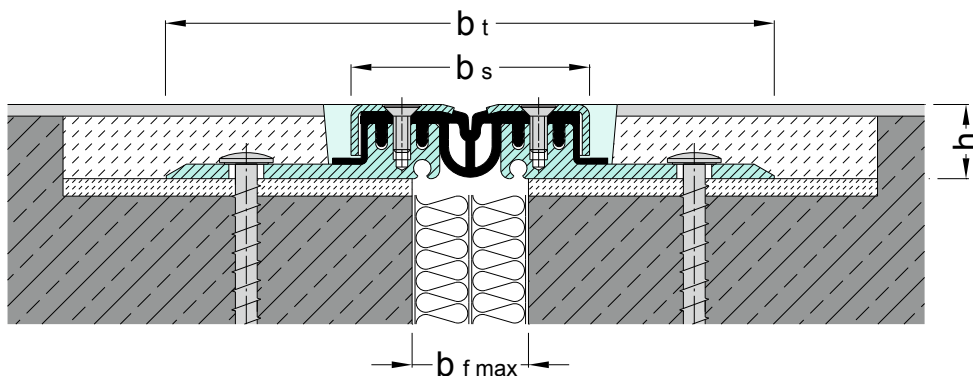


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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.

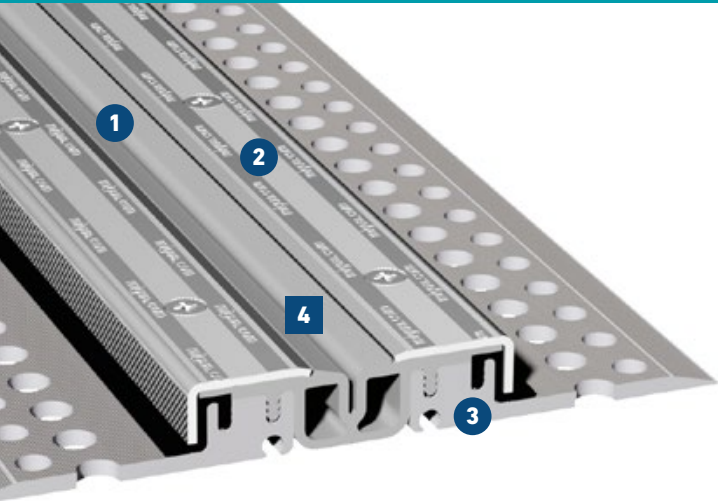


FP 90 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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
- Connection joint with connection joint filler cover AAP 50/20**
Clean and economical connection of the coating system
- 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
- 4 **New: With grey insert**
to perfectly match the adjacent covering

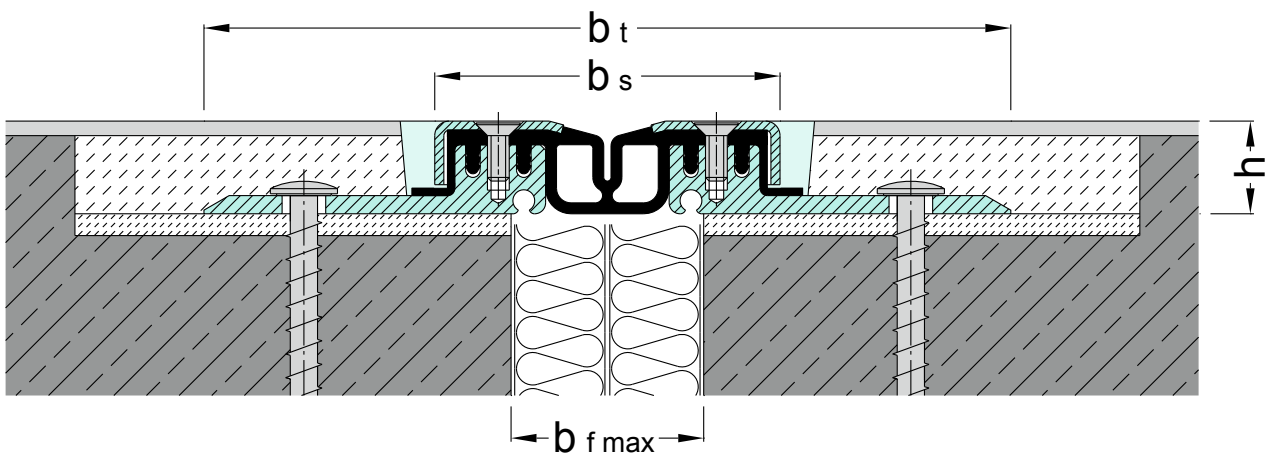
Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 90/25 NI ss	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.



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



FP 110 NI ss

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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 **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



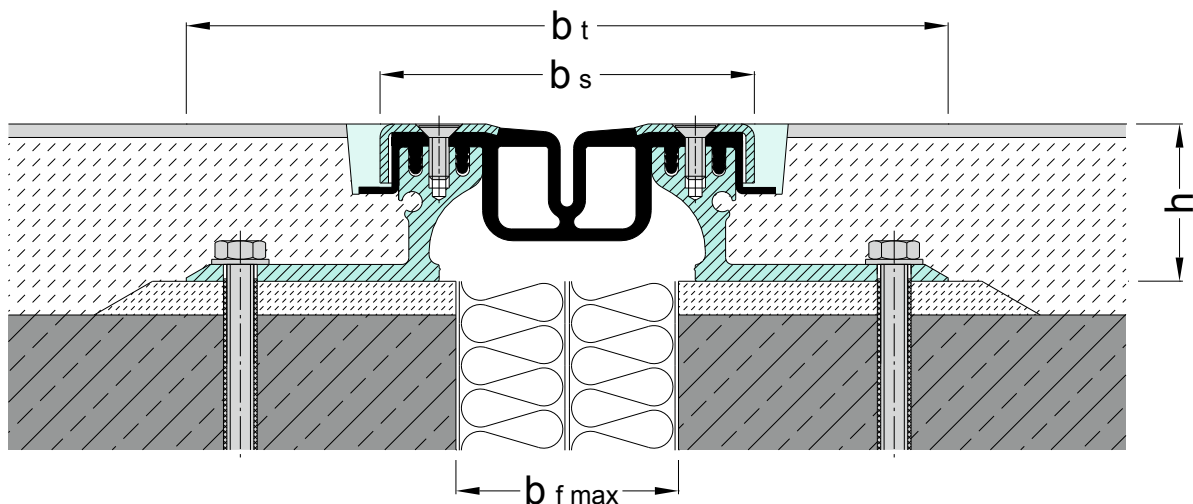
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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



- 1 Striated stainless steel capping ensures good skid resistance**
100% watertight by max. pressure
- 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

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

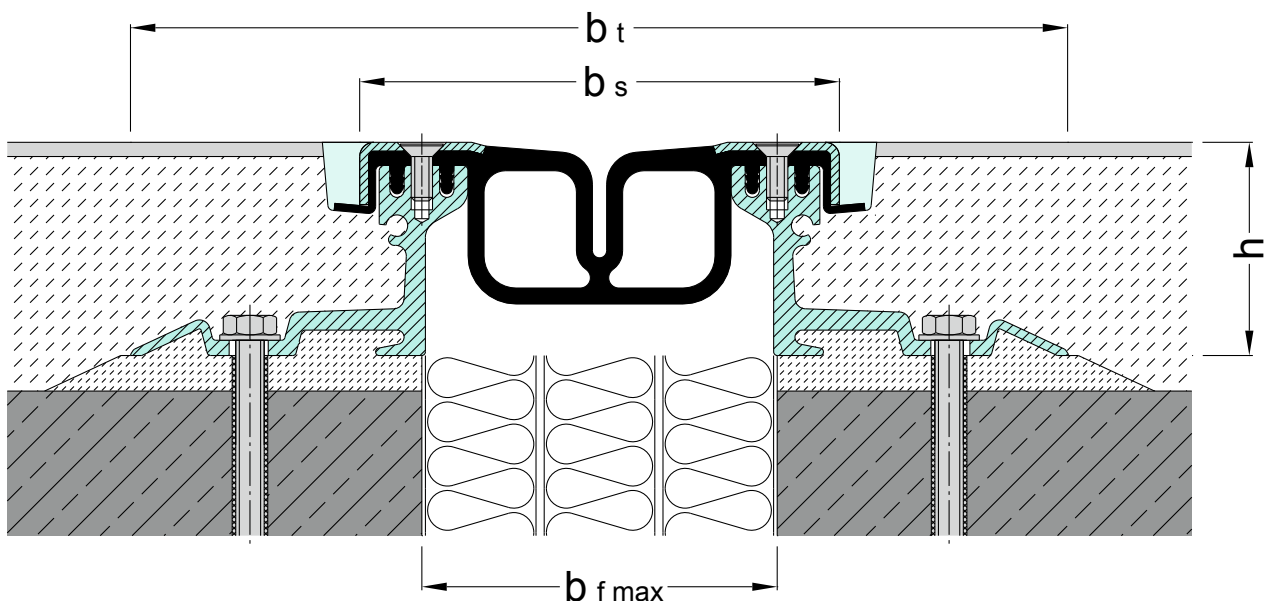
Proper and economical connection of the coating system

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 [kg/mm] solid plastic tyres
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



- 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

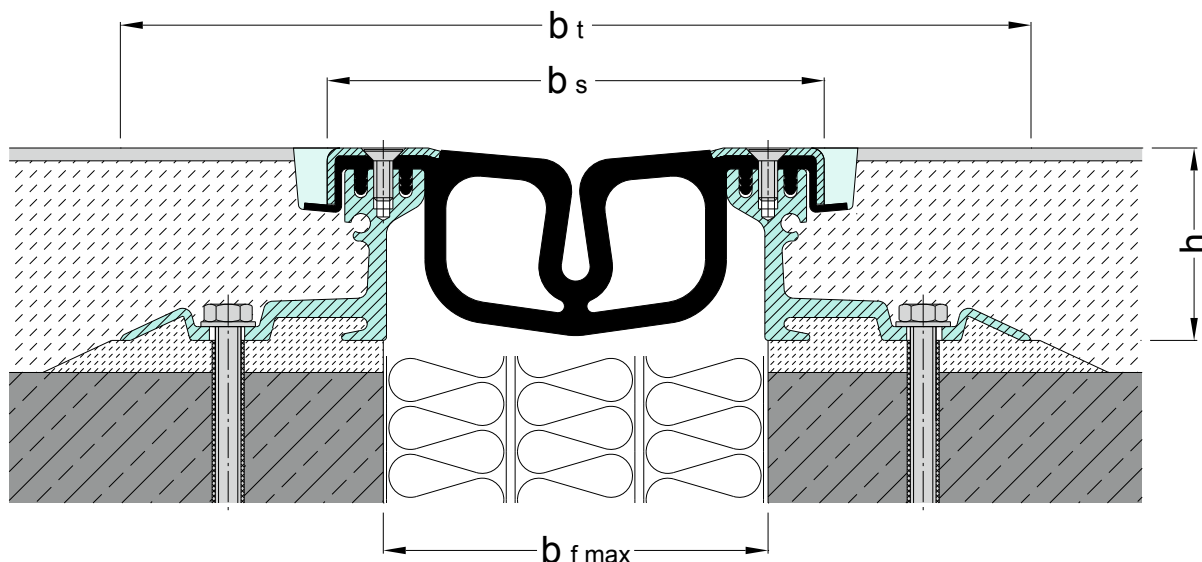
Official test certificates for watertightness available
Central insert with double-web to provide multilayered protection
 - 3 Mounting brackets are made of high strength aluminium**
High loads without any risk of rust
- Connection joint with connection joint filler cover AAP 50/20**
Proper and economical connection of the coating system

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 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



- 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

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

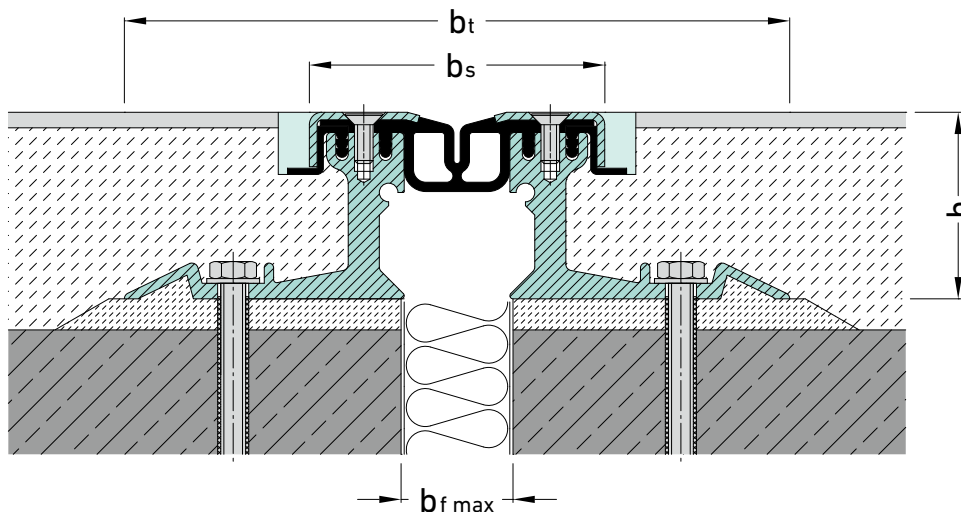


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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 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	

Sealing against nonpressurized water.

* Fire resistance test does not apply to FP 130/60 S NI ss and FP 155/60 S NI ss



FPG 80 NI ss

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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

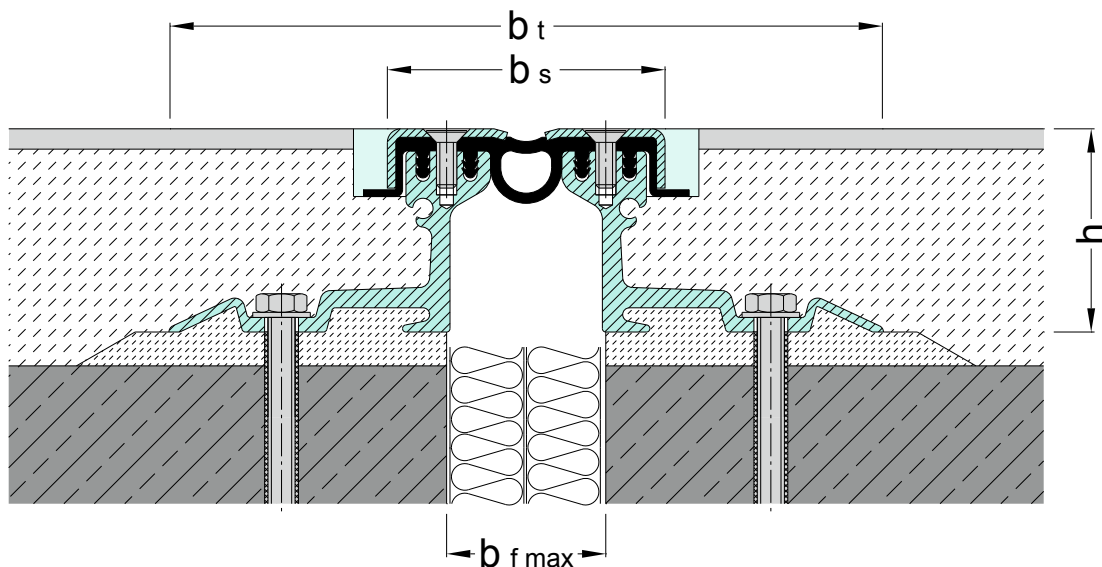


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

Expansion joint cover	Joint width max. $b_f \text{ max}$ [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 [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



- 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

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

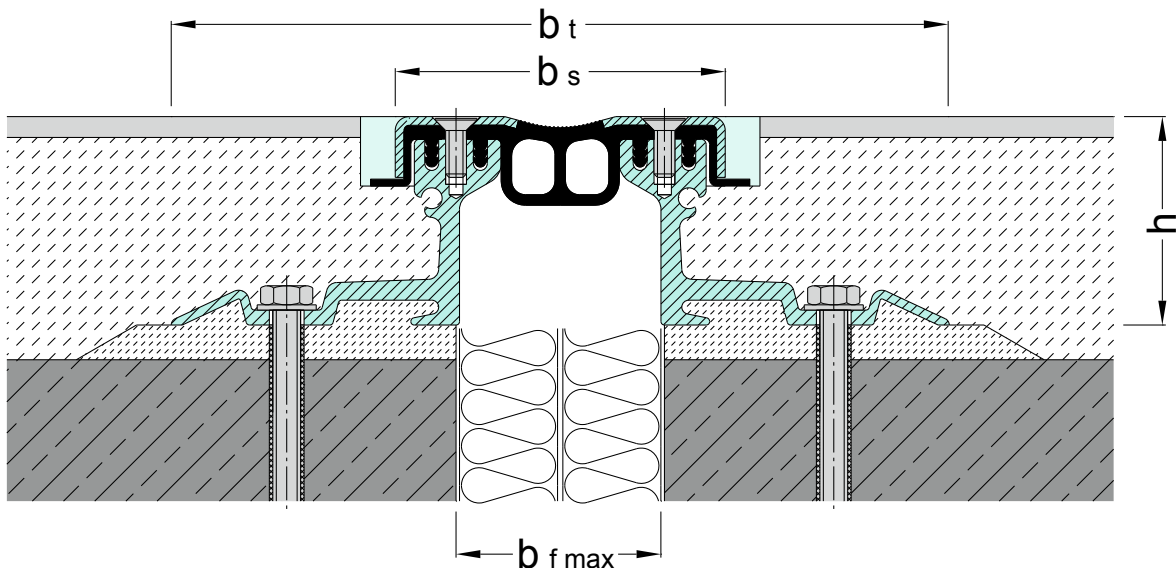


Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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 [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.

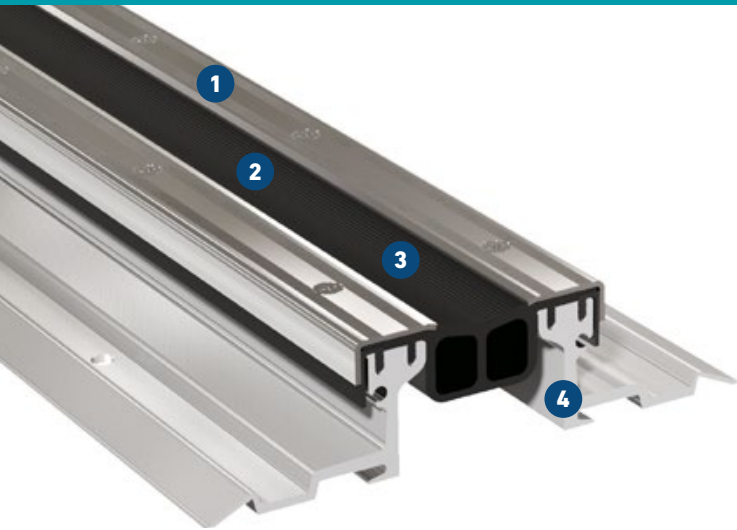


FPG 110 NI ss

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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 s
- 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

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



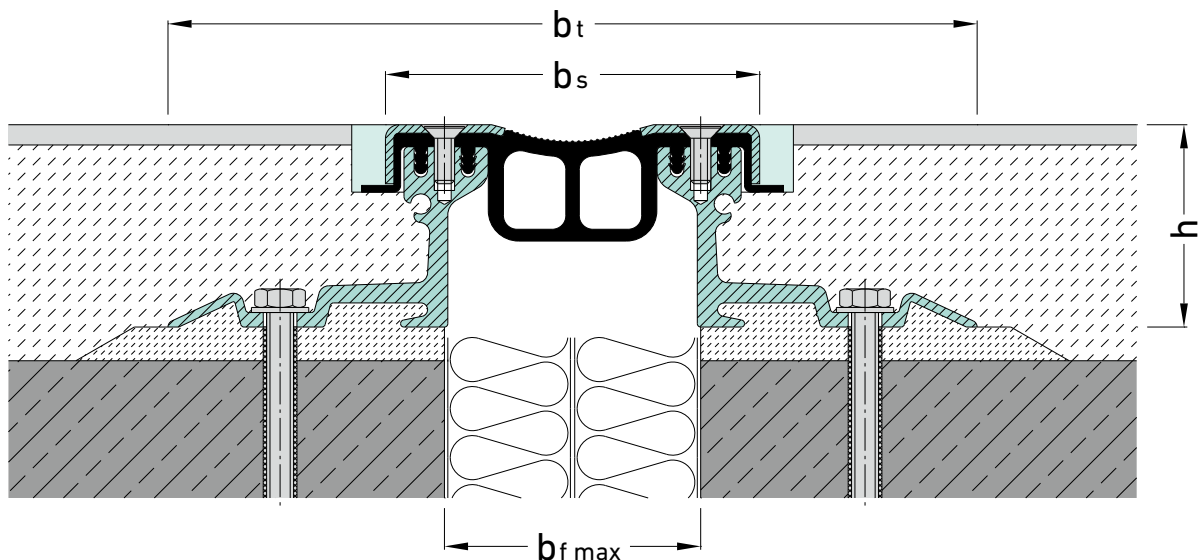
Fire tested Bfl-s1
(flame retardant)
acc. to DIN EN 13501-1

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 [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.

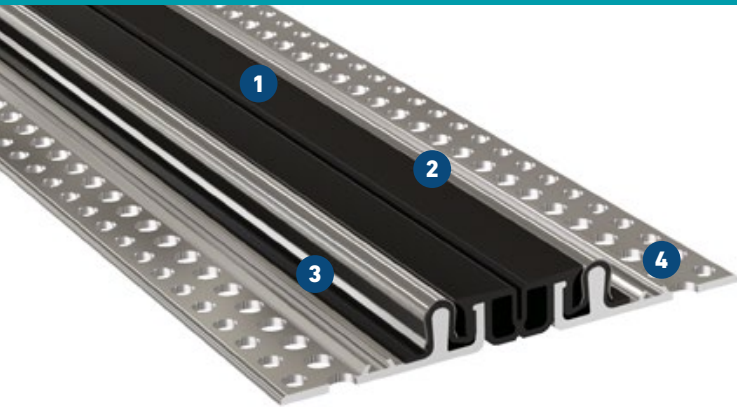


FPL 85/27 NI

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



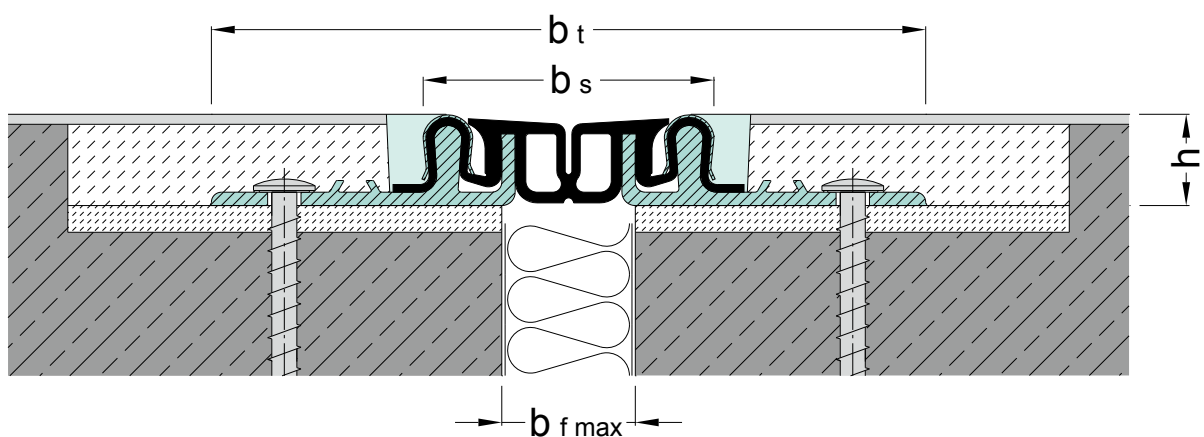
- 1 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 2 Stainless steel clip-on-cappings, made of spring steel**
Easy and cost saving assembly
- 3 100% watertight**
In connection with a coating system and connection joint
- 4 MultiHole mounting brackets**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

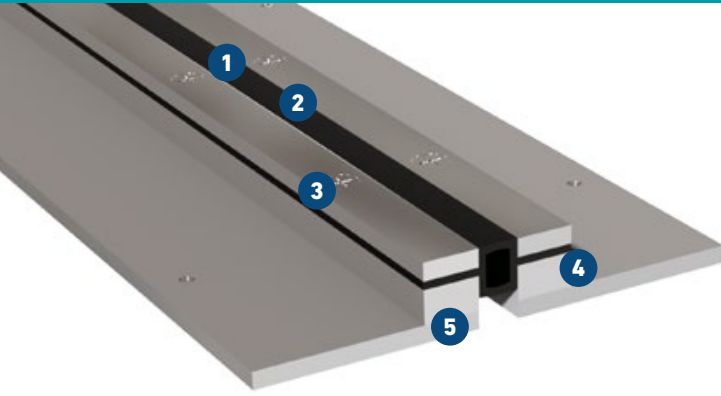


FPSG 68 ES

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



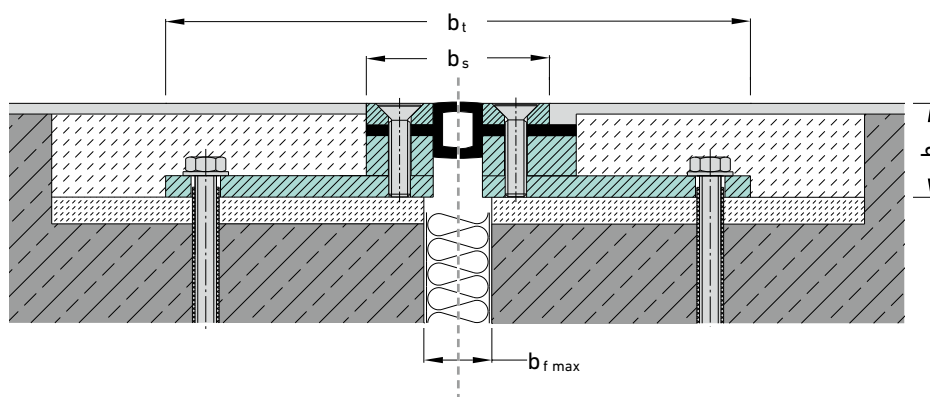
- 1 Smooth central insert for increased hygienic requirements**
Antibacterial and physiologically safe
- 2 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 3 100% watertight**
In connection with a coating system and a connection joint
- 4 Solid metal 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. $b_f \text{ max}$ [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 [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

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
TiSub-construction: on request

FPSG 68/35 without side connection to joint



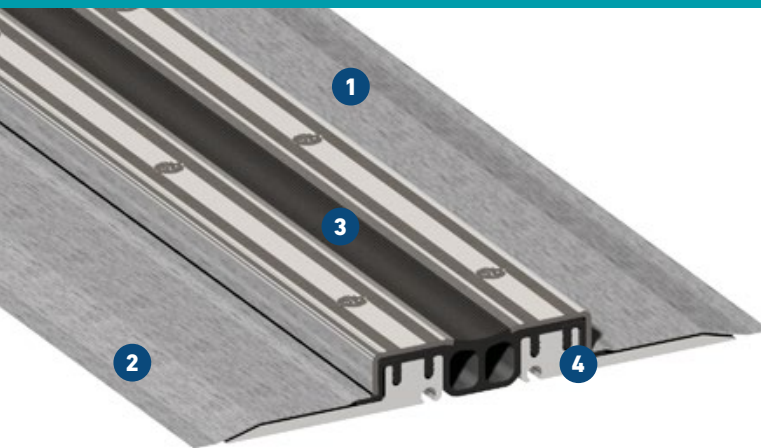
FPSG 68/35 ES with side connection to joint

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

FOR FLEXIBLE WATERPROOFING SLURRY / LIQUID MEMBRANE
UNDERNEATH CERAMIC TILES

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 1 Striated stainless steel cappings ensures good skid resistance**
100% watertight by max. pressure
- 2 Further development for liquid membranes/waterproofing slurry**
Fibre fabric bonded sheets for excellent bonding properties
- 3 Central insert on top surface**
Visual inspection and replacement without disrupting the surface
- 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

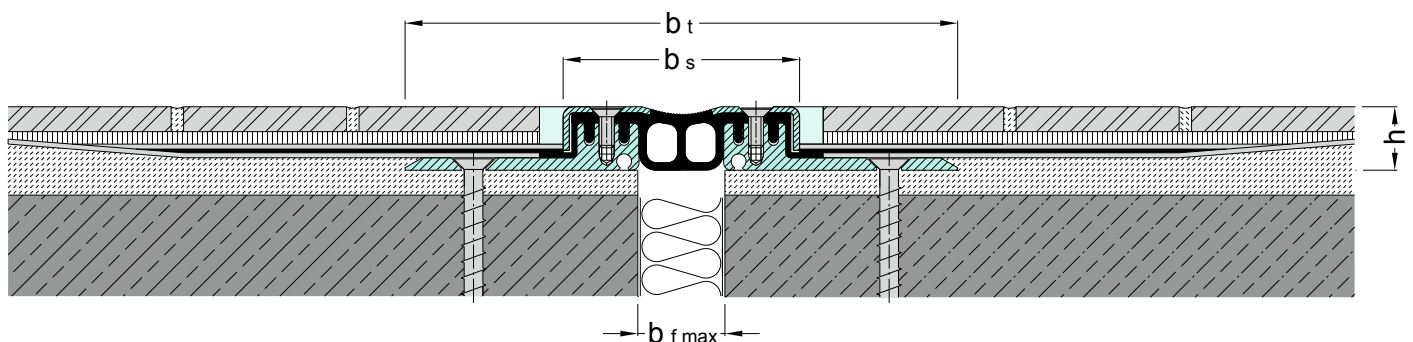
Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FP 80/... NI XA	45	20 (± 10)	82						
FPG 80/... NI XA	45	16 (± 8)	82						
FP 90/... NI XA	60	40 (± 20)	95						
FPG 90/... NI XA	60	20 (± 10)	95						
FP 110/... NI XA	75	60 (± 30)	111						
FPG 110/... NI XA	75	40 (± 20)	111						
FP 130/... NI XA*	100	90 (± 45)	133						
FP 155/... NI XA*	120	120 (± 60)	155						

* For load capacity of the expansion joint cover, please refer to the corresponding joint with short AAS sheets. Necessary minimum thickness of the connected materials has to be taken into account.

Sealing against nonpressurized water.

The connection of our fibre fabric bonded MIGUTRIX-sheets to the flexible waterproofing slurry / liquid membrane has to be tested for each application.

* Fire resistance test does not apply to FP 130/... NI XA and FP 155/... NI XA



MIGUTAN expansion joint system in conjunction with liquid
processed sealing with expansion joint FPG 90/25 NI with MIGUTRIX XA foil



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

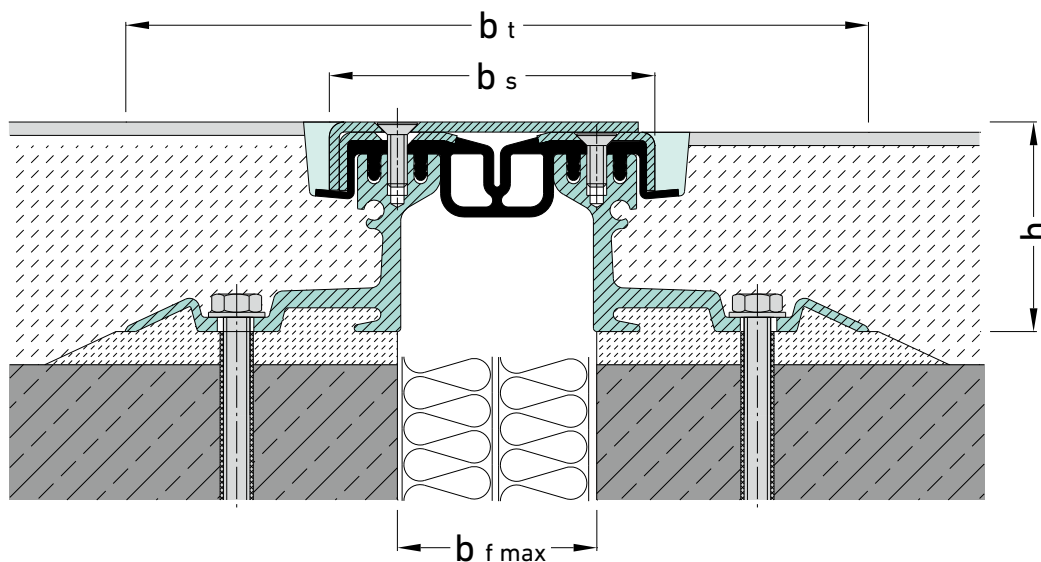
Massive stainless steel caps

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.



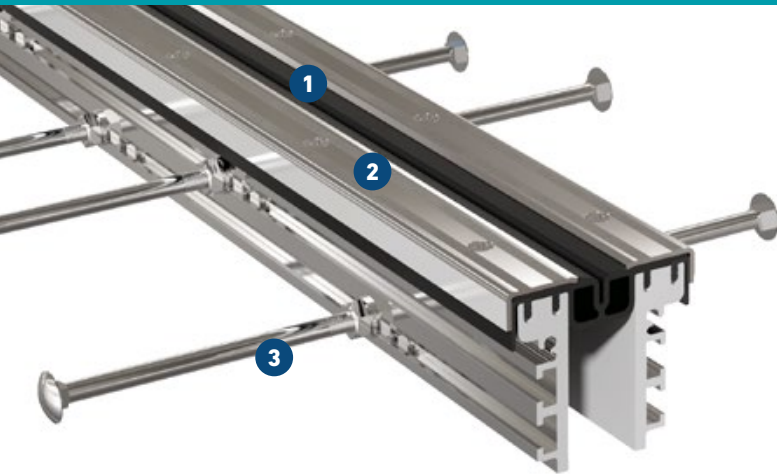
FP90/ 45NI KF APG

FP(G) .../90 B NI

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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 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

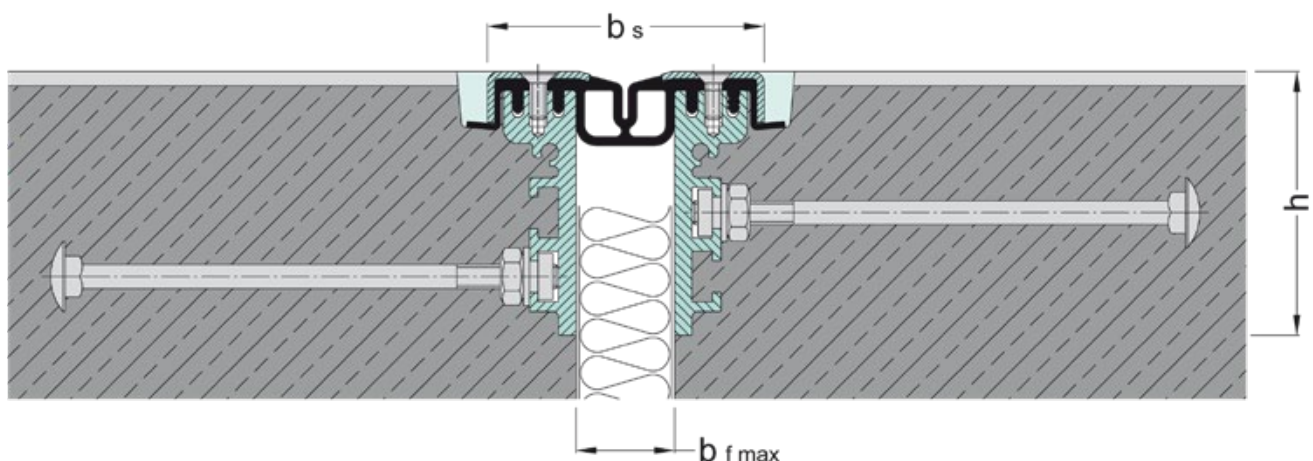
Proper and economical connection of the coating system

Designed for additive floors / precast concrete slabs

Slidable loop anchors for adjustable welding to the reinforcement

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		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	

Sealing against nonpressurized water.



FP(G) .../90 B NI

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

MIGUTAN

WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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 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

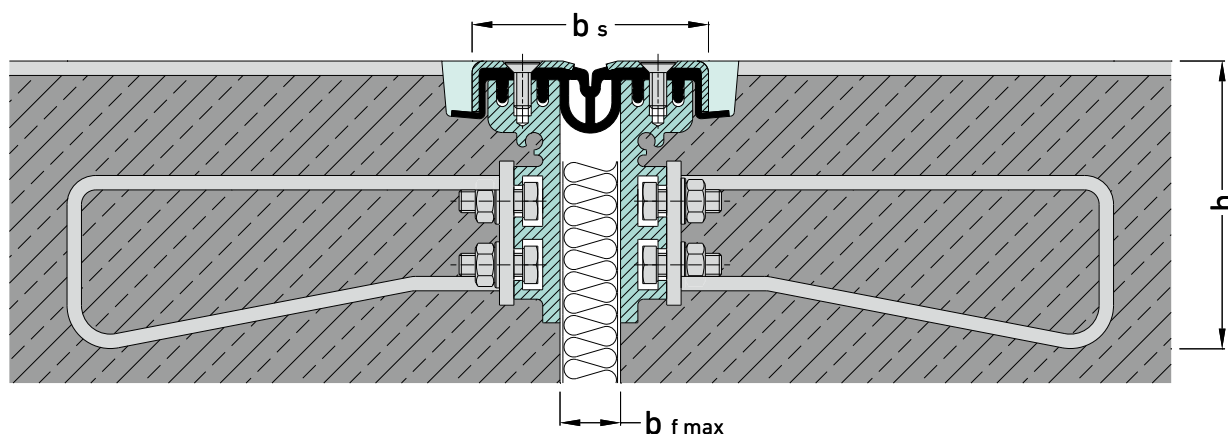
Proper and economical connection of the coating system

Designed for additive floors / precast concrete slabs

Slidable loop anchors for adjustable welding to the reinforcement

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	

Sealing against nonpressurized water.



FPL 85/75 B NI

FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

MIGUTAN

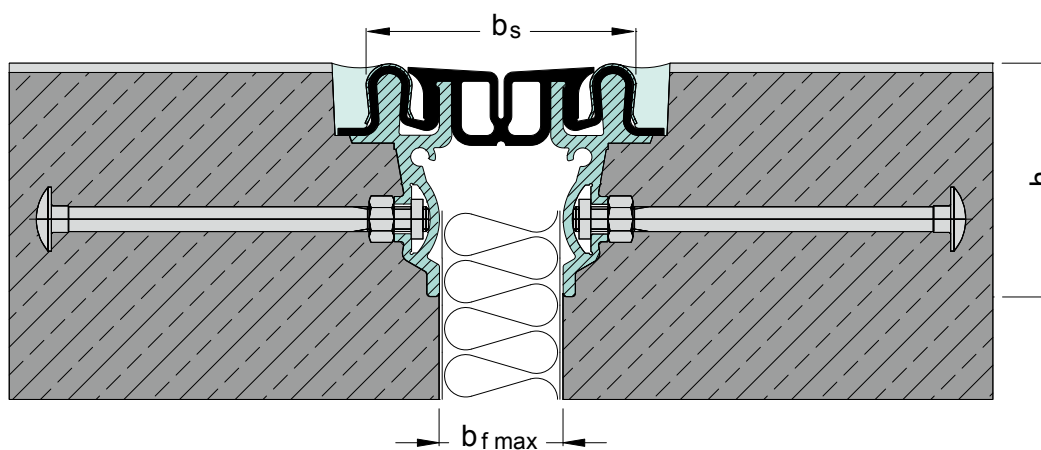
WATERTIGHT EXPANSION JOINT SOLUTIONS



- 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
- MultiHole mounting brackets**
 for secure fixing
- 3 Connection joint with connection joint filler cover AAP 110/23**
 Proper and economical connection of the coating system

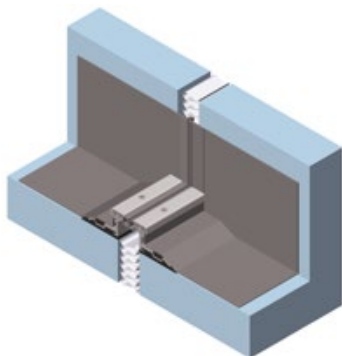
Expansion joint cover	Joint width max. $b_f \text{ max}$ [mm]	Total movement Δb_f [mm]	Visible width b_s [mm]	Joint width total b_t [mm]	Joint height h [mm]	Load bearing capacity* [kN]	Load bearing capacity [kN]	Load bearing capacity [kN]	Load bearing capacity solid plastic tyres [kg/mm]
FPL 85/75 B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

Sealing against nonpressurized water.

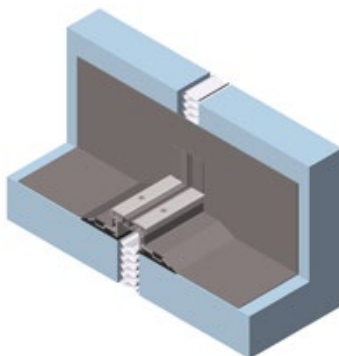


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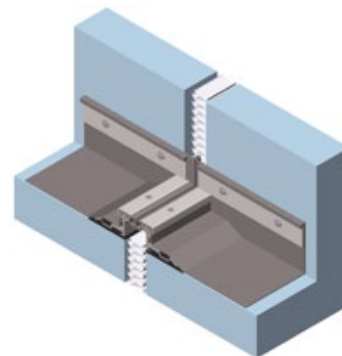
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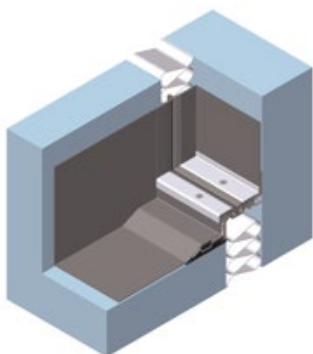
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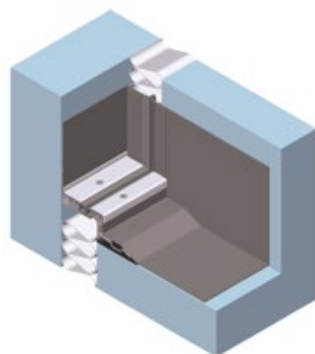
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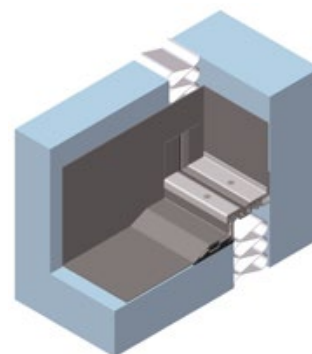
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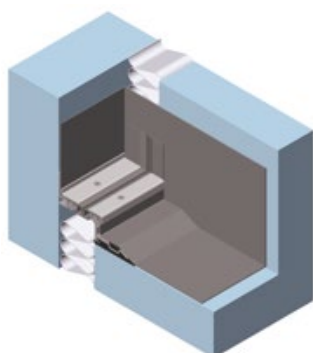
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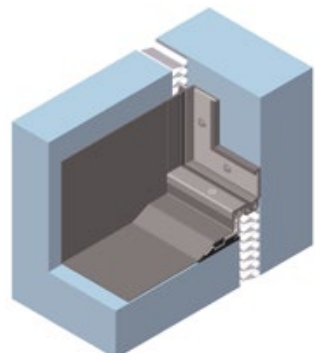
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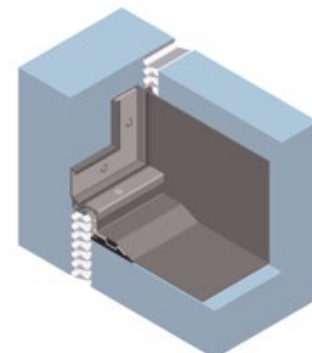
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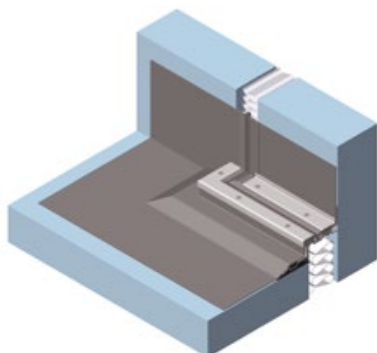
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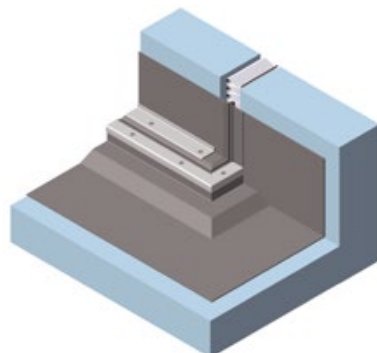
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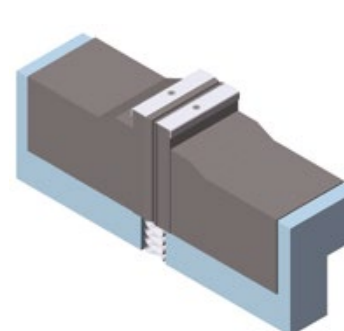
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F left

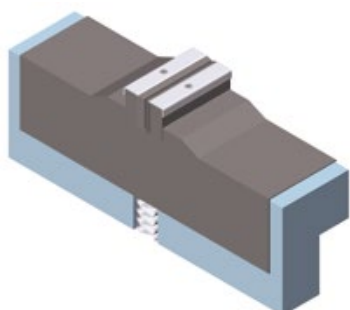


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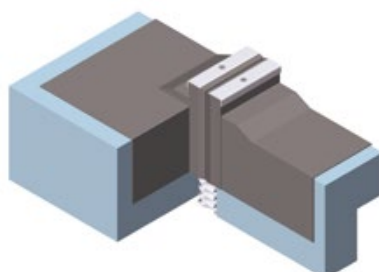


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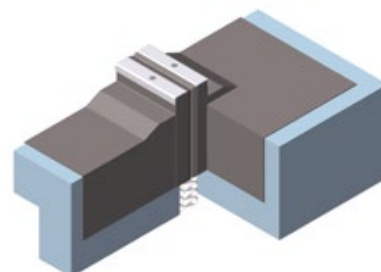
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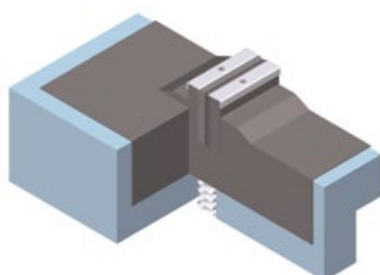
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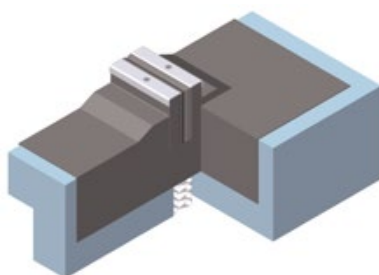
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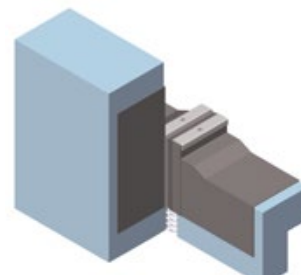
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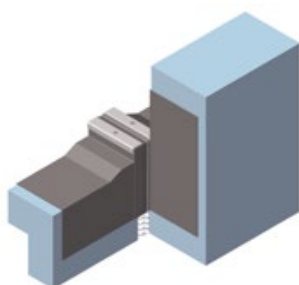
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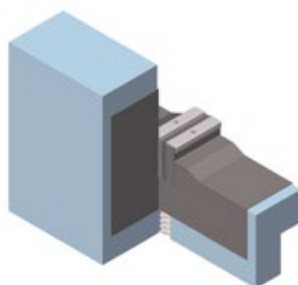
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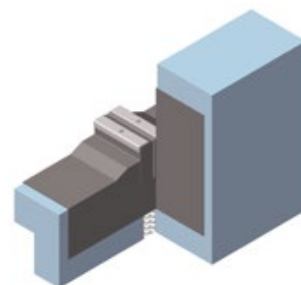
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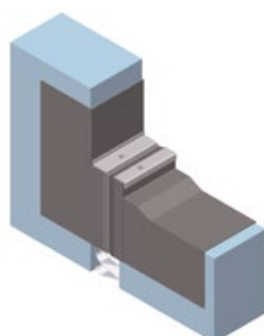
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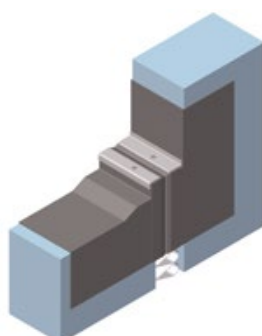
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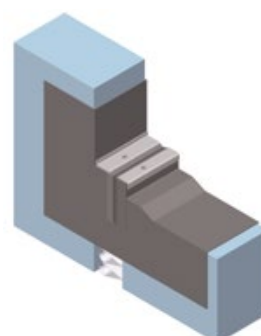
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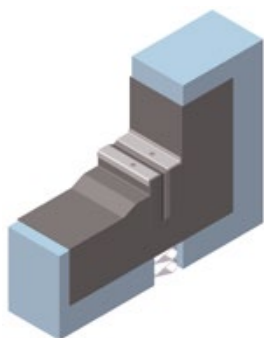


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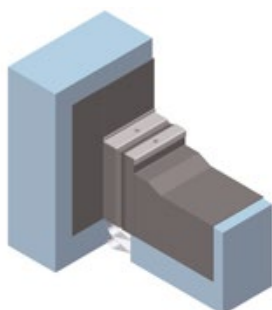


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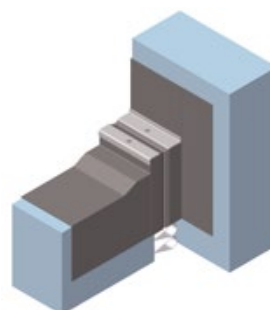
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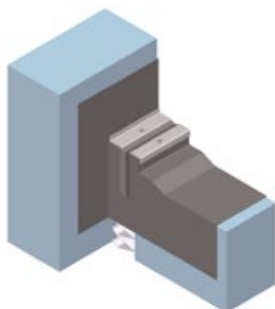
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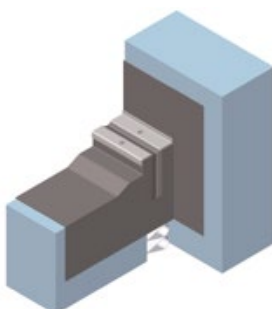
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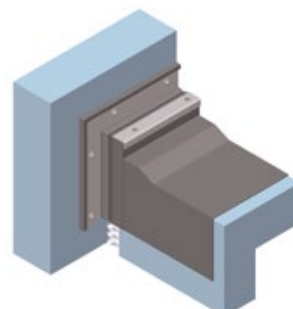
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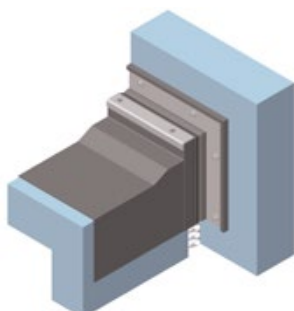
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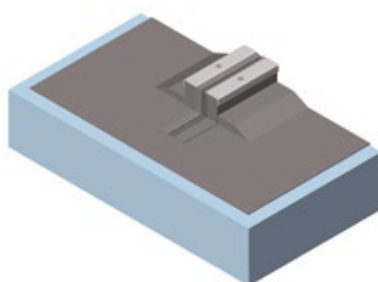
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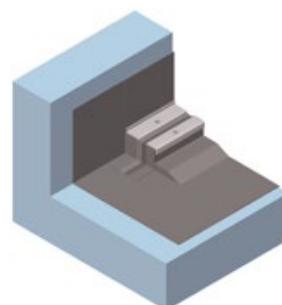
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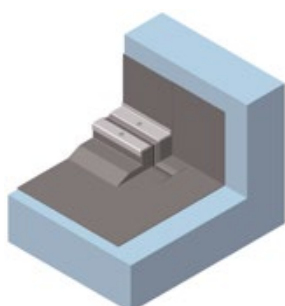
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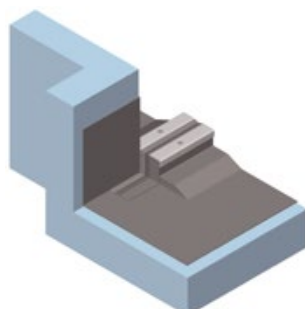
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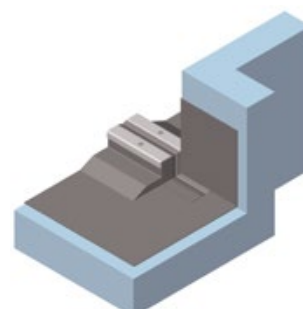
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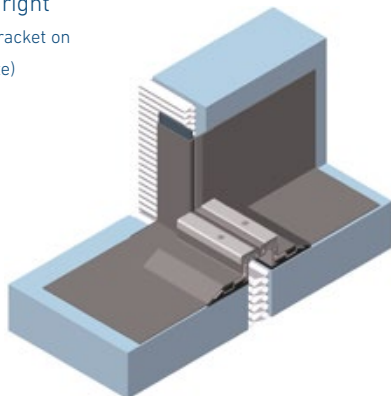


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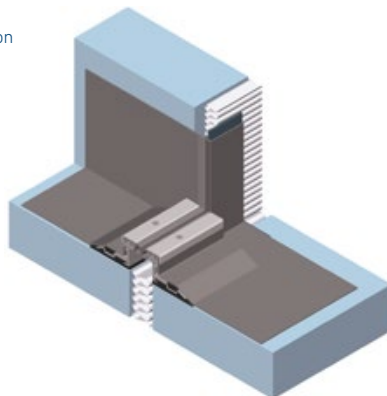


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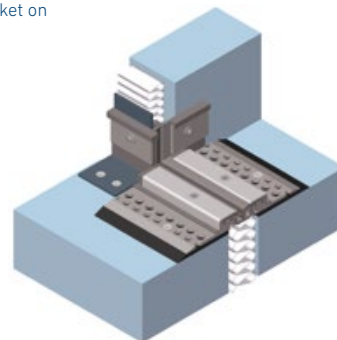
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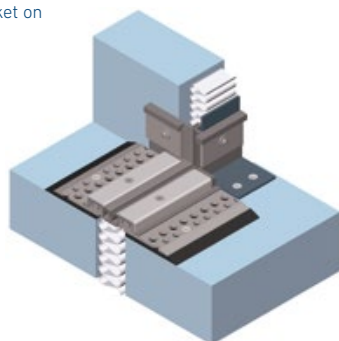
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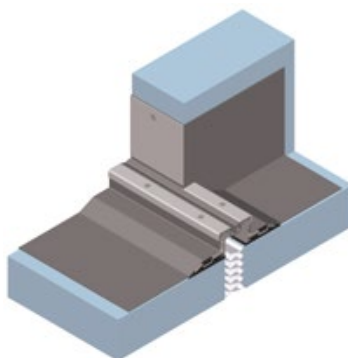
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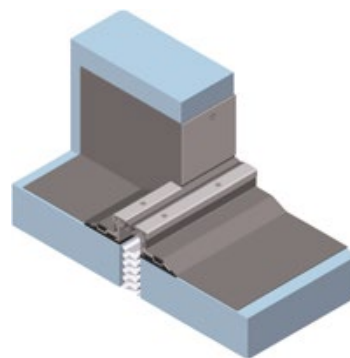
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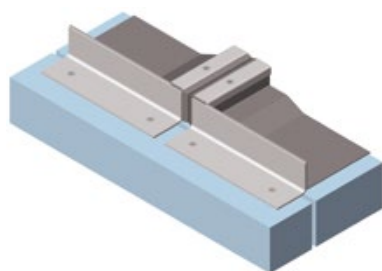
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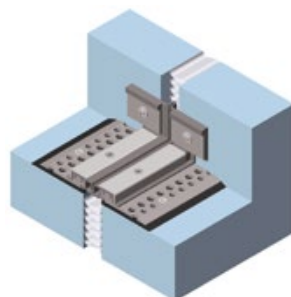
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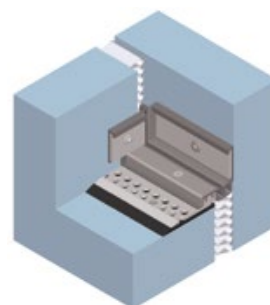
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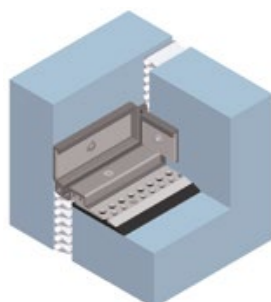
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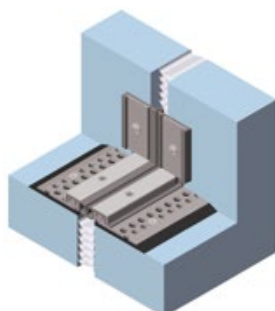
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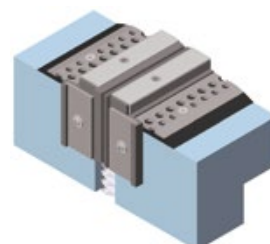
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U

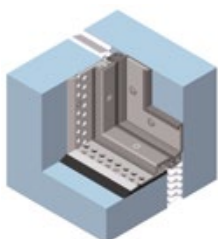


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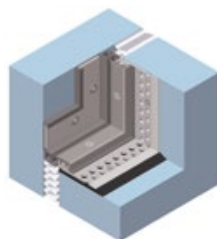


MOULDED PARTS

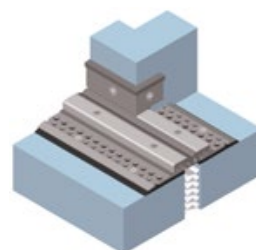
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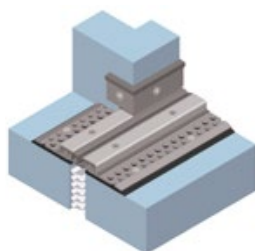
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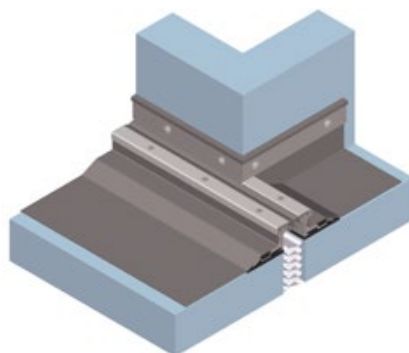
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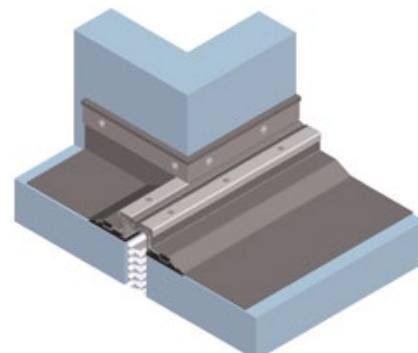
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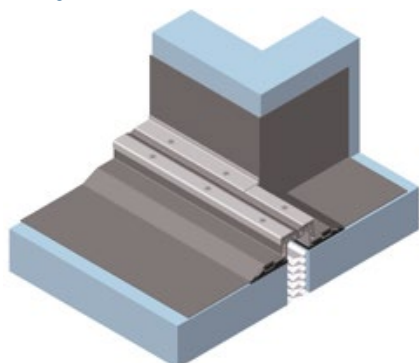
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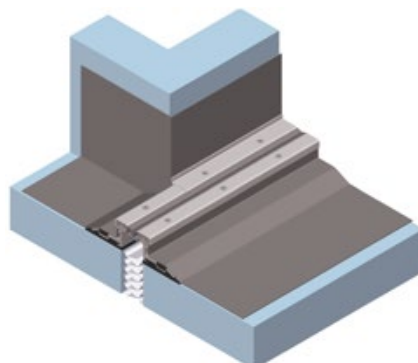
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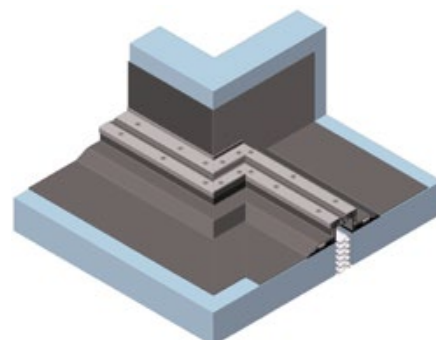
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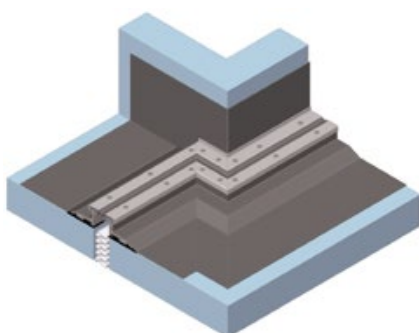
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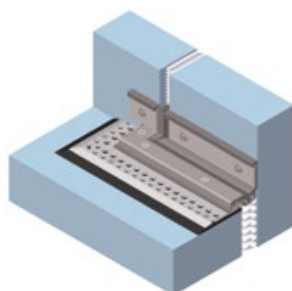
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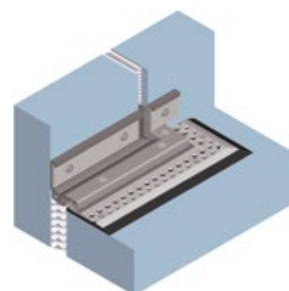
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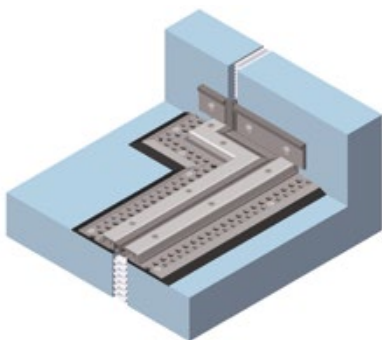


X left

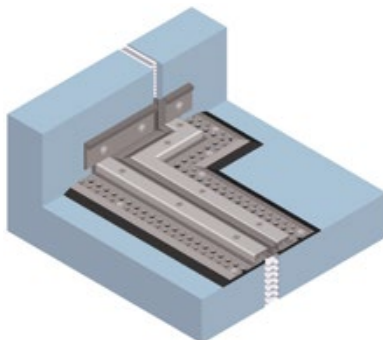


MOULDED PARTS

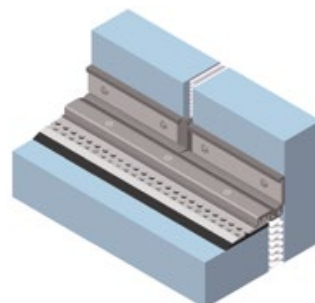
X 1 right



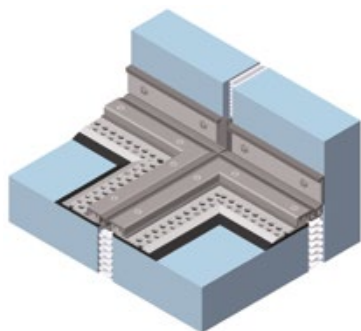
X 1 left



Y



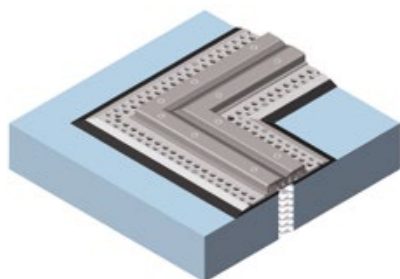
Z



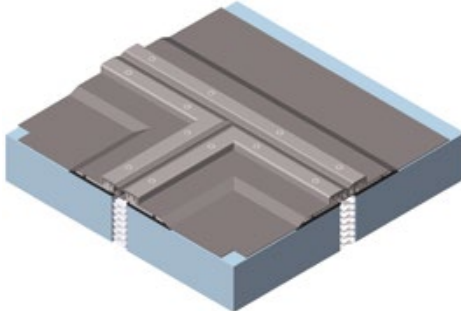
The represented intersections A–Z show a selection of the intersections that are possible. We are able to offer all kinds of intersections and connections, and even make the most complicated joint watertight.

STANDARD INTERSECTIONS

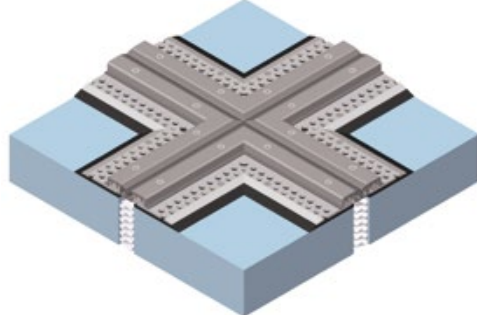
Angle, flat, short AAS sheets



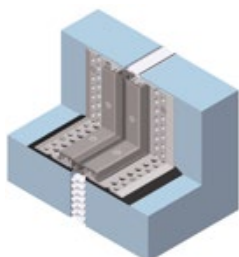
T-piece, long AAS sheets



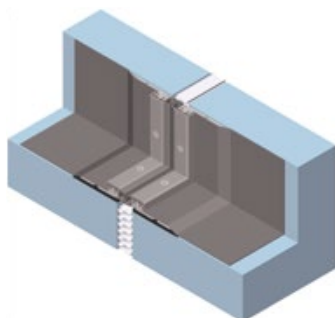
Crosspiece, short AAS sheets



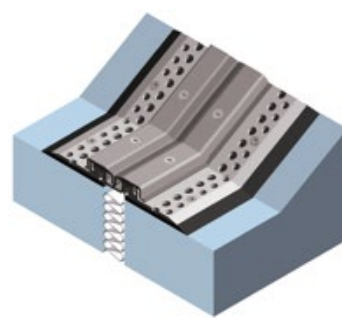
Upturn, short AAS sheets



Upturn, long AAS sheets



Slope end point

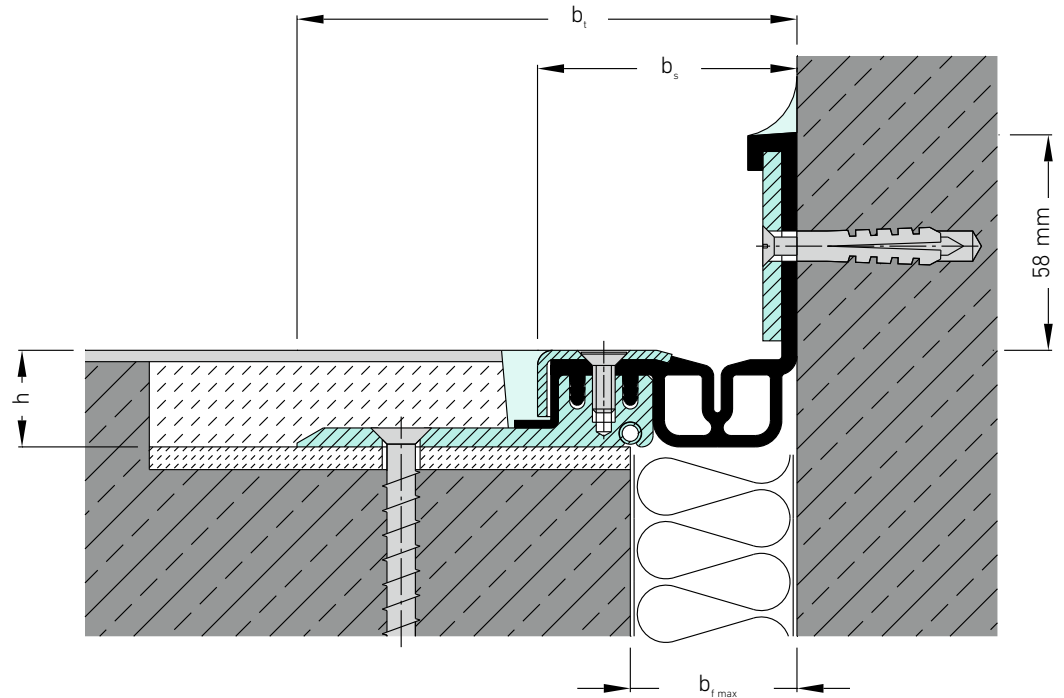


SUPPORTS WALL CONNECTIONS WITH SHORT AAS SHEETS FOR FLOORING AREAS WITH COATINGS

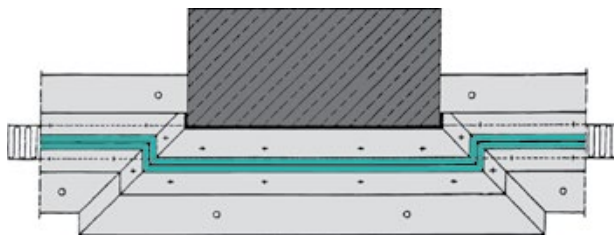
E 4 version

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

Please pay special attention when using versions E 2 and E 3:

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.

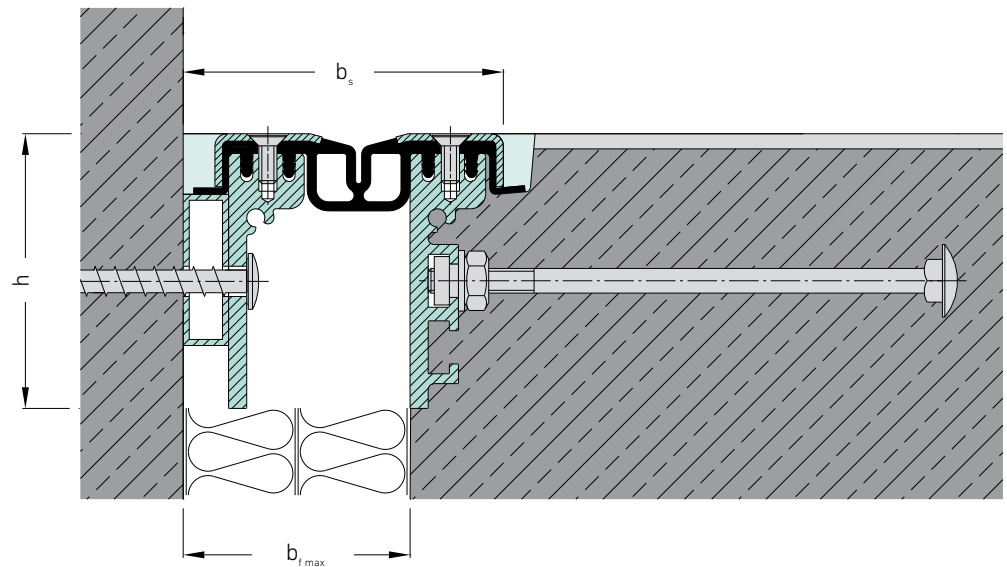
Version	E 2		E 3		E 4		E 5	
Expansion joint cover	b _s	b _l	b _s	b _l	b _s	b _l	b _s	b _l
FP(G) 80 NI	96	159	93	156	56	119	55	118
FP(G) 90 NI	109	172	106	169	69	132	68	131
FP(G) 110 NI	125	188	122	185	85	148	84	147
FP 130 NI	149	212	146	209	107	170	106	169
FP 155 NI	169	232	166	229	129	192	128	191
FP(G)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

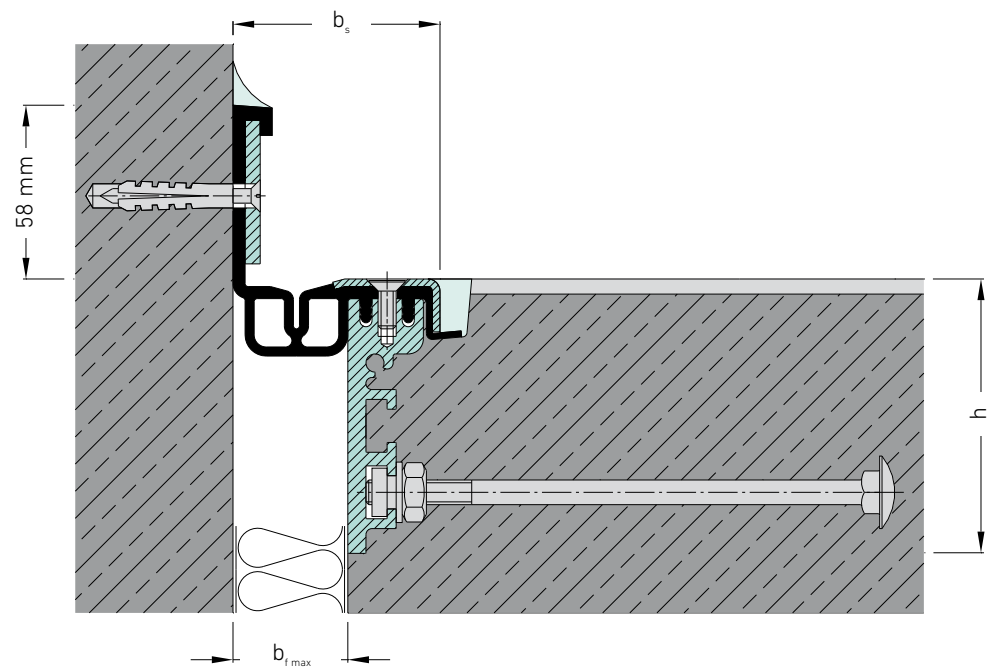
E 3 and E 4 versions

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**



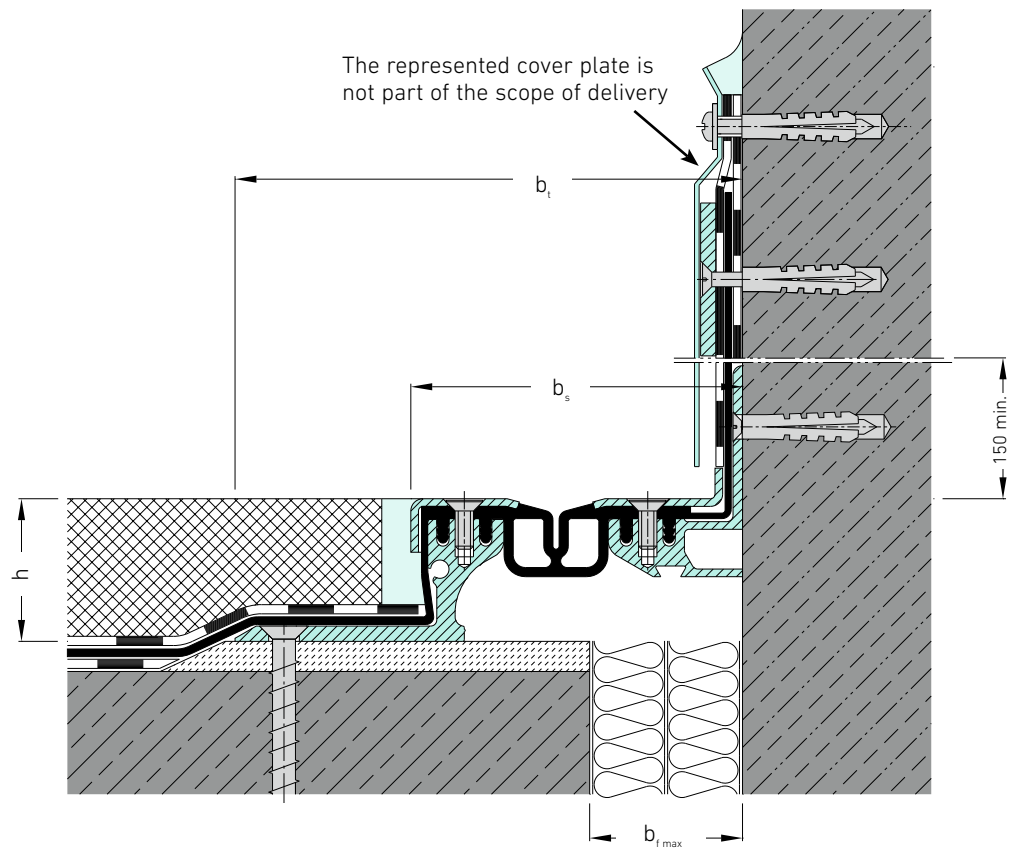
FP 90/90 B NI **E 4**

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

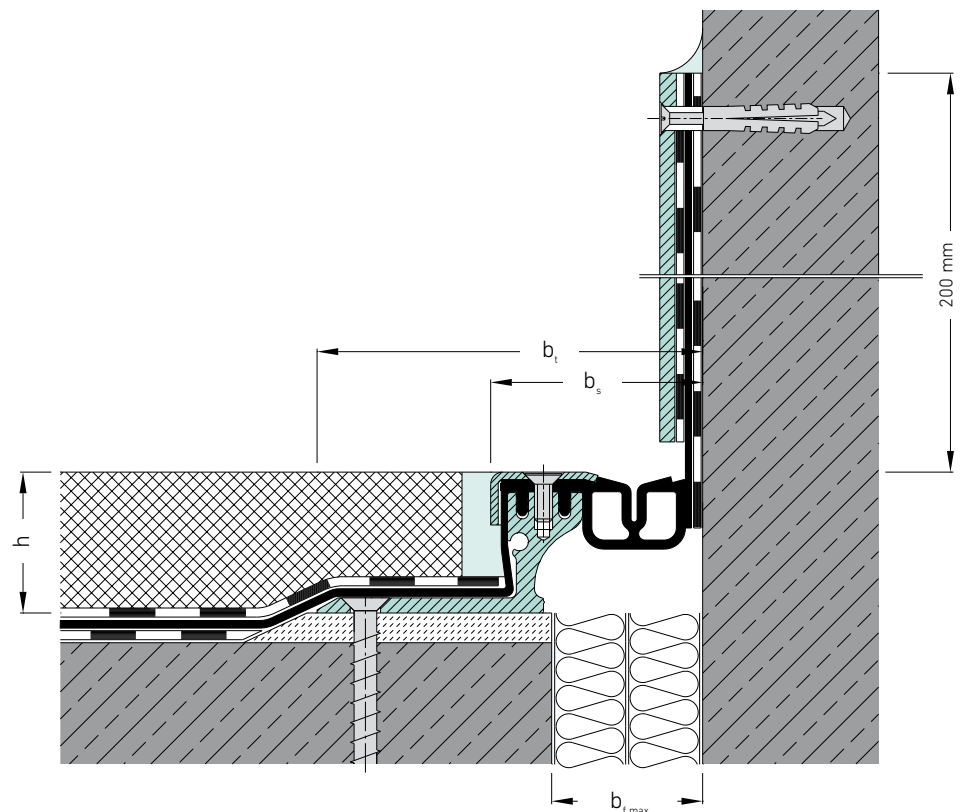


FP 90/45 NI **E 2**

E 5 version

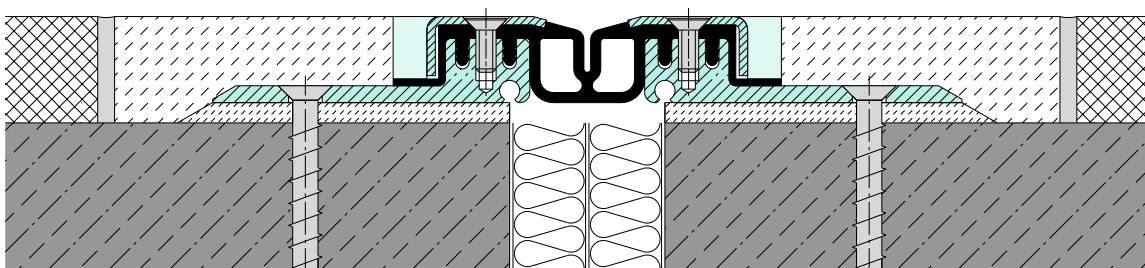
for support connections
in conjunction with the expansion
joint covers:

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

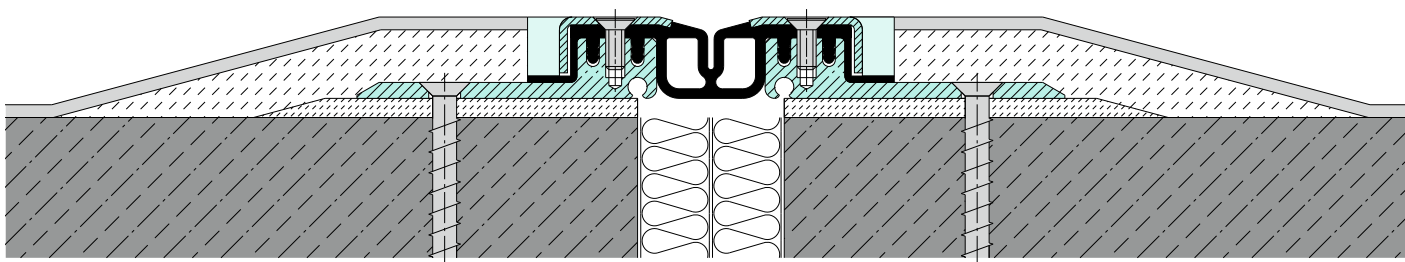


FP 90/45 NI **E 5**

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

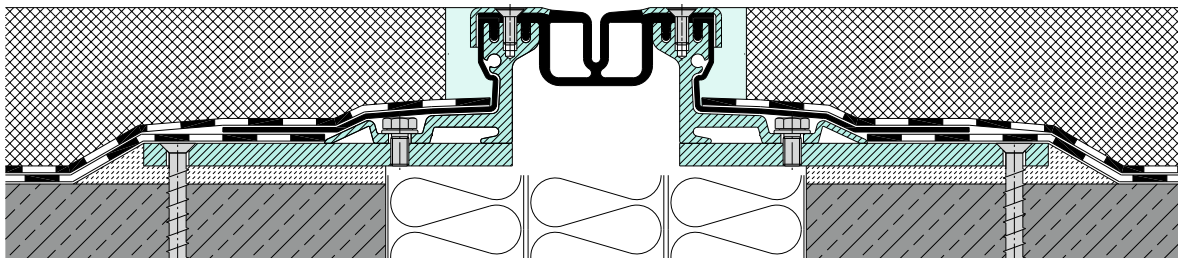


FP 90/25 NI installation suggestion: MIGUTAN joint construction with short AAS sheets in conjunction with hard-aggregate floor screed or asphalt without area seal

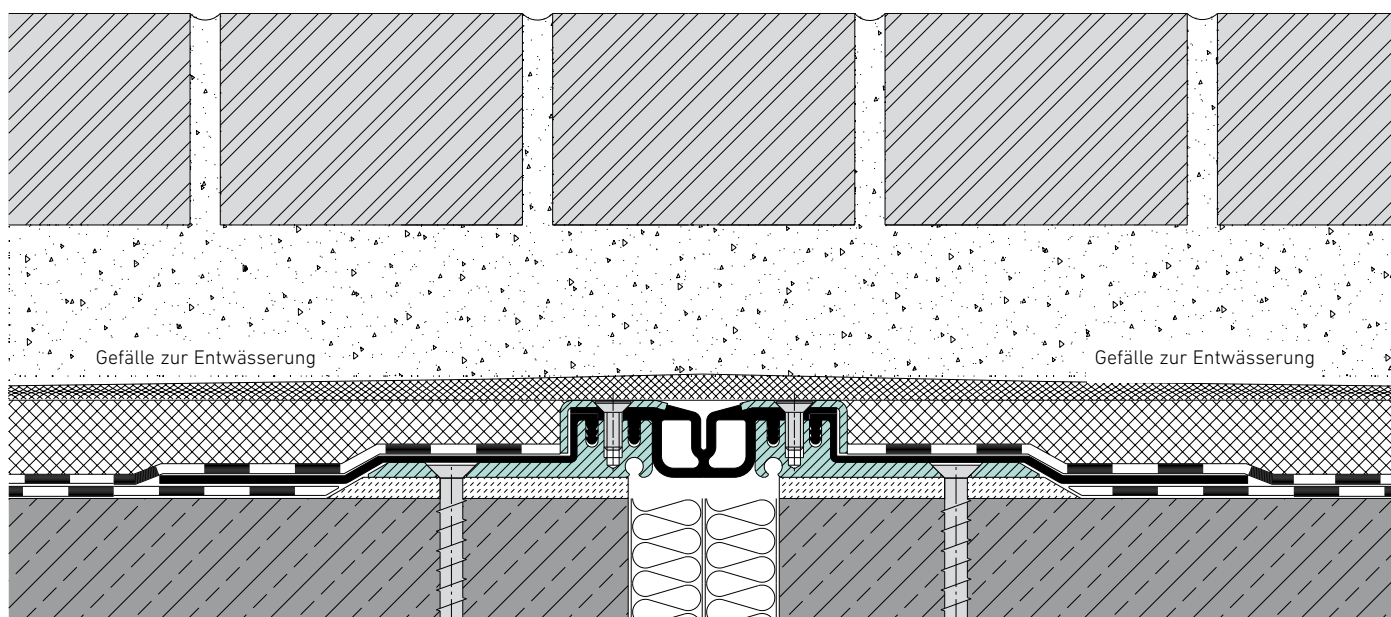
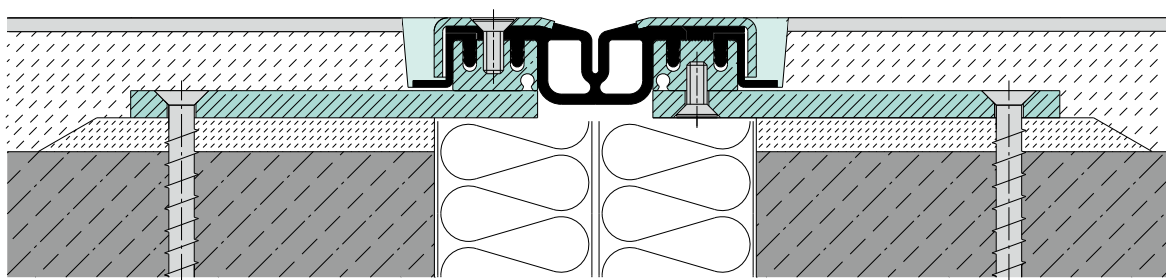


FP 90/25 NI installation suggestion: MIGUTAN joint construction with short AAS sheet laid on raw concrete floor

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

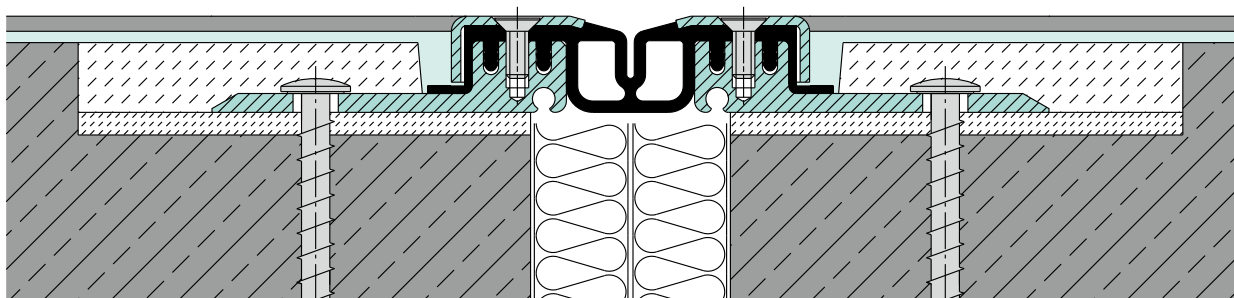


Installation suggestion: MIGUTAN joint construction with long AAS sheets and factory applied cover plates for extremely wide construction joints



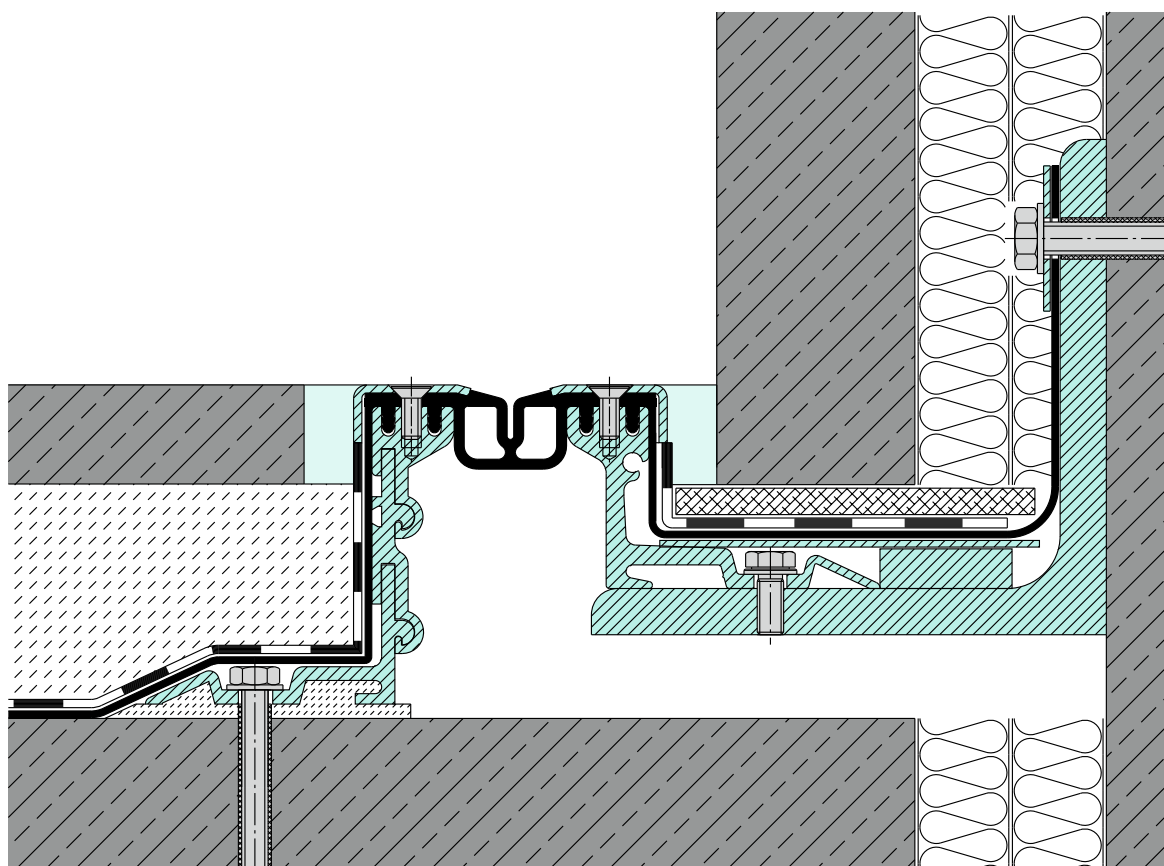
Installation suggestion: MIGUTAN joint construction with long AAS sheets used with over-construction

JOINT CONSTRUCTIONS APPLICATION EXAMPLES



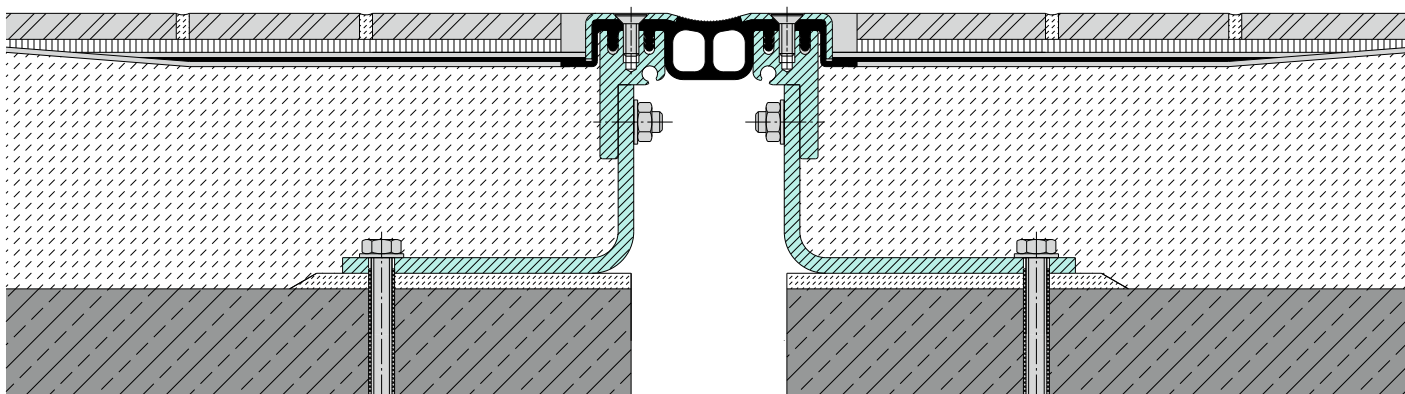
FP 90/25 Ni k.F.

Connection joint with elastic coating material

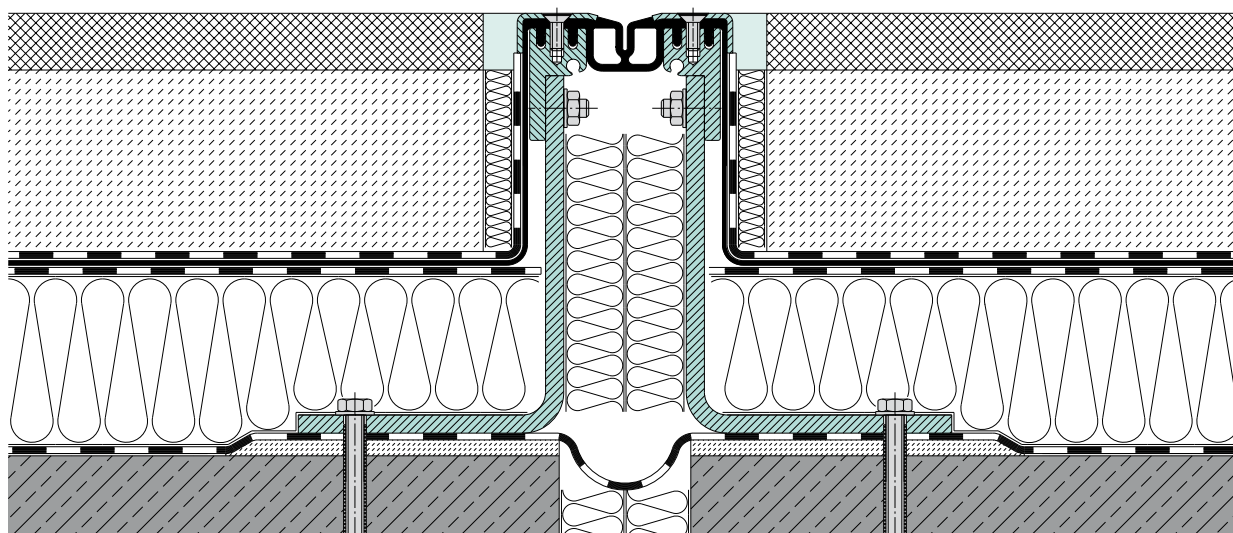


Installation suggestion: MIGUTAN joint construction with long AAS sheets as wall connection in special version

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

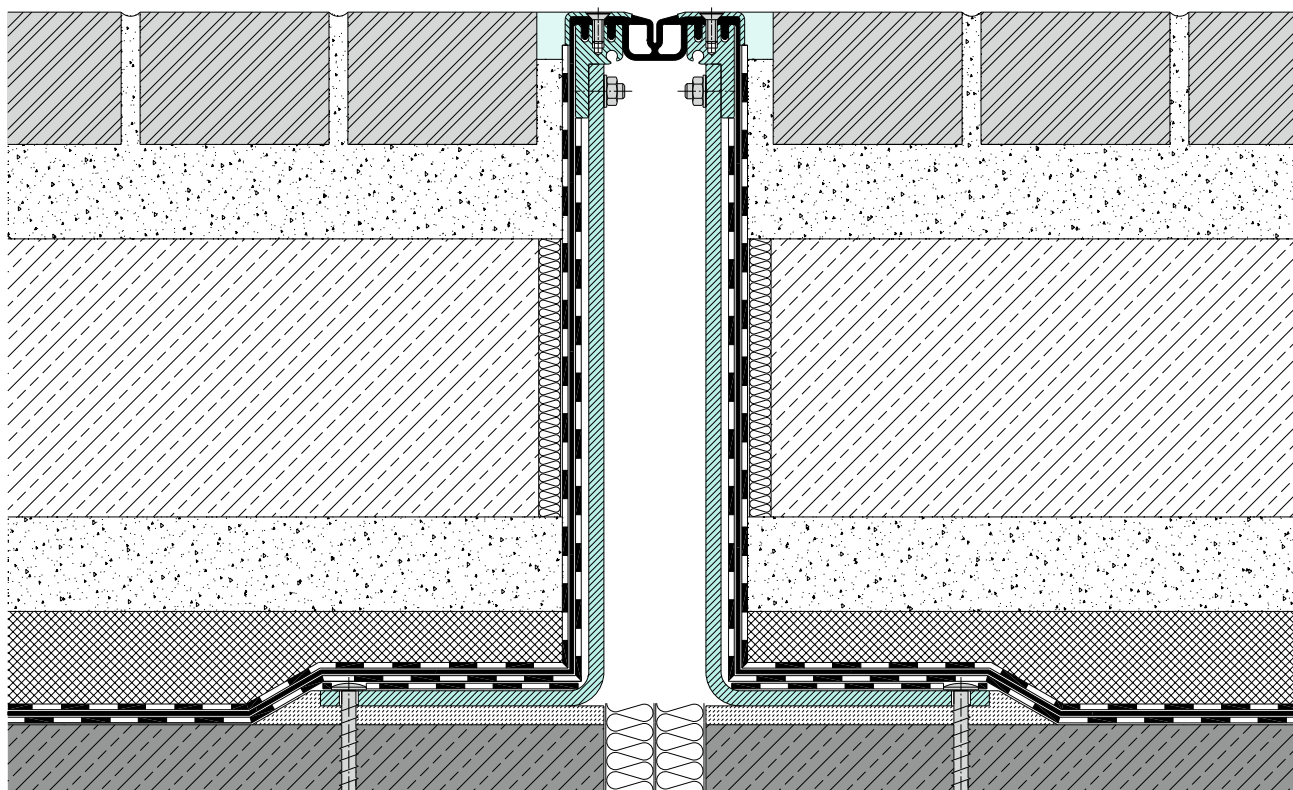


Installation suggestion: MIGUTAN joint construction in conjunction with alternative seal expansion joint cover FPG 90/100 NI XA with MIGUTRIX sheet (installation on concrete floor)

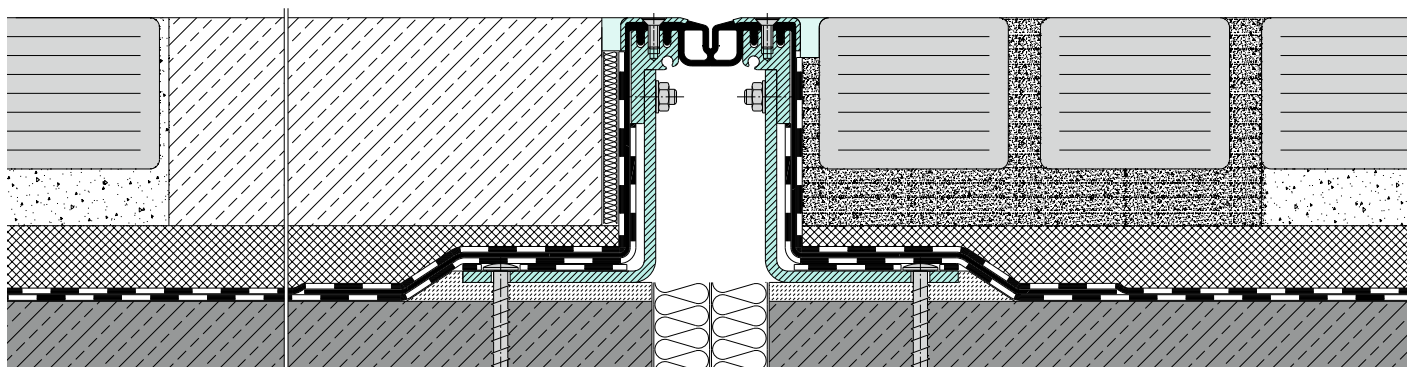


Installation suggestion: MIGUTAN joint construction in conjunction with long AAS sheets in conjunction with insulated structures

JOINT CONSTRUCTIONS APPLICATION EXAMPLES

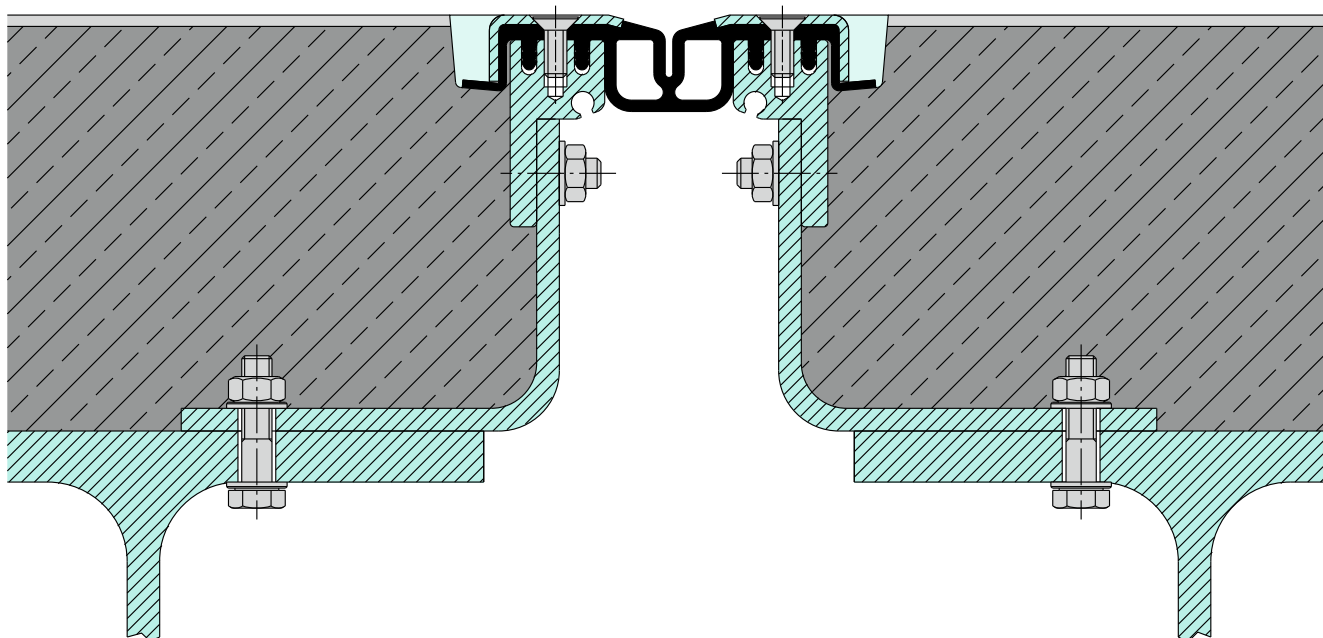


Installation suggestion: MIGUTAN joint construction with long AAS sheets for extremely large construction heights with pressure distribution plate

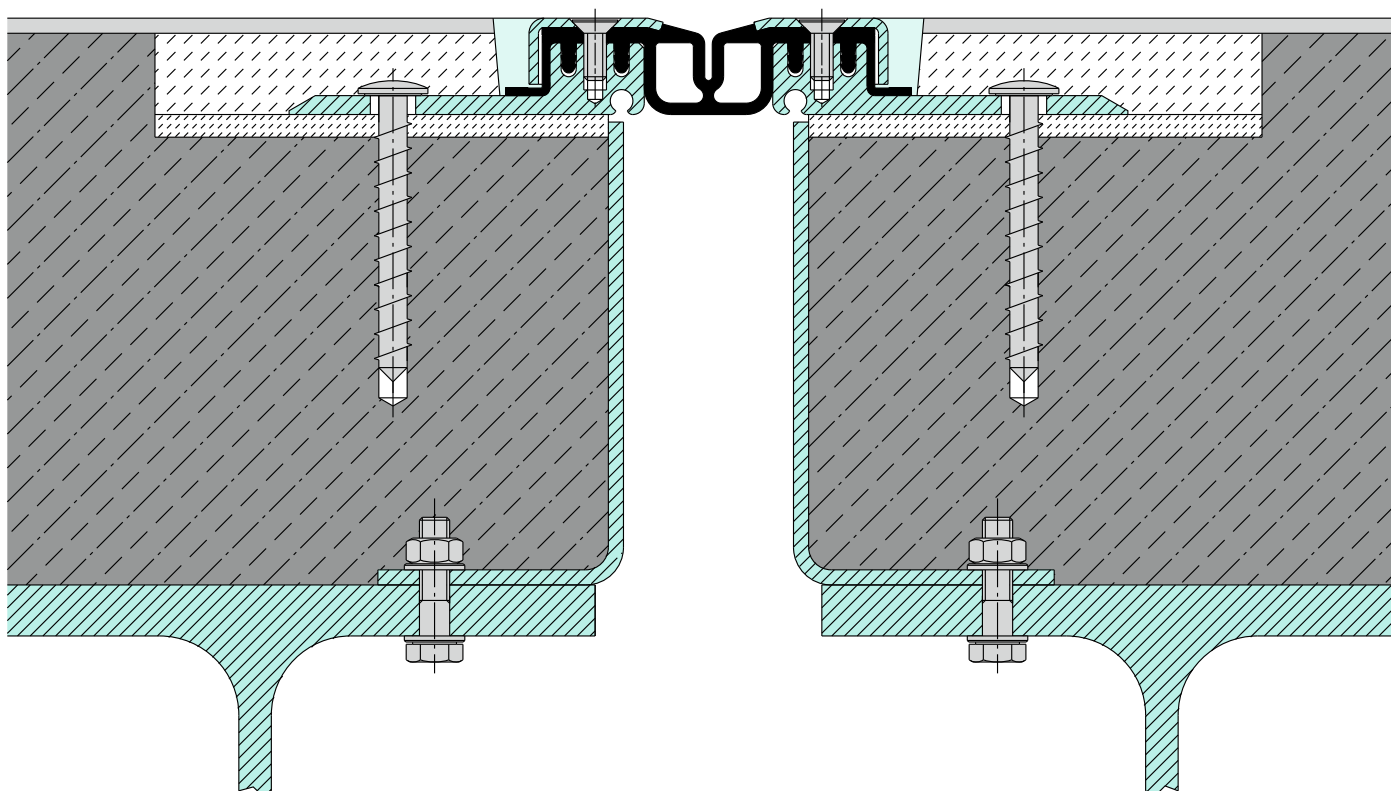


Installation suggestion: MIGUTAN joint construction with long AAS sheets for large construction heights

JOINT CONSTRUCTIONS APPLICATION EXAMPLES



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

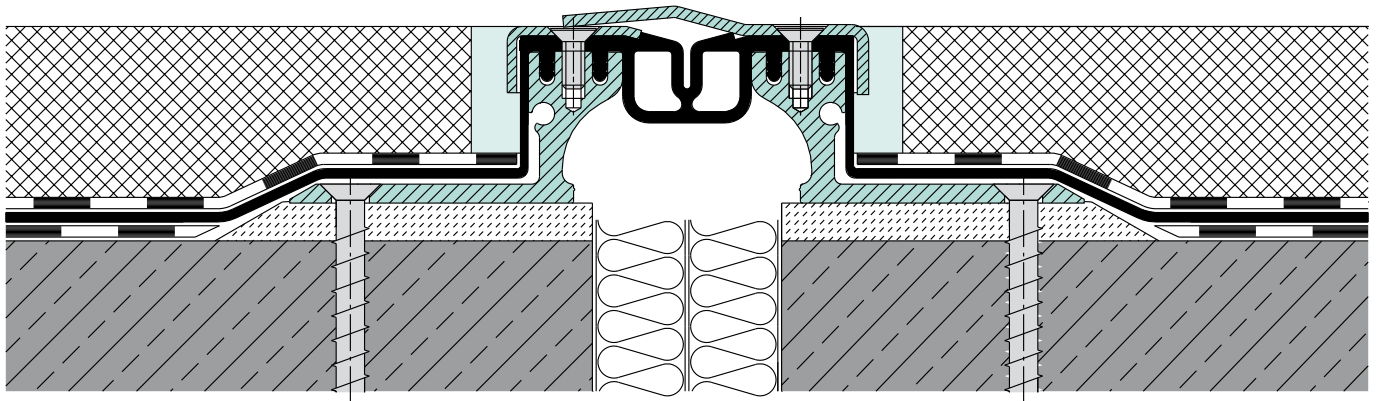


JOINT CONSTRUCTIONS

APPLICATION EXAMPLES WITH COVER PLATE

All of the following installation suggestions shown must be checked and determined individually for each instance in accordance with the relevant construction requirements. The representation of the functional layers has been ignored, they are to be completed according to the rules of technology.

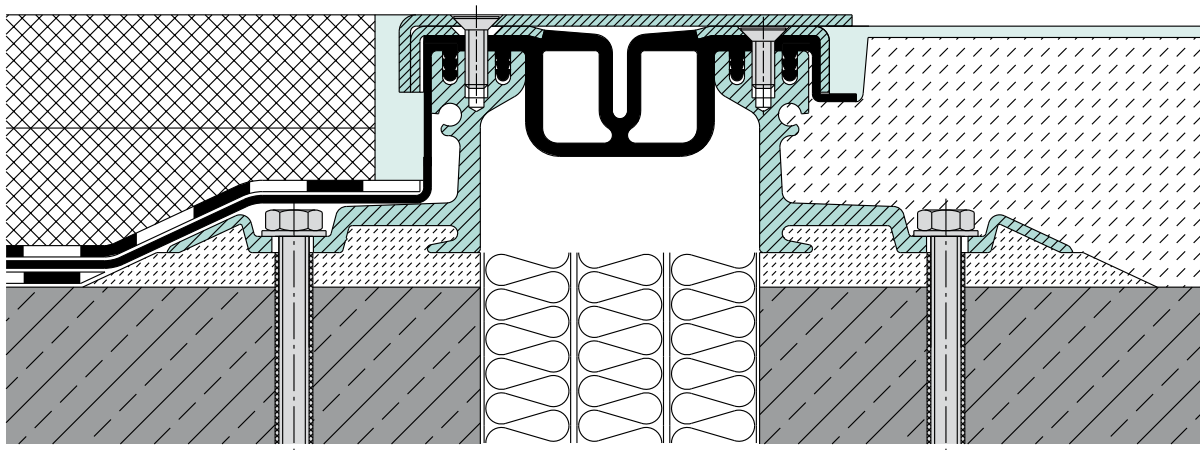
All of the coatings shown below are the surface protection systems OS 11 or OS 13 in accordance with the guidelines on the protection and maintenance of concrete construction elements dated 1990 in the version dated 2001. When using the previous OS 3 system (simple sealing) prior coordination with our application technology department is required.



FP 110/60 NI APG 110/3

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.

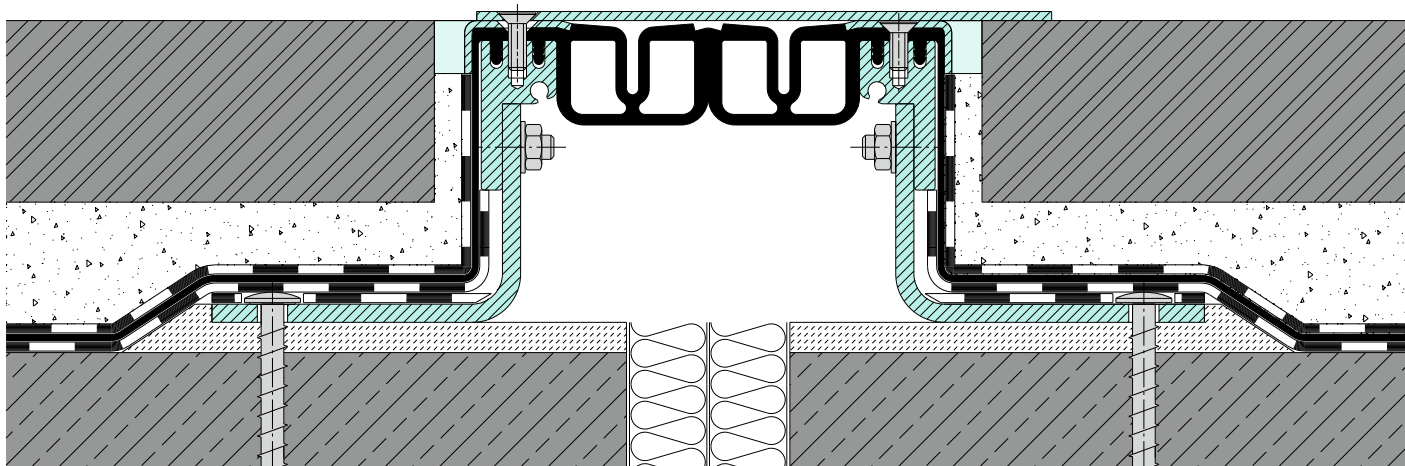
JOINT CONSTRUCTIONS APPLICATION EXAMPLES



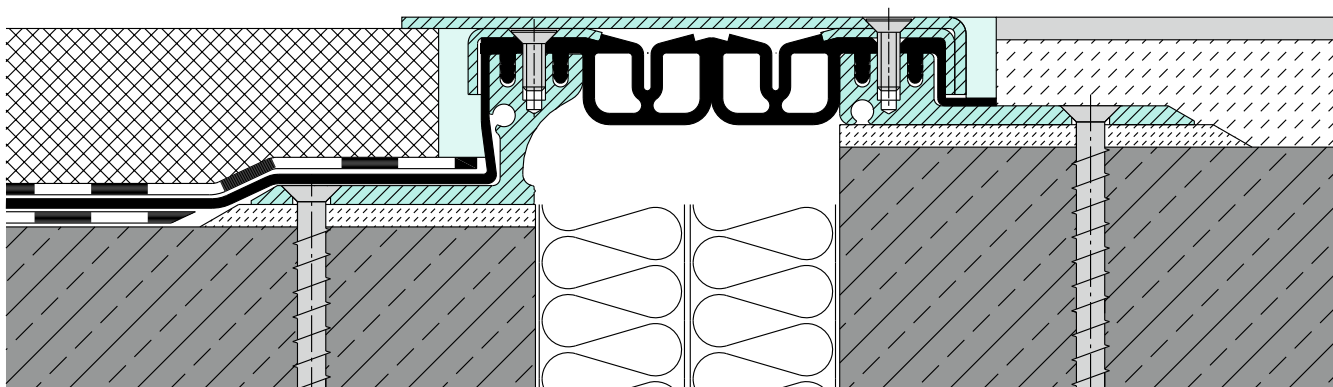
FP 110/60 NI APG 110/3

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

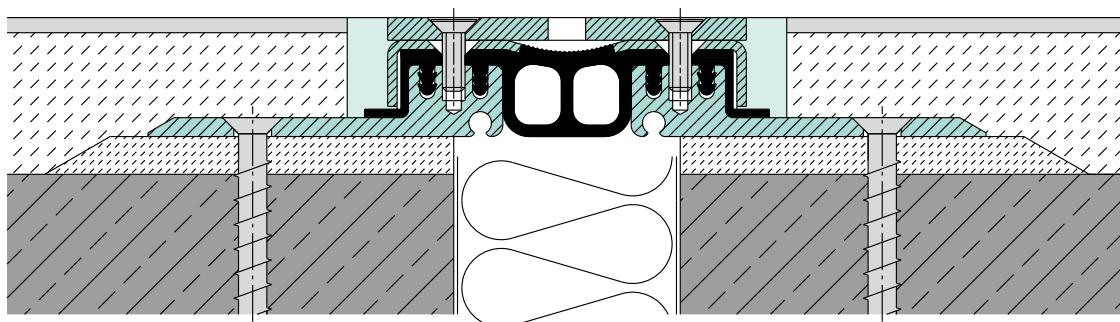


Installation suggestion: Expansion joint FP 160/100 NI with APG cover plate for wide joints and larger movement accommodations (105 mm + 65 mm/– 40 mm)

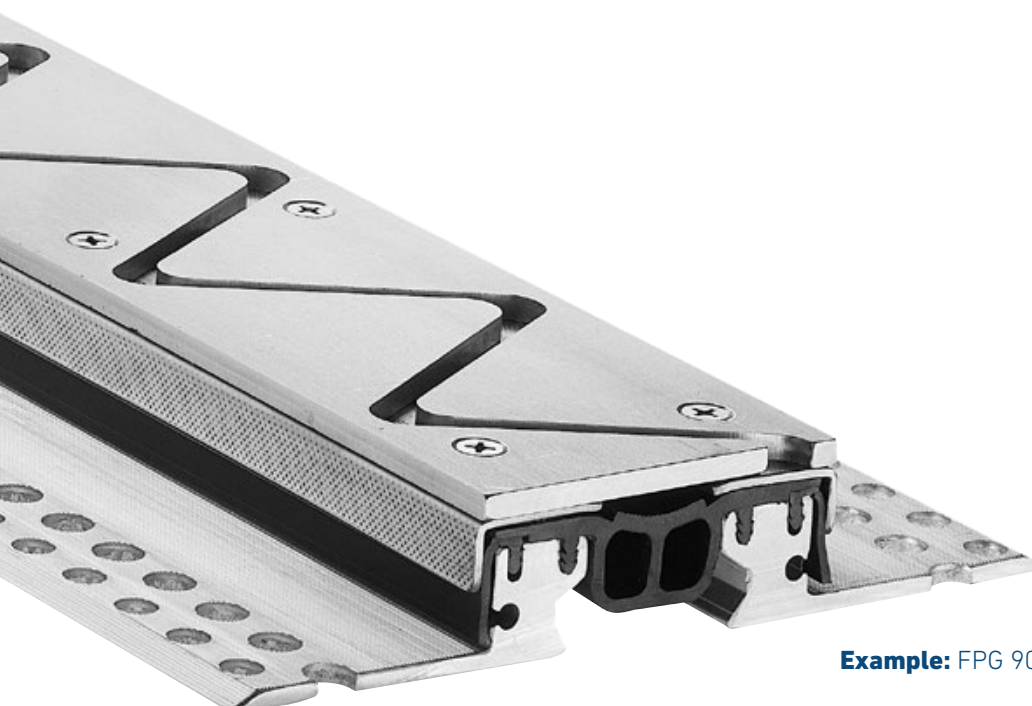


Installation suggestion: Expansion joint combinations FP .../25 NI (short AAS foils) with FP .../45 NI (long AAS foils) with APG cover plate for wide joints

JOINT CONSTRUCTIONS APPLICATION EXAMPLES



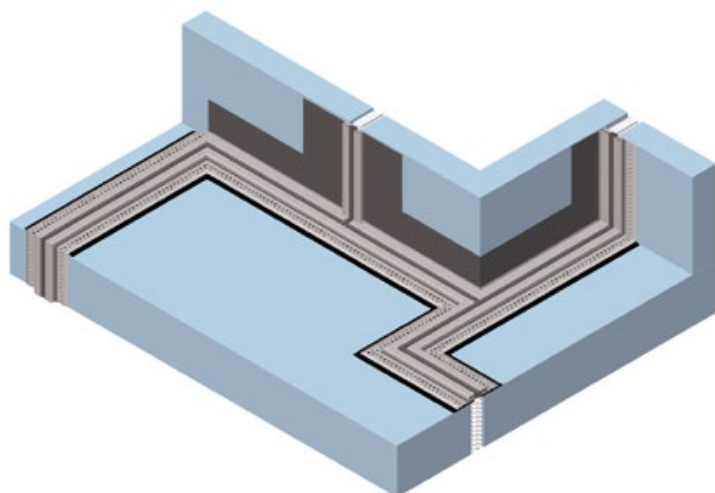
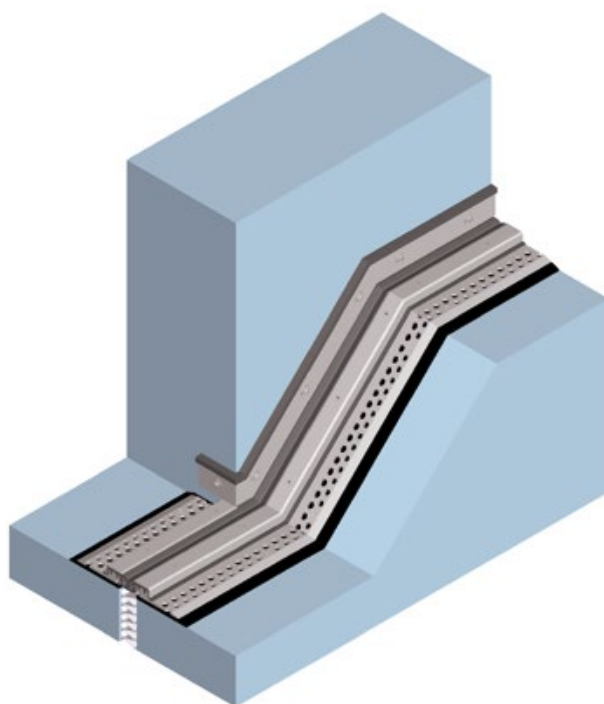
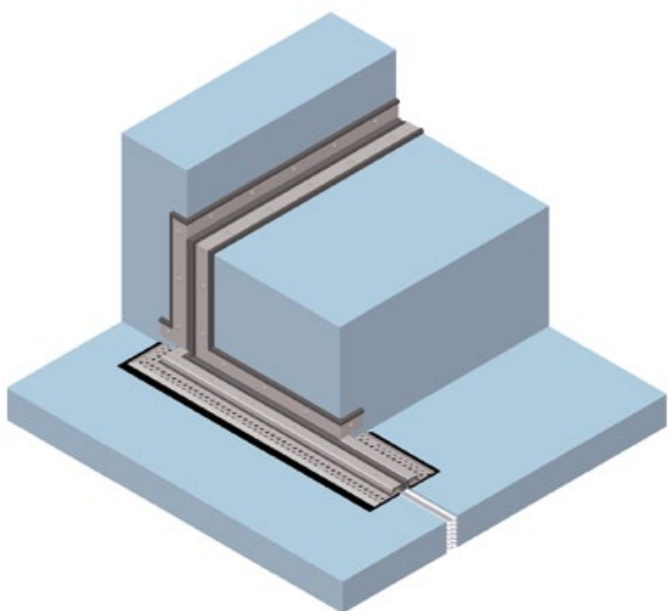
Example: FPG 90/25 Ni with toothed APS cover plate APS



Example: FPG 90/35 Ni with APS cover plate

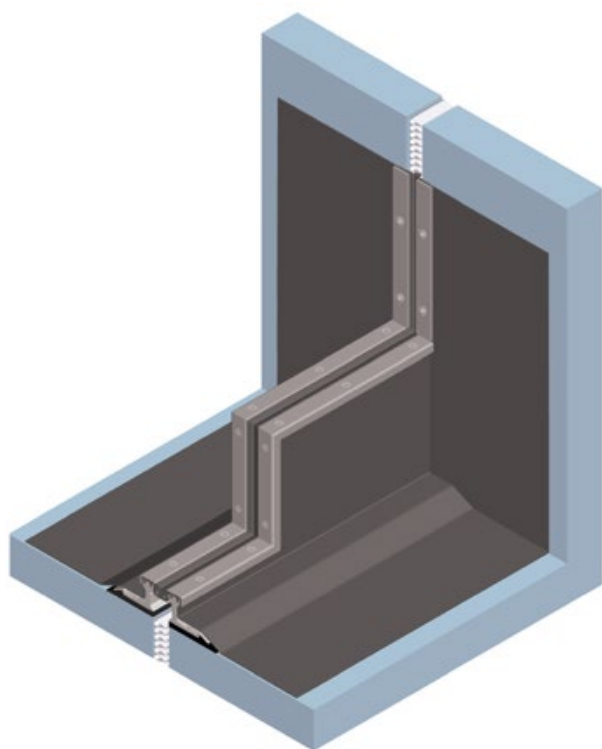
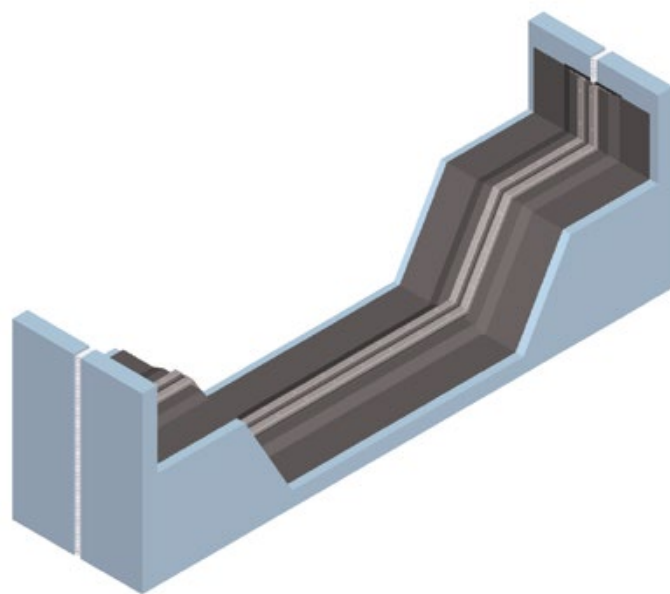
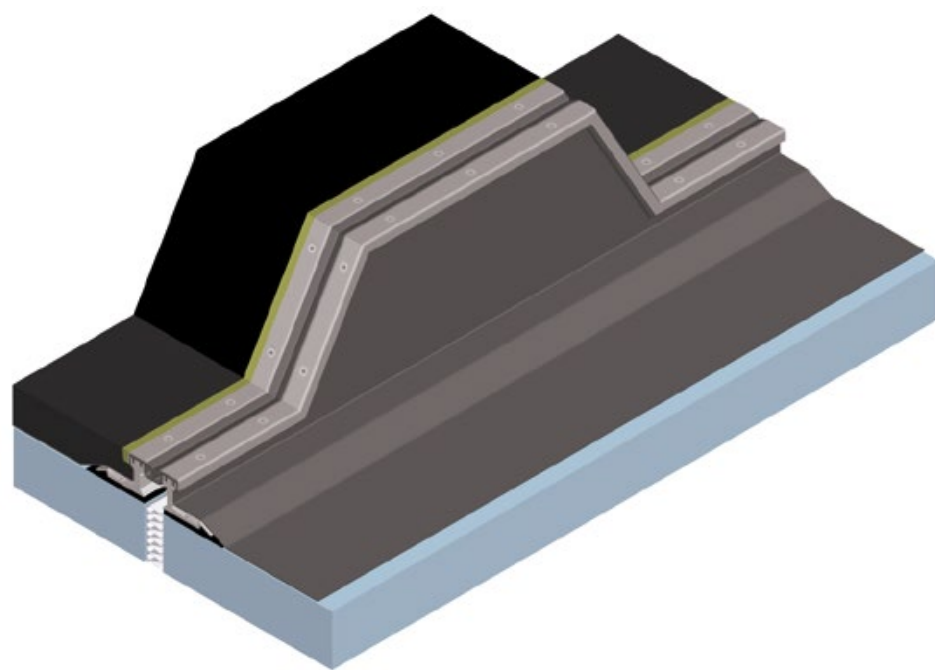
SYSTEM FP 90

EXAMPLES



SYSTEM FP 90

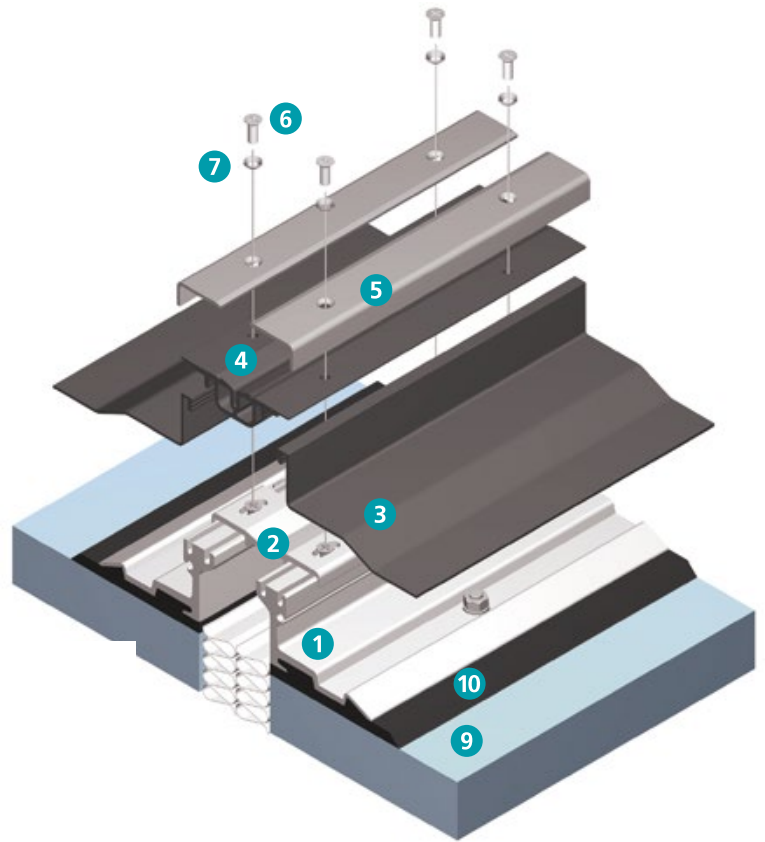
EXAMPLES



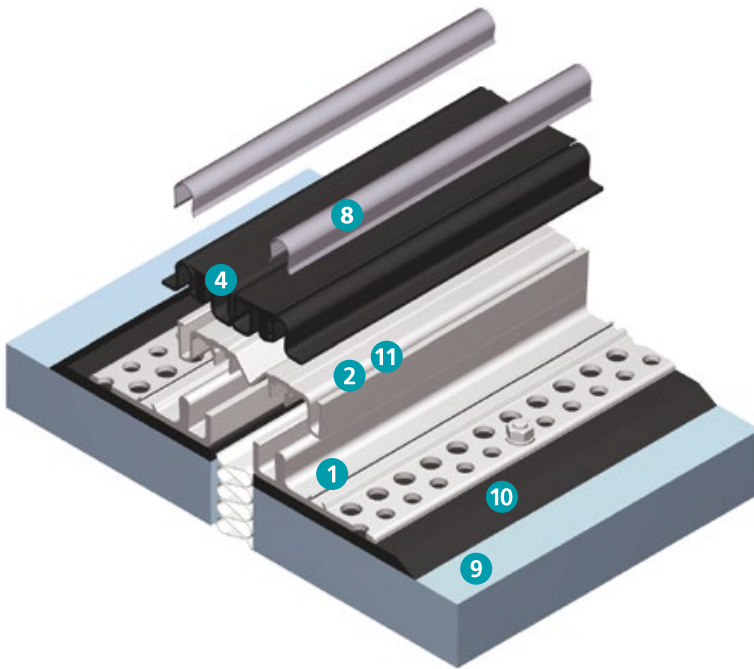
SYSTEM STRUCTURE

MIGUTAN expansion joint covers

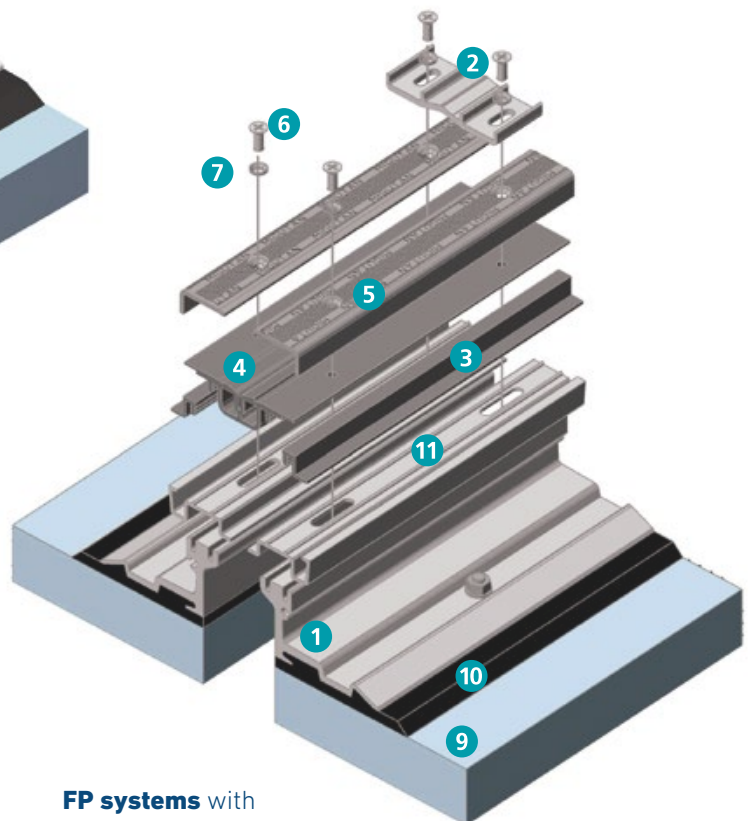
- 1 = Aluminium sub-structure
- 2 = Installation spacer
- 3 = MIGUFLEX-AAS sheet
- 4 = MIGUFLEX seal insert
- 5 = Stainless steel cover caps
- 6 = Stainless steel cross-headed screws
- 7 = Nylon seal
- 8 = Strip
- 9 = Load-bearing surface
- 10 = Pressure-bearing and shrinkage-free cement (e.g. epoxy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



FP systems with long AAS foils



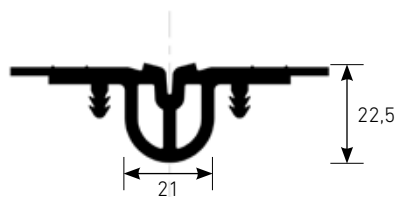
FPL systems



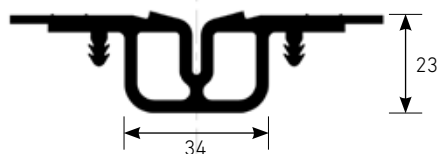
FP systems with short AAS foils

SEAL INSERTS

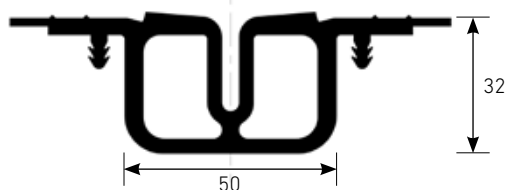
FP/FPG



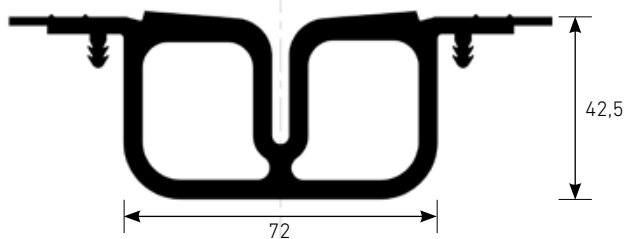
Seal insert **FP 80**



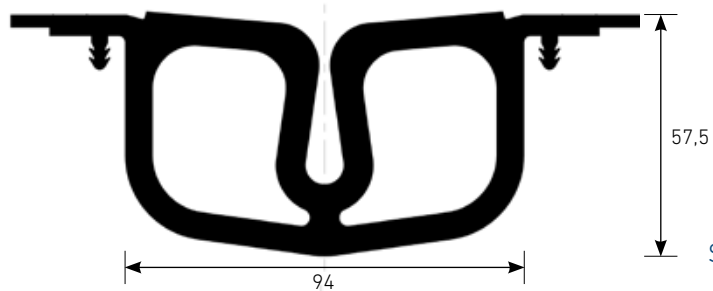
Seal insert **FP 90**



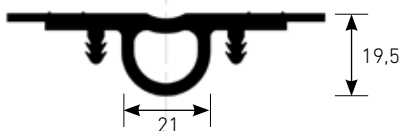
Seal insert **FP 110**



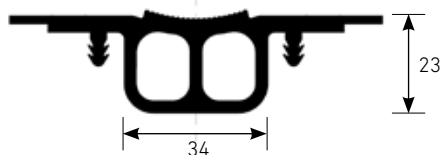
Seal insert **FP 130**



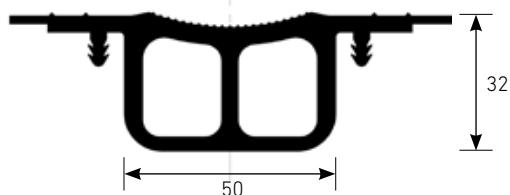
Seal insert **FP 155**



Seal insert **FPG 80**

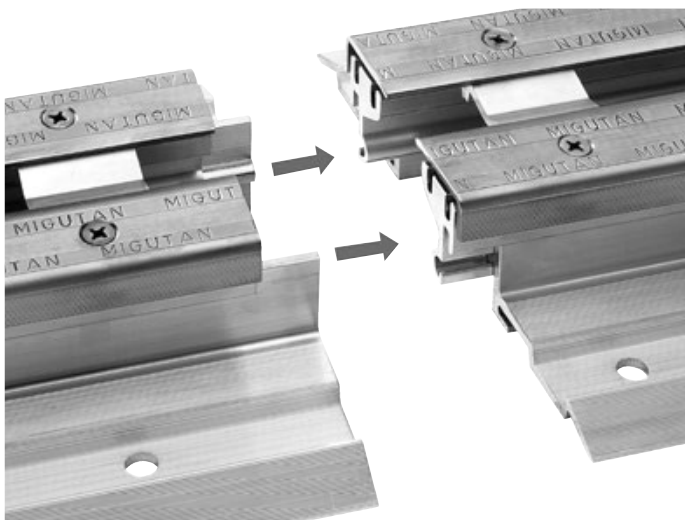


Seal insert **FPG 90**



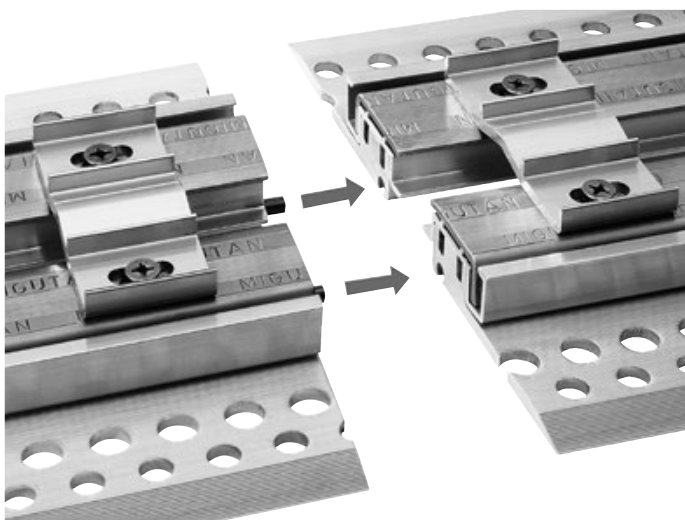
Seal insert **FPG 110**

JOINT CONNECTIONS

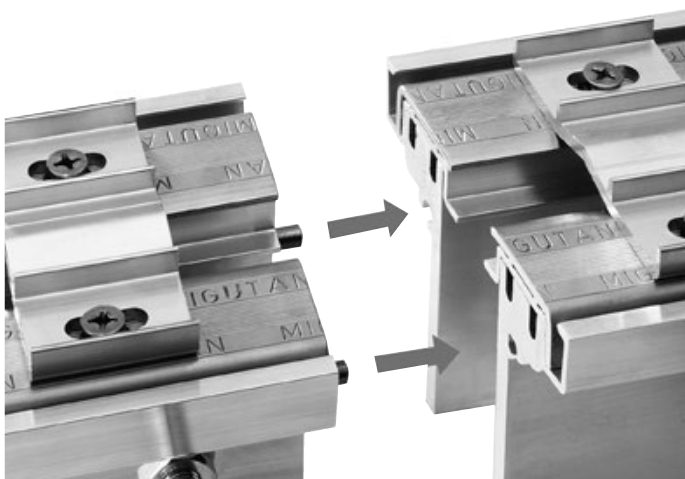


The plugged connections enable convenient equal height transitions.

Example **FP 90/80 NI**



Example **FP 90/25 NI**



Example **FP 90/90 B NI**

PRACTICAL APPLICATIONS



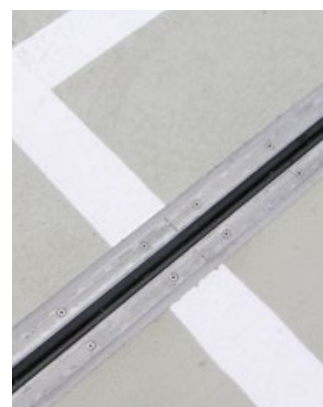
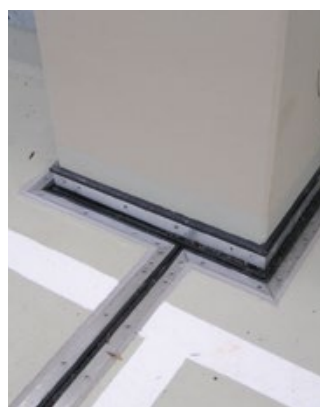
Nuremberg airport – FP 90; FP 115



Cologne/Bonn airport – FP 90



Parking deck of shopping centre Dresden, Löbtau





Parking deck Berlin, Beusselstrasse



Eilenburg bridge renovation



Parking deck Annaberg – FP 90



Airport Berlin – FP 90 BNI



Parking deck Weiterstadt –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.

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