WATERTIGHT EXPANSION JOINT SYSTEMS

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

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Meaning</th>
<th>Pedestrians</th>
<th>Private cars</th>
<th>Lorries DIN 1072</th>
<th>Forklift trucks DIN 1055</th>
<th>Hard castors</th>
</tr>
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</table>

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.
WATERTIGHT EXPANSION JOINT SOLUTIONS

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 serve 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 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 an 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.

5
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 steel 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.

<table>
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<tr>
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<tbody>
<tr>
<td>FP 80 Ni ls</td>
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<td>FP 90 Ni ls</td>
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<tr>
<td>FPSG 68 ES</td>
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<tr>
<td>FP(G) ... /... Ni XA</td>
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EXPANSION JOINTS IN ALPHABETICAL ORDER

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FP 80 NI ls
FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS)

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

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

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

Long AAS sheets on both sides with striations
Best possible connection with the sealing layer

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

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.

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. (mm)</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity solid plastic tyres [kg/mm]</th>
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<tr>
<td>FP 80/25 NI ls</td>
<td>45</td>
<td>20 (±10)</td>
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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 ensure 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

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.

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<th>Visible width (b_s) (mm)</th>
<th>Joint width total (b_t) (mm)</th>
<th>Joint height (h) (mm)</th>
<th>Load bearing capacity solid plastic tyres (kN/\text{mm}^2)</th>
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<tr>
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Fire tested Bfl-s1 (flame retardant) acc. to DIN EN 13501-1
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
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<th>Joint width total $b_t$ [mm]</th>
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* 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

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Visual inspection and replacement without disrupting the surface

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100% watertight by max. pressure

3 Long AAS sheets on both sides with striations
Best possible connection with the sealing layer

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High loads without any risk of rust

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<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
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<tr>
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<td>100</td>
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<tr>
<td>FP 130/35 Ni ls</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>35</td>
<td>35</td>
<td>600</td>
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<tr>
<td>FP 130/45 Ni ls</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>249</td>
<td>46</td>
<td>35</td>
<td>90</td>
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<td>90</td>
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<tr>
<td>FP 130/60 Ni ls</td>
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<td>90 (±45)</td>
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<td>35</td>
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<td>FP 130/80 Ni ls</td>
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<td>FP 130/95 Ni ls</td>
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<td>90 (±45)</td>
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<tr>
<td>FP 130/115 Ni ls</td>
<td>100</td>
<td>90 (±45)</td>
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<td>260</td>
<td>117</td>
<td>35</td>
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* 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.
Striated stainless steel cappings ensure good skid resistance
100% watertight by max. pressure

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

Long AAS sheets on both sides with striations
Best possible connection with the sealing layer

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

<table>
<thead>
<tr>
<th>Joint width max. $b_f$ [mm]</th>
<th>Total movement $Δb_f$ [mm]</th>
<th>Visible width $b_s$ [mm]</th>
<th>Joint width total $b_f$ [mm]</th>
<th>Joint height $h$ [mm]</th>
<th>Load bearing capacity solid plastic tyres $[kN]$</th>
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<tbody>
<tr>
<td>FP 155/25 Ni ls *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
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<td>FP 155/35 Ni ls *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
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<td>FP 155/45 Ni ls *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>271</td>
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<td>FP 155/60 Ni ls *</td>
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<td>120 (±60)</td>
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<tr>
<td>FP 155/80 Ni ls *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>81</td>
</tr>
<tr>
<td>FP 155/95 Ni ls</td>
<td>120</td>
<td>120 (±60)</td>
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<td>FP 155/115 Ni ls</td>
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<td>120 (±60)</td>
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</tbody>
</table>

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

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

Long AAS sheets on both sides with striations
Best possible connection with the sealing layer

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

Sealing against nonpressurized water.
* Fire resistance test does not apply to FP 130/60 S NI ls and FP 155/60 S NI ls

**FP(G) .../60 S Ni ls**
FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS), HEAVY DUTY

**MIGUTAN**
WATERTIGHT EXPANSION JOINT SOLUTIONS

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. ( b_{f \text{ max}} ) [mm]</th>
<th>Total movement ( \Delta b_f ) [mm]</th>
<th>Visible width ( b_s ) [mm]</th>
<th>Joint width total ( b_t ) [mm]</th>
<th>Joint height ( b ) [mm]</th>
<th>Load bearing capacity ( \text{Load bearing capacity solid plastic tyres} ) [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN/\text{kg/mm}]</th>
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<tbody>
<tr>
<td>FP 80/60 S Ni ls</td>
<td>35</td>
<td>20 (±10)</td>
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<td>201</td>
<td>60</td>
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<td>600</td>
<td>130</td>
<td>6.5</td>
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<tr>
<td>FPG 80/60 S Ni ls</td>
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<td>16 (±8)</td>
<td>82</td>
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<td>60</td>
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<td>6.5</td>
</tr>
<tr>
<td>FP 90/60 S Ni ls</td>
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<td>40 (±20)</td>
<td>95</td>
<td>214</td>
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<td>20 (±10)</td>
<td>95</td>
<td>214</td>
<td>60</td>
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<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FP 110/60 S Ni ls</td>
<td>65</td>
<td>60 (±30)</td>
<td>111</td>
<td>230</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
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<td>FP 130/60 S Ni ls*</td>
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<td>FP 155/60 S Ni ls*</td>
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<td>155</td>
<td>274</td>
<td>60</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

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

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Sealed against nonpressurized water.

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

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

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.

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. b f max [mm]</th>
<th>Total movement Δbf [mm]</th>
<th>Visible width b s [mm]</th>
<th>Joint width total b t [mm]</th>
<th>Joint height h [mm]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity solid plastic tyres [kg/mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPG 90/25 NI ls</td>
<td>60</td>
<td>20 ±10</td>
<td>95</td>
<td>222</td>
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<tr>
<td>FPG 90/35 NI ls</td>
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<td>95</td>
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<td>300</td>
<td>70</td>
</tr>
<tr>
<td>FPG 90/45 NI ls</td>
<td>60</td>
<td>20 ±10</td>
<td>95</td>
<td>211</td>
<td>46</td>
<td>300</td>
<td>70</td>
</tr>
<tr>
<td>FPG 90/60 NI ls</td>
<td>60</td>
<td>20 ±10</td>
<td>95</td>
<td>222</td>
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<td>300</td>
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<tr>
<td>FPG 90/80 NI ls</td>
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<td>81</td>
<td>120</td>
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<tr>
<td>FPG 90/95 NI ls</td>
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<td>20 ±10</td>
<td>95</td>
<td>222</td>
<td>97</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>FPG 90/115 NI ls</td>
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<td>20 ±10</td>
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<td>117</td>
<td>35</td>
<td>60</td>
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</tbody>
</table>
FPG 110 NI ls
FOR BITUMINOUS SEALING LAYER (LONG AAS SHEETS), SMOOTH INSERT

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. $b_f$ [mm] | Total movement $\Delta b_f$ [mm] | Visible width $b_s$ [mm] | Joint width total $b$ [mm] | Joint height $h$ [mm] | Load bearing capacity [kN] | Load bearing capacity solid plastic tyres [kg/mm] | Load bearing capacity solid plastic tyres [kg/mm] |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
FPG 110/25 NI ls * 75 | 40 (±20) | 111 | 238 | 25 | 600 | 130 |
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 110/50 NI ls 75 | 40 (±20) | 111 | 238 | 60 | 35 | 300 | 30 |
FPG 110/60 NI ls 75 | 40 (±20) | 111 | 238 | 81 | 35 | 120 | 30 |
FPG 110/80 NI ls 75 | 40 (±20) | 111 | 238 | 97 | 35 | 60 |
FPG 110/95 NI ls 75 | 40 (±20) | 111 | 238 | 117 | 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)

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

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

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

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

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

Expansion joint cover | Joint width max. | Total movement | Visible width | Joint width total | Joint height | Load bearing capacity | Load bearing capacity | Load bearing capacity | Load bearing capacity | Load bearing capacity |
<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b_f max [mm]</td>
<td>Δbf [mm]</td>
<td>bs [mm]</td>
<td>bt [mm]</td>
<td>h [mm]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kN/mm]</td>
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<td>209</td>
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<td>35</td>
<td>600</td>
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</tr>
<tr>
<td>FP 80/35 Ni ss</td>
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<td>209</td>
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<td>35</td>
<td>600</td>
<td>130</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>FP 80/45 Ni ss</td>
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<td>20 (±10)</td>
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<td>FP 80/60 Ni ss</td>
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<td>300</td>
<td>70</td>
<td>6.5</td>
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</tr>
<tr>
<td>FP 80/80 Ni ss</td>
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<td>209</td>
<td>81</td>
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<td>117</td>
<td>35</td>
<td>60</td>
<td></td>
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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.
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. **Connection joint with connection joint filler cover**
   - AAP 50/20
   - Clean and economical connection of the coating system

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

5. **Mounting brackets are made of high strength aluminium**
   - High loads without any risk of rust

6. **New: With grey insert**
   - to perfectly match the adjacent covering

---

### Expansion joint cover

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. $b_f$ [mm]</th>
<th>Total movement $\Delta b_f$ [mm]</th>
<th>Visible width $b_s$ [mm]</th>
<th>Joint width total $b_t$ [mm]</th>
<th>Joint height $h$ [mm]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kg/mm]</th>
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</thead>
<tbody>
<tr>
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<td>60</td>
<td>40 (±20)</td>
<td>95</td>
<td>222</td>
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<td>35</td>
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<td>20</td>
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</table>

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

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

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. (b_f \text{ max} ) [mm]</th>
<th>Total movement (\Delta b_f ) [mm]</th>
<th>Visible width (b_s ) [mm]</th>
<th>Joint width total (b_t ) [mm]</th>
<th>Joint height (h ) [mm]</th>
<th>Load bearing capacity (F_{\text{min}} ) [kN]</th>
<th>Load bearing capacity (F_{\text{max}} ) [kN]</th>
<th>Load bearing capacity (F_{\text{solid plastic tyres}} ) [kg/mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP 110/25 Ni ss *</td>
<td>75</td>
<td>60 (±30)</td>
<td>111</td>
<td>238</td>
<td>25</td>
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<td>FP 110/80 Ni ss</td>
<td>75</td>
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<td>238</td>
<td>81</td>
<td>35</td>
<td>120</td>
<td>30</td>
</tr>
<tr>
<td>FP 110/95 Ni ss</td>
<td>75</td>
<td>60 (±30)</td>
<td>111</td>
<td>238</td>
<td>97</td>
<td>35</td>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>FP 110/115 Ni ss</td>
<td>75</td>
<td>60 (±30)</td>
<td>111</td>
<td>238</td>
<td>117</td>
<td>35</td>
<td>60</td>
<td>30</td>
</tr>
</tbody>
</table>

* 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)

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

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity solid plastic tyres [kg/mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP 130/25 Ni ss *</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>25</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>FP 130/35 Ni ss *</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>35</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>FP 130/45 Ni ss</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>249</td>
<td>35</td>
<td>90</td>
<td>70</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>FP 130/60 Ni ss</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>60</td>
<td>35</td>
<td>60</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>FP 130/80 Ni ss</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>81</td>
<td>35</td>
<td>60</td>
<td>35</td>
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</tr>
<tr>
<td>FP 130/95 Ni ss</td>
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<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>97</td>
<td>35</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 130/115 Ni ss</td>
<td>100</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>117</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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

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

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

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement ( b_f ) max (mm)</th>
<th>Visible width ( b_s ) (mm)</th>
<th>Joint width total ( b_t ) (mm)</th>
<th>Joint height ( h ) (mm)</th>
<th>Load bearing capacity solid plastic tyres ( [kg/mm] )</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP 155/25 Ni ss *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>FP 155/35 Ni ss *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>FP 155/45 Ni ss *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>271</td>
<td>35</td>
<td>60</td>
</tr>
<tr>
<td>FP 155/60 Ni ss *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>FP 155/80 Ni ss *</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>FP 155/95 Ni ss</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>FP 155/115 Ni ss</td>
<td>120</td>
<td>120 (±60)</td>
<td>155</td>
<td>282</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

* 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

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

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

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. $b_f$ (mm)</th>
<th>Total movement $\Delta b_f$ (mm)</th>
<th>Visible width $b_s$ (mm)</th>
<th>Joint width total $b_t$ (mm)</th>
<th>Joint height $h$ (mm)</th>
<th>Load bearing capacity (kN)</th>
<th>Load bearing capacity (kN)</th>
<th>Load bearing capacity (kN)</th>
<th>Load bearing capacity solid plastic tyres (kg/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP 80/60 S Ni ss</td>
<td>35</td>
<td>20 (±10)</td>
<td>82</td>
<td>201</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>6.5</td>
</tr>
<tr>
<td>FPG 80/60 S Ni ss</td>
<td>35</td>
<td>16 (±8)</td>
<td>82</td>
<td>201</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>6.5</td>
</tr>
<tr>
<td>FP 90/60 S Ni ss</td>
<td>50</td>
<td>40 (±20)</td>
<td>95</td>
<td>214</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FPG 90/60 S Ni ss</td>
<td>50</td>
<td>20 (±10)</td>
<td>95</td>
<td>214</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FP 110/60 S Ni ss</td>
<td>65</td>
<td>60 (±30)</td>
<td>111</td>
<td>230</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>6.5</td>
</tr>
<tr>
<td>FPG 110/60 S Ni ss</td>
<td>65</td>
<td>40 (±20)</td>
<td>111</td>
<td>230</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>6.5</td>
</tr>
<tr>
<td>FP 130/60 S Ni ss*</td>
<td>90</td>
<td>90 (±45)</td>
<td>133</td>
<td>260</td>
<td>60</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FP 155/60 S Ni ss*</td>
<td>110</td>
<td>120 (±60)</td>
<td>155</td>
<td>274</td>
<td>60</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

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

5. 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. $b_f$ [mm] | Total movement $\Delta b_f$ [mm] | Visible width $b_s$ [mm] | Joint width total $b_t$ [mm] | Joint height $h$ [mm] | Load bearing capacity $L$ [kN] | Load bearing capacity solid plastic tyres $L_s$ [kg/mm]
--- | --- | --- | --- | --- | --- | --- | ---
FPG 80/25 NI ss | 45 | 16 (±8) | 82 | 209 | 25 | 35 | 600 | 6,5
FPG 80/35 NI ss | 45 | 16 (±8) | 82 | 209 | 35 | 35 | 600 | 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 | 30
FPG 80/115 NI ss | 45 | 16 (±8) | 82 | 209 | 117 | 35 | 60 | 30

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

---

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b_f max [mm]</td>
<td>∆b_f [mm]</td>
<td>b_s [mm]</td>
<td>b_t [mm]</td>
<td>h [mm]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kg/mm]</td>
</tr>
<tr>
<td>FPG 90/25 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>25</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FPG 90/35 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>35</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4.3</td>
</tr>
<tr>
<td>FPG 90/45 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>211</td>
<td>46</td>
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<td>300</td>
<td>70</td>
<td>4.3</td>
</tr>
<tr>
<td>FPG 90/60 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>60</td>
<td>35</td>
<td>300</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>FPG 90/80 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>81</td>
<td>35</td>
<td>120</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>FPG 90/95 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>97</td>
<td>35</td>
<td>60</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>FPG 90/115 Ni ss</td>
<td>60</td>
<td>20 (±10)</td>
<td>95</td>
<td>222</td>
<td>115</td>
<td>35</td>
<td>60</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

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.
**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

---

**FPG 110 Ni ss**

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

---

**Expansion joint cover**

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>solid plastic tyres</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPG 110/25 Ni ss*</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>25</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 110/35 Ni ss</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>35</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 110/45 Ni ss</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>46</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 110/60 Ni ss</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>60</td>
<td>35</td>
<td>300</td>
<td>30</td>
<td></td>
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</tr>
<tr>
<td>FPG 110/80 Ni ss</td>
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<td>40 (±20)</td>
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<td>81</td>
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</tr>
<tr>
<td>FPG 110/95 Ni ss</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>97</td>
<td>35</td>
<td>60</td>
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</tr>
<tr>
<td>FPG 110/115 Ni ss</td>
<td>75</td>
<td>40 (±20)</td>
<td>111</td>
<td>238</td>
<td>117</td>
<td>35</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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.

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Fire tested Bfl-s1 (flame retardant) acc. to DIN EN 13501-1
FPL 85/27 NI
FOR FLOORS WITH COATING SYSTEMS (SHORT AAS SHEETS)

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPL 85/27 Ni</td>
<td>50</td>
<td>40 (±20)</td>
<td>85</td>
<td>214</td>
<td>27</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

Sealing against nonpressurized water.
**FPSG 68 ES**

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

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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. (mm)</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height (mm)</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kN]</th>
<th>Load bearing capacity [kg/mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPSG 68/25 ES</td>
<td>25</td>
<td>10 (±5)</td>
<td>68</td>
<td>218</td>
<td>25</td>
<td>600</td>
<td>130</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>FPSG 68/30 ES</td>
<td>25</td>
<td>10 (±5)</td>
<td>68</td>
<td>218</td>
<td>30</td>
<td>600</td>
<td>130</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>FPSG 68/35 ES</td>
<td>25</td>
<td>10 (±5)</td>
<td>68</td>
<td>218</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>FPSG 68/40 ES</td>
<td>25</td>
<td>10 (±5)</td>
<td>68</td>
<td>218</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>12.5</td>
<td></td>
</tr>
</tbody>
</table>

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

**MIGUTAN**

*WATERTIGHT EXPANSION JOINT SOLUTIONS*
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

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

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**Expansion joint cover** | **Joint width max.** $b_f \text{ max.}$ [mm] | **Total movement** $\Delta b_f$ [mm] | **Visible width** $b_s$ [mm] | **Total movement** $\Delta b_t$ [mm] | **Joint height** $h$ [mm] | **Load bearing capacity** $F_p$ [kN] | **Load bearing capacity** $F_v$ [kN] | **Load bearing capacity** $F_s$ [kN] | **Load bearing capacity** $F_l$ [kN]
---|---|---|---|---|---|---|---|---|---
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

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

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FP 80/... NI XA
FOR FLEXIBLE WATERPROOFING SLURRY / LIQUID MEMBRANE
UNDERNEATH CERAMIC TILES
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.** | **Total movement**
--- | --- | ---
|  b_f max (mm) | ∆b_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.
MIGUTAN
WATERTIGHT EXPANSION JOINT SOLUTIONS

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

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

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

Sealing against nonpressurized water.

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max.</th>
<th>Total movement</th>
<th>Visible width</th>
<th>Joint width total</th>
<th>Joint height</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
<th>Load bearing capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b f max [mm]</td>
<td>∆bf [mm]</td>
<td>b s [mm]</td>
<td>b t [mm]</td>
<td>h [mm]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kN]</td>
<td>[kg/mm]</td>
</tr>
<tr>
<td>FP 80/90 B NI</td>
<td>21</td>
<td>20 (±10)</td>
<td>82</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 80/90 B NI</td>
<td>21</td>
<td>16 (±8)</td>
<td>82</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 90/90 B NI</td>
<td>34</td>
<td>40 (±20)</td>
<td>95</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 90/90 B NI</td>
<td>34</td>
<td>20 (±10)</td>
<td>95</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 110/90 B NI</td>
<td>50</td>
<td>60 (±30)</td>
<td>111</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 110/90 B Ni</td>
<td>50</td>
<td>40 (±20)</td>
<td>111</td>
<td>91</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 130/90 B NI</td>
<td>74</td>
<td>90 (±45)</td>
<td>133</td>
<td>91</td>
<td>35</td>
<td>120</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 155/90 B NI</td>
<td>94</td>
<td>120 (±60)</td>
<td>155</td>
<td>91</td>
<td>35</td>
<td>120</td>
<td>35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**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

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. b_f max [mm]</th>
<th>Total movement Δb_f [mm]</th>
<th>Visible width b_s [mm]</th>
<th>Joint width total b_t [mm]</th>
<th>Joint height h [mm]</th>
<th>Load bearing capacity solid plastic tyres [kN]</th>
<th>Load bearing capacity solid plastic tyres [kN]</th>
<th>Load bearing capacity solid plastic tyres [kN]</th>
<th>Load bearing capacity solid plastic tyres [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP 80/90 B Ni</td>
<td>21</td>
<td>20 (±10)</td>
<td>82</td>
<td>...</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>6,5</td>
</tr>
<tr>
<td>FPG 80/90 B Ni</td>
<td>21</td>
<td>16 (±8)</td>
<td>82</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td>4,3</td>
<td></td>
</tr>
<tr>
<td>FP 90/90 B Ni</td>
<td>34</td>
<td>40 (±20)</td>
<td>95</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 90/90 B Ni</td>
<td>34</td>
<td>20 (±10)</td>
<td>95</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 110/90 B Ni</td>
<td>50</td>
<td>60 (±30)</td>
<td>111</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 110/90 B Ni</td>
<td>50</td>
<td>40 (±20)</td>
<td>111</td>
<td>100</td>
<td>35</td>
<td>600</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP 130/90 B Ni</td>
<td>74</td>
<td>90 (±45)</td>
<td>133</td>
<td>100</td>
<td>35</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG 155/90 B Ni</td>
<td>94</td>
<td>120 (±60)</td>
<td>155</td>
<td>100</td>
<td>35</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

3. **100% watertight**
   In connection with a coating system and connection joint

4. **MultiHole mounting brackets**
   for secure fixing

5. **Connection joint with connection joint filler cover**
   AAP 110/23
   Proper and economical connection of the coating system

---

<table>
<thead>
<tr>
<th>Expansion joint cover</th>
<th>Joint width max. ( b_f ) (mm)</th>
<th>Total movement ( \Delta b_f ) (mm)</th>
<th>Visible width ( b_s ) (mm)</th>
<th>Joint width total ( b_t ) (mm)</th>
<th>Joint height ( h ) (mm)</th>
<th>Load bearing capacity ( LMC ) [kN]</th>
<th>Load bearing capacity ( MTC ) [kN]</th>
<th>Load bearing capacity ( GTC ) [kN]</th>
<th>Load bearing capacity ( SPC ) [kg/mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPL 85/75 B NI</td>
<td>40</td>
<td>40 (±20)</td>
<td>85</td>
<td>75</td>
<td>35</td>
<td>300</td>
<td>70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sealing against nonpressurized water.
MIGUTAN
WATERTIGHT EXPANSION JOINT SOLUTIONS

MOULDED PARTS

A 1

A 2

B

C right

C left

D right

D left

E right

E left

F right

F left

G 1
MOULDED PARTS

G 2

H 1 right

H 1 left

H 2 right

H 2 left

I 1 right

I 1 left

I 2 right

I 2 left

J 1 right

J 1 left

J 2 right
MOULDED PARTS

J 2 left

K 1 right

K 1 left

K 2 right

K 2 left

L right

L left

M

N right

N left

O right

O left
MOULDLED PARTS

P right
(bracket on site)

P left
(bracket on site)

P 1 right
(bracket on site)

P 1 left
(bracket on site)

Q right

Q left

R

S

T right

T left

U

U 1
MOULDDED PARTS

V right  V left  W right

W left  W 1 right  W 1 left

W 2 right  W 2 left  W 3 right

W 3 left  X right  X left
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.

**MOULDED PARTS**

X 1 right

X 1 left

Y

Z

**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**

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.

<table>
<thead>
<tr>
<th>Version</th>
<th>E 2</th>
<th>E 3</th>
<th>E 4</th>
<th>E 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expansion joint cover</strong></td>
<td>b₁₁</td>
<td>b₁₂</td>
<td>b₂₁</td>
<td>b₂₂</td>
</tr>
<tr>
<td>FP(G) 80 NI</td>
<td>96</td>
<td>159</td>
<td>93</td>
<td>156</td>
</tr>
<tr>
<td>FP(G) 90 NI</td>
<td>109</td>
<td>172</td>
<td>106</td>
<td>169</td>
</tr>
<tr>
<td>FP(G) 110 NI</td>
<td>125</td>
<td>188</td>
<td>122</td>
<td>185</td>
</tr>
<tr>
<td>FP 130 NI</td>
<td>149</td>
<td>212</td>
<td>146</td>
<td>209</td>
</tr>
<tr>
<td>FP 155 NI</td>
<td>169</td>
<td>232</td>
<td>166</td>
<td>229</td>
</tr>
<tr>
<td>FP(G) 80/90 B NI</td>
<td>–</td>
<td>–</td>
<td>92</td>
<td>–</td>
</tr>
<tr>
<td>FP(G) 90/90 B NI</td>
<td>–</td>
<td>–</td>
<td>105</td>
<td>–</td>
</tr>
<tr>
<td>FP(G) 110/90 B NI</td>
<td>–</td>
<td>–</td>
<td>121</td>
<td>–</td>
</tr>
<tr>
<td>FP 130 B NI</td>
<td>–</td>
<td>–</td>
<td>143</td>
<td>–</td>
</tr>
<tr>
<td>FP 155 B NI</td>
<td>–</td>
<td>–</td>
<td>165</td>
<td>–</td>
</tr>
<tr>
<td>FPL 85/27 NI</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>FPL 85/75 B NI</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
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

The represented cover plate is not part of the scope of delivery

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 2

FP 90/45 NI E 5
**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
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
**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
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
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
Installation suggestion: MIGUTAN joint construction in conjunction with short AAS sheets in conjunction with additive floors.
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.
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.
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
Example: FPG 90/25 Ni with toothed APS cover plate APS

Example: FPG 90/35 Ni with APS cover plate
SYSTEM FP 90 EXAMPLES
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**
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.

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