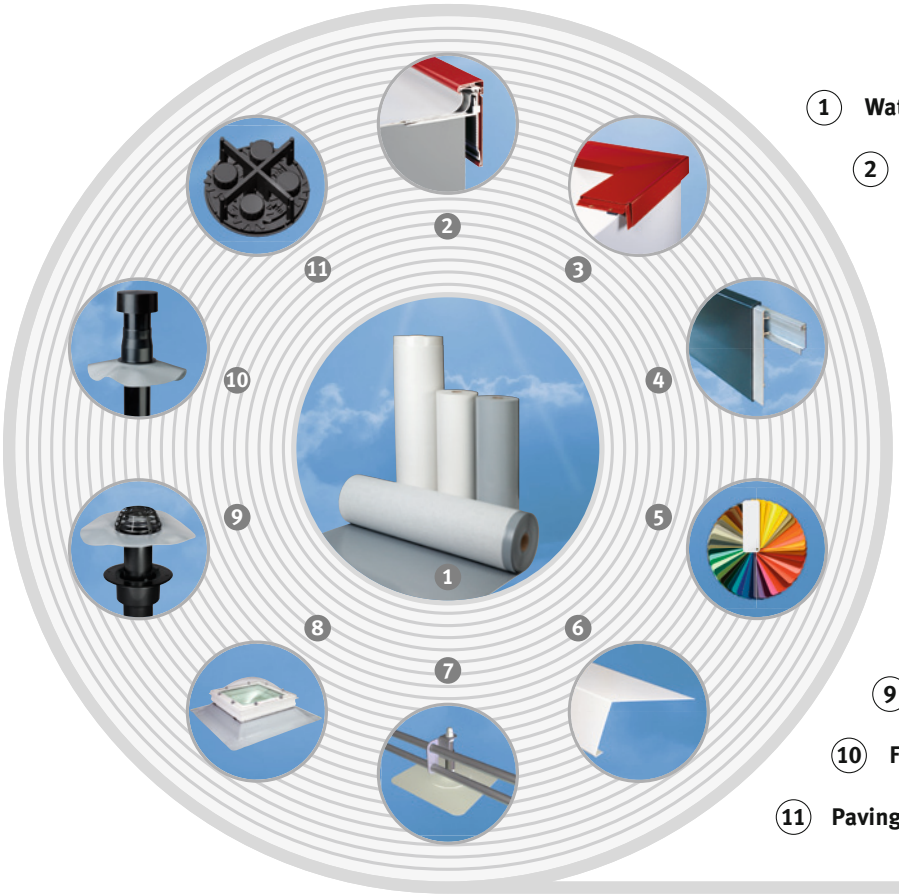
alwitra

DIE DACHMARKE

Paving slab supports PA 20 plus

The alwitra waterproofing system

alwitra paving slab supports are part of the proven alwitra waterproofing system. This system comprises:



1. Waterproofing membranes
2. Roof edge trim profiles incl. colour coating
3. Wall capping profiles incl. colour coating
4. Wall flashing profiles incl. colour coating
5. Colour coating
6. Coated metal sheets
7. Snow guard profiles
8. Daylight systems
9. Rainwater outlets
10. Flat roof vents
11. Paving slab supports

alwitra was the first enterprise of the industry to introduce relevant Environmental Product Declarations of the Institute Construction and Environment (Institut Bauen und Umwelt e. V. - IBU) for the EVALON® and EVALASTIC® waterproofing membranes.

For certifications according to DGNB, LEED or BREEAM alwitra provides appropriate product fact sheets.

Terraces and balconies

Using alwitra paving slab supports, terraces and balconies can be paved to the relevant standards and directives

Information on design and execution:

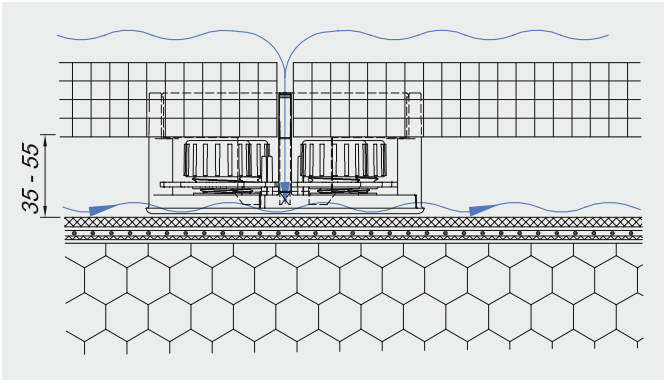
- As terraces and balconies are designed as usable spaces, the technical rules for used roof areas apply, in particular, as stipulated in DIN 18531 and in the Regulations for Flat Roofs.
- Slab supports for walkable paved areas with open joints can be used only for installation on solid, pressureresistant substrates. The side length of the slabs should be at least 40 cm, preferably 50 cm.
- Paving slabs on slab supports can serve to secure the lower functional layers against wind uplift (by ballast).
- Waterproofing membranes underneath walkable paving are subject to high mechanical stress. On top of the membranes, a protection layer (e.g. of protective matting) is required.
- Roof coverings with paving made of non-combustible building materials, in general, meet the official requirements for fire behaviour of roofing (hard roofing). Highly flammable insulation materials (building material class B3) must not be used.
- Only insulation materials with enhanced compressive strength (type dh) should be installed. When using extruded polystyrene insulation boards, a fullsize separation layer between the insulation layer and the (loose laid) roof waterproofing is required.
- When installing insulation layers on top of the roof waterproofing (inverted or duo-roofs), the requirements according to building inspectorate approvals must be adhered to.
- At the perimeter, paving on slab supports needs to be protected against lateral movement to maintain a permanently regular joint pattern.
- The perimeter and flashing areas need to be executed so as to permanently prevent any damage of the waterproofing.
- When flashing against upstands, flashing membranes need to be raised min. 15 cm over the paving slabs, must be secured against sliding off and water ingress and must be protected against mechanical damage. At door areas, it is possible to reduce the flashing height, provided that unimpeded water drainage (e. g. by troughs) is ensured.
- For living areas below terraces, footfall sound protection requirements are to be observed.
- Adherence to the relevant technical rules, as published in standards and regulations, as well as to the workers protection and safety regulations is obligatory.

Paving slab supports type PA 20 plus

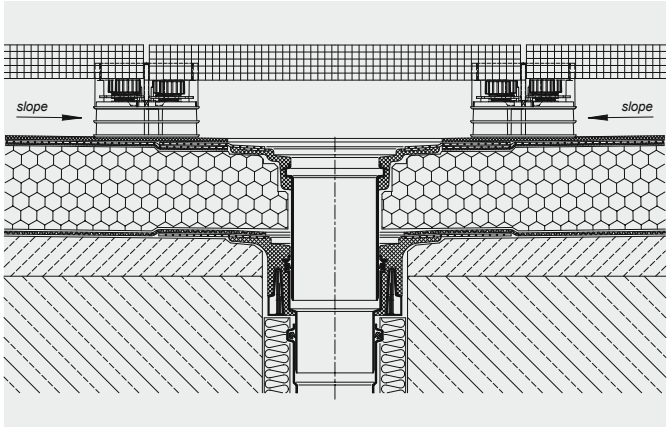
Paving of weather-exposed terraces and balconies needs to be segmented by joints into smaller sections to prevent cracks due to thermal impact. Water can get into the cracks, freeze and damage the paving. At the same time, the waterproofing and flashings will also be damaged.

However, ashlar pavers or other walkable slabs laid in mortar are also not permanently waterproof, so water ingress and, thus, similar damage is to be expected.

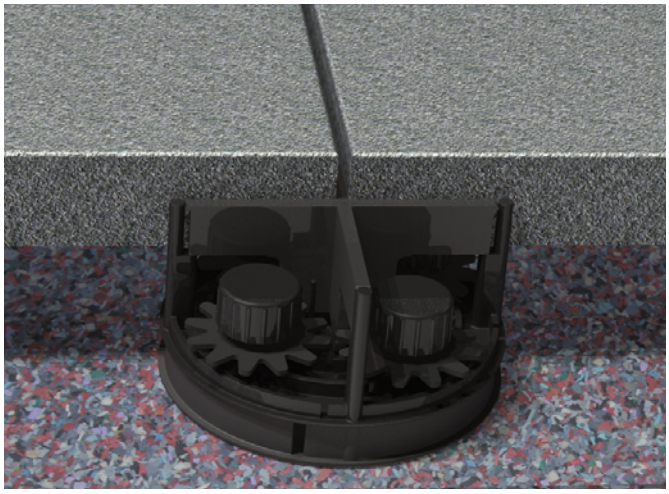
Such risks can be avoided by installing slabs with open joints on alwitra paving slab supports.



Spacer pins and slab spacers provide for regular joints. Precipitation water will drain off the paving through the joints. Rainwater outlets are concealed under the paving installed on supports. Differences in slope › 20 mm between paving slab and waterproofing can be levelled using shims.



In addition, this installation method offers both design and functional advantages.



For terraces and balconies

- with walkable, dry and loose laid paving slabs with open joints (6 mm)
- with synthetic or elastomeric single-ply membranes or multi-layer bituminous waterproofing
- with rapid drainage of the surface by the shortest possible way without any troughs or visible outlets
- with optimal drainage through existing space underneath the paving slabs
  - no frost damage (heaving and cracks) of the paving slabs
  - no efflorescence on the paving slabs
  - no blockage of outlets due to leaching lime
- with wear layer with optimum air diffusion in inverted or duo-roofs
- with high footfall sound insulation
- with shims for levelling differences in slope between substrate and paving

Paving slab supports
Typ PA 20 plus

Technical data
Paving slab supports PA 20 plus

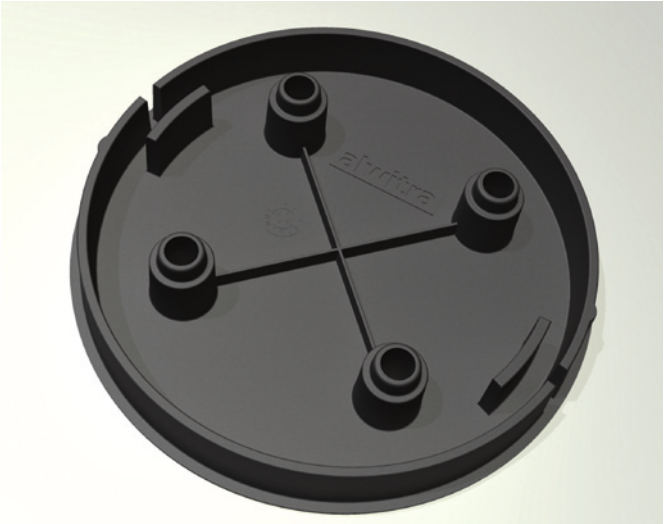
Material	• polypropylene (PP-H GF30) black • temperature resistance from -30 to +100 °C • flammability rating B2
Base plate	• diameter 150 mm • surface 175 cm²
Spacer pin	• 4 pieces • diameter (joint width) 6 mm • height 65 mm
Support pad	• 4 pieces • diameter 30 mm • secured against reverse rotation and over-tightening, individually infinitely height-adjustable by 20 mm, from 35 to 55 mm, pre-set to 45 mm • load capacity 4 x 2 kN (800 kg)
Slab spacer	• 1 piece • height 60 mm • thickness 6 mm
Footfall sound reduction	Δ Lw [1] = 30 dB Δ Lw [2] = 39 dB
Paving slabs	• 50 x 50 x ≥ 5 cm • 40 x 40 x ≥ 4 cm • Laying only in cross-bracing • Minimum plate thickness 3.5 cm • Maximum plate size 0.25 m²
Material required	• 4 pieces/m² for paving slab size 50 x 50 cm • approx. 6.3 pieces/m² for paving slab size 40 x 40 cm • Note: Due to the installation of complete slab supports at the perimeter, the required number will increase.
Packing unit	24 pieces

[1] for inspected roof build-up without thermal insulation
[2] for inspected roof build-up with thermal insulation

Technical data
Shim

Material	polypropylene (PP-H GF30) black
Temperature resistance	from -30 to +100 °C
Base plate supporting area	175 cm²
Height	20 mm
Load capacity	8 kN
Packing unit	48 pieces

Paving slab supports



Shim

Paving slab supports - installation

Laying walkable paving on **alwitra paving slab supports** is simple and largely unaffected by weather conditions.

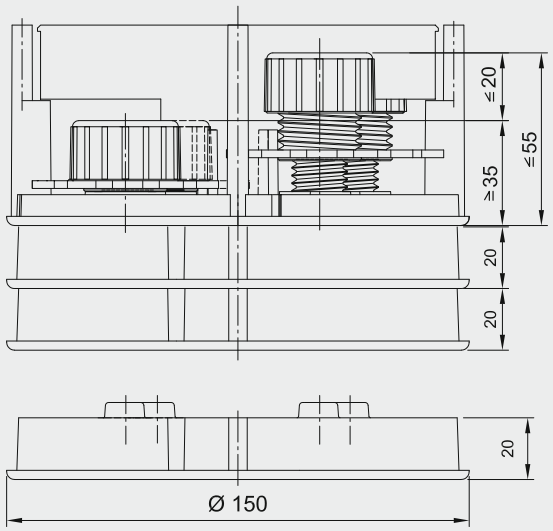
The following items are consecutively installed on top of the waterproofing:

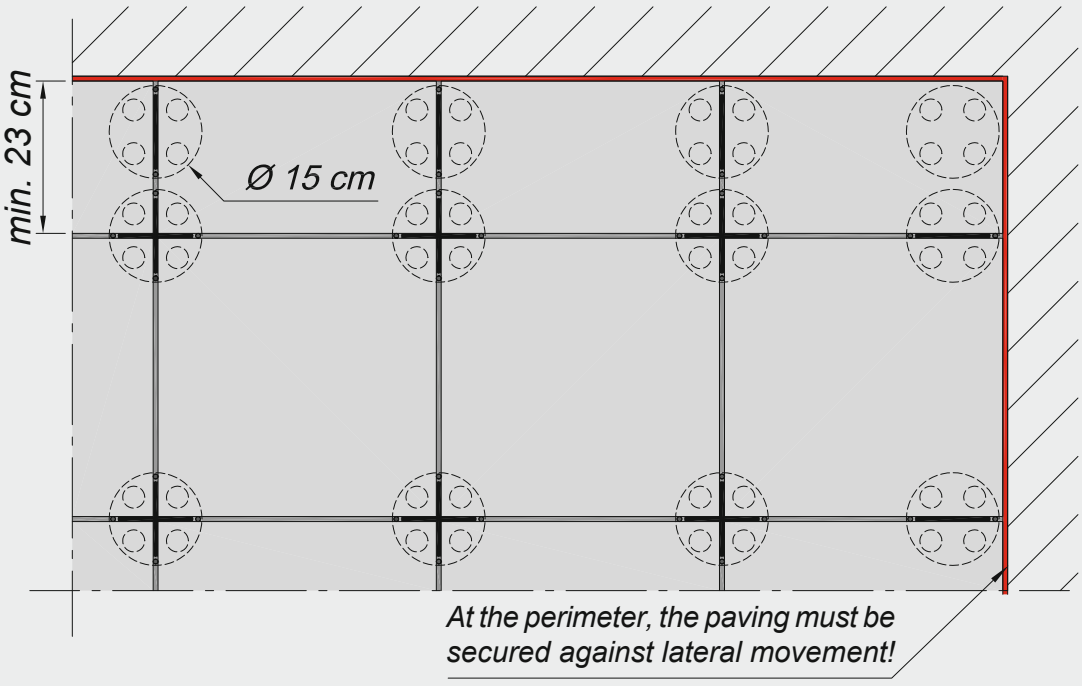
- protection layer
- paving slab supports (with shims, as required)
- paving slabs
- slab spacers

Installation is recommended from the elevated perimeter towards the outlets, cutting slabs at the perimeter as required. At the perimeter, the paving must be secured against lateral movement. An adjacent coarse gravel band will not be sufficient.

The paving slab supports (with shims, as required) are located beneath the cross joint of four slabs. A slab is supported on each corner by one pad of the four supports.

The patented support pads are secured against both reverse rotation and over-tightening and are individually infinitely heightadjustable by up to 20 mm, allowing for compensation of permissible tolerances regarding the slab thickness and the substrate to achieve an even paving surface. Shims can be used for further levelling (max. 7 shims per paving slab support).

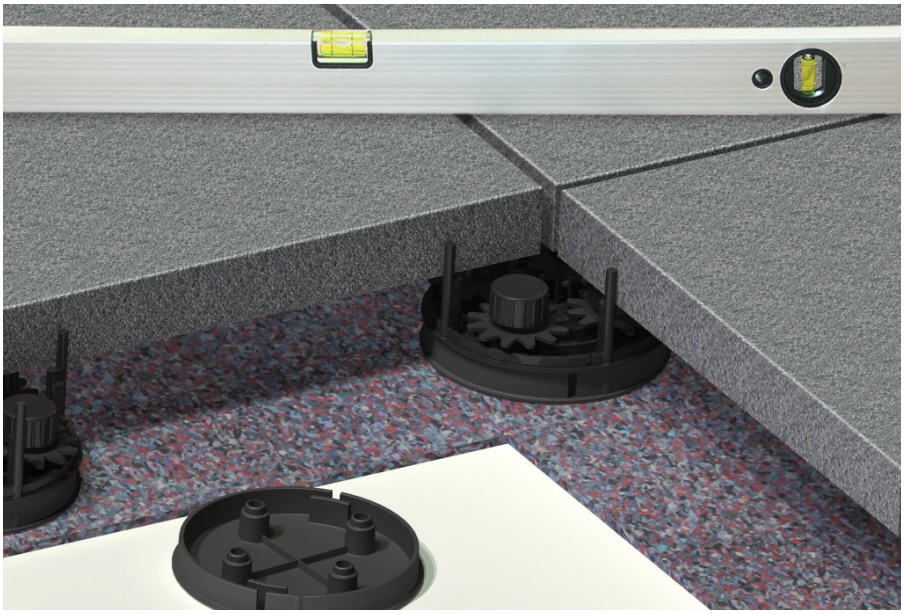




Paving slab supports type PA 20 plus

Technical data
Paving slab supports PA 20 plus

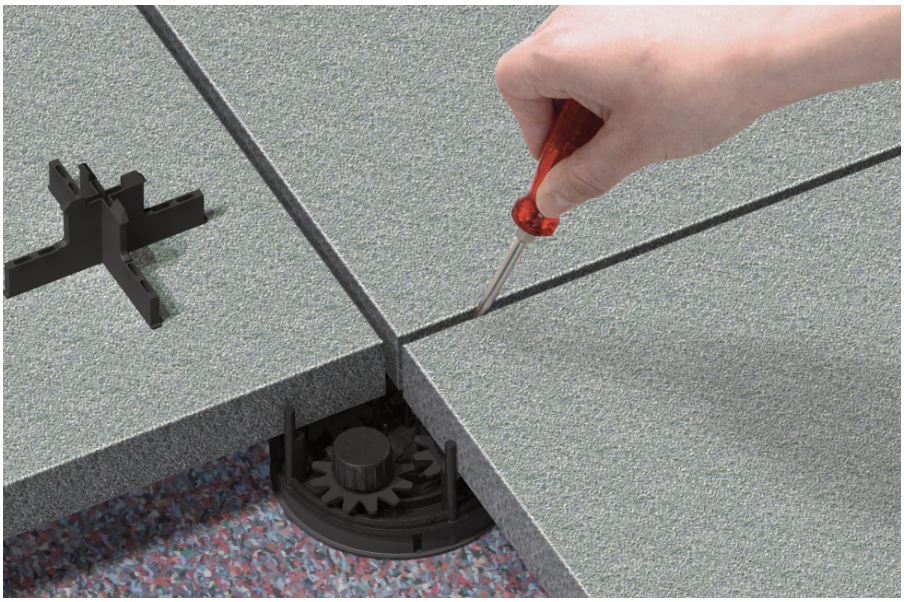
Height	Number of shims
35 - 55 mm	none
55 - 75 mm	1
75 - 95 mm	2
95 - 115 mm	3
115 - 135 mm	4
135 - 155 mm	5
155 - 175 mm	6
175 - 195 mm	7



Individual height adjustment of the slab corners, both upwards and downwards, can be done with a screwdriver even after the paving has been laid, however, prior to installing the slab spacers, without having to lif the slab.

On the base plate, at the adjusting wheel of every support pad, serrations are provided behind the spacer pin.

Insert a screwdriver through the open joint (without slab spacer) into the serration and turn the adjusting wheel by tilting the screwdriver: turning the adjusting wheel clockwise will lower the pad, anti-clockwise will lift the pad.



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