



**Paving slab supports
PA 20 plus**

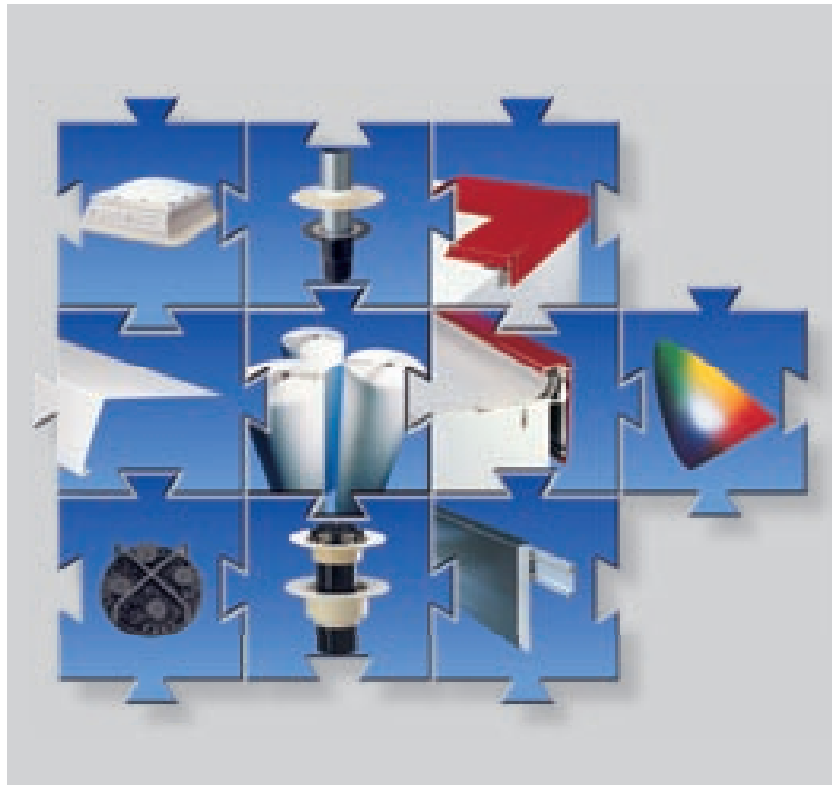
Roof terraces and other paved areas

Choose **alwitra paving slab supports** and roof terraces and balconies can be covered reliably and efficiently.

Design and Installation Recommendations

- Roofs that are subjected to regular traffic must be designed and constructed in accordance with all relevant standards, regulations and Codes of Practice.
- Paving slab supports should only be used on stable, smooth substrates sufficiently strong to resist crushing. Paving should have a minimum length of 400 mm and a maximum length of 500mm.
- Paving on paving slab supports is suitable as ballast to provide resistance to wind uplift.
- Roofing membranes underneath paving are subject to considerable mechanical stresses. It is therefore recommended that a protection layer (e.g. rubber matting) is used to cover the membrane.
- Roof terraces with paving made from non-flammable materials normally comply with fire regulations. Flammable insulation boards (class B3) should not be incorporated into the roof.
- Use only insulation boards with sufficient compressive strength. Should insulation made from extruded polystyrene be employed, a full separation layer must be placed between the boards and the loosely laid membrane.
- In the case of Inverted Roof Design the relevant guidelines should be consulted.
- Loose laid pavements should be secured along the perimeters against any lateral movement.
- Perimeter and other details are to be designed in such a way that damage to the waterproofing layers is permanently avoided.
- Flashings to upstands etc: The roofing membrane should be terminated at least 150 mm above the finished surface. The top edge should be mechanically secured by means of a counterflashing profile and sealed against water penetration and any exposed membrane should be protected from mechanical damage. For access doors the threshold can be reduced if drainage channels are provided.
- In special cases additional measures to reduce sound transmission may be required.
- For living areas below terraces, the requirements for protection against subsonic noise need to be followed (from experience $L/n,w = 53$ dB).

alwitra is the expert when it comes to waterproofing flat and pitched roofs. With a system of integrated components and many years of experience and know-how, we can offer perfect solutions for new build and roof refurbishment.

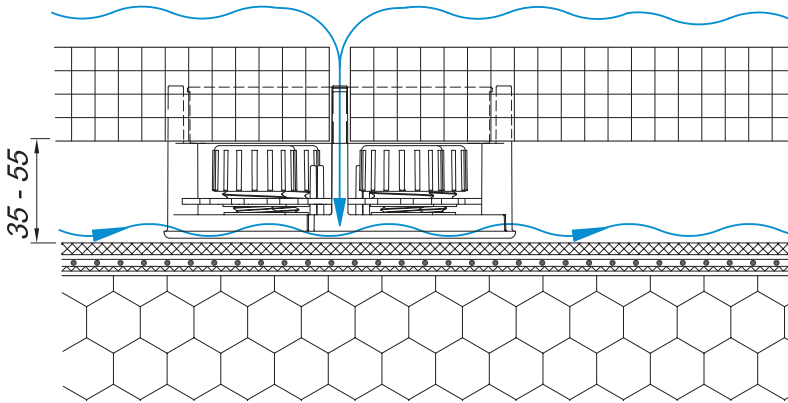


alwitra paving slab supports are part of the proven alwitra roofing systems. Furthermore, these unique systems comprise:

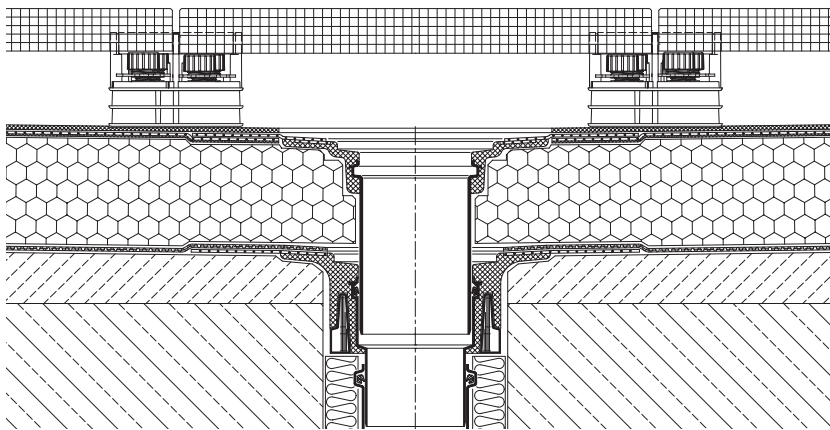
roofing and waterproofing membranes (thermoplastic membranes)
– roof edge trims – wall cappings – wall flashing profiles – paint finishes – coated steel sheets – roof lights (including smoke venting systems) – rainwater outlets – flat roof vents

Paving slab supports

Paving or Tiles on terraces and balconies need to be installed with an allowance for movement. This will prevent cracking as a result of thermal stress. If cracks occur, water can enter and when “frozen” it can destroy the covering. This is also true of paving slabs or other types of hard walkways which are laid in cement or other mortar beds where purely surface drainage cannot be guaranteed. In these circumstances, subsequent damage can also occur to the waterproofing layer and flashings. Those risks can be avoided if the slabs are laid with open joints on alwitra paving slab supports.



Spacers ensure even movement. The rainwater simply drains between the spacer formed joints of the paving to rainwater outlets concealed beneath the concrete paving. Levelling adjustment greater than 20mm can be achieved by the use of additional alwitra shims.



Moreover, this concept offers further advantages in design and function.

Type PA 20 plus



For terraces and balconies

- ▶ Walkable, dry, loose laid paving slabs with open gaps (6 mm)
- ▶ Suitable for single-ply membranes made of thermoplastic or elastomer type or multi-layer bituminous roofing
- ▶ Free and efficient drainage
- ▶ Rainwater Outlets and Gutters/Rainwater channels can be hidden
- ▶ Frost damage can be avoided
- ▶ No efflorescence on the paving slabs
- ▶ No decomposing of outlets due to lixiviation of lime
- ▶ Open construction for optimum air diffusion in inverted or duo-roofs
- ▶ Considerably efficient sound insulation
- ▶ Additional Shims available to allow for greater levelling adjustment



Paving slab supports



Shims

Shims: Technical data

▶ Material:	Polyamide black
▶ Temperature resistance:	from -40 to +100 °C
▶ Contact surface of the base plate:	175 cm ²
▶ Height:	20 mm
▶ Loading capacity:	8 kN
▶ Packing unit:	48 pieces

Paving slab supports

PA 20 plus

Technical data

▶ **Material**

- Polyamide black
- Temperature-resistant from -40 to +100°C

▶ **Base plate**

- Diameter 150 mm
- Surface 175 cm²

▶ **Spacers**

- Quantity 4
- Diameter (width of joint) 6 mm
- Height 65 mm

▶ **Slab support**

- Quantity 4
- Diameter 30 mm
- Individually height adjustable by 20 mm, protected against reverse turning and overtightening, from 35 to 55 mm, preset on 40 mm
- Load capacity 4 x 2 kN (800 kg)

▶ **Tile spacer**

- Quantity 1
- Height 23.5 mm
- Thickness 6 mm

▶ **Impact sound improvement measurement**

$\Delta L_{w,R} = 28 \text{ dB}$

▶ **Paving**

- 50 x 50 x ≥ 4 cm
- 40 x 40 x ≥ 5 cm

▶ **Requirement**

- 4 pcs/sqm for a slab size of 50 x 50 cm
- About 6.3 pcs/sqm for a slab size of 40 x 40 cm

▶ **Packing unit**

24 pieces

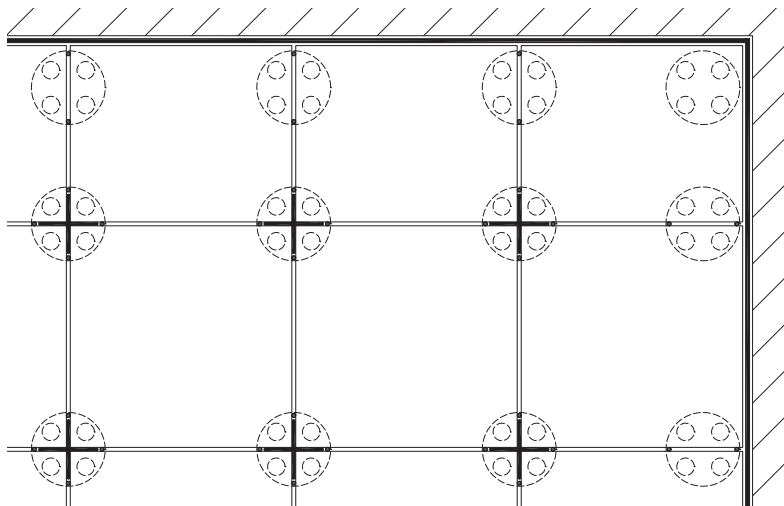
Installation

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

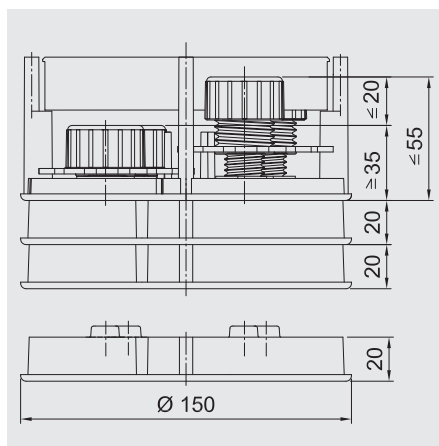
Once the roofing is completed loose lay:

- ▶ **Protection layer** (Fleece/Rubber Matting or other suitable material)
- ▶ **Paving slab supports** (with shims, if required)
- ▶ **Paving slabs**
- ▶ **Tile spacers**

It is recommended that laying should start from the outlets towards the perimeters, cutting paving slabs, at the perimeters as required. The paving needs to be secured against lateral movement. Paving supports are located beneath the corners of the paving slabs and each slab is supported on every corner by one of the 4 support slabs.



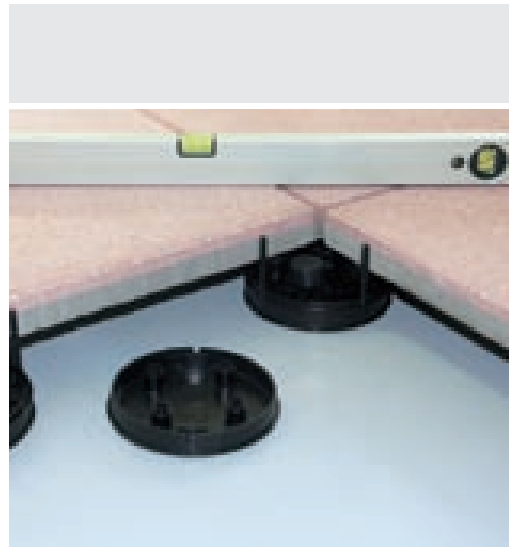
Adjustment of the individually height-adjustable paving slab supports, which are protected against reverse turning and over-tightening, compensate for any minor tolerances regarding the paving slab thickness and the substructure. The use of shims, allows for further levelling > 20 mm.



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Height	Number of shims
35 - 55 mm	without
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

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Height adjustment, both upward and downward can be made even after the paving had been laid without the need of lifting any slabs.

On the base plate, beneath every adjusting wheel, serrations are provided in line with the spacers.

Here, the blade of a screwdriver can be engaged, using it as a lever, the wheel is turned (down: turn right; up: turn left).

