

Schlüter®-TROBA-LEVEL

Tile and paver support system

Support components for external applications
with tile and pavers

7.6

Product data sheet

Application and function

Schlüter-TROBA-LEVEL is a combinable tile and paver support system that enables individual assembly heights from 3 mm up to 1 m. It is suitable for levelling any sloped assembly of up to 10%.

Unbonded installation is suitable for balconies, terraces, roof terraces and other accessible spaces. It enables access to pipelines and floor drains in the remaining void space.

Please refer to the Technical Data table later in this document for information about combination options and further details.

Due to the open joints between the tiles and pavers, the finished covering can drain to the waterproofing assembly of the terrace that is constructed with the corresponding slope. Any water accumulating at this level is then channelled via gravity to the drainage system.

The stackable tile and paver supports **Schlüter-TROBA-LEVEL-PL 10** are designed for installation below self-supporting paver elements. They have a height of 10 mm, are made of a sound-insulating special synthetic material and can be installed directly over the waterproofing assembly. The 3 mm joint spacers enable a consistent joint appearance and are able to absorb movements in the covering.

The adapter blocks **Schlüter-TROBA-LEVEL-PLA 30** can be installed from an assembly height of 50 mm. They are placed, either individually or combined, between two TROBA-LEVEL-PL 10 tile and paver supports.

Schlüter-TROBA-LEVEL-AP 1 levelling shims help to adjust the pavers in various slope situations. Differences in paver thickness or uneven places in the ground

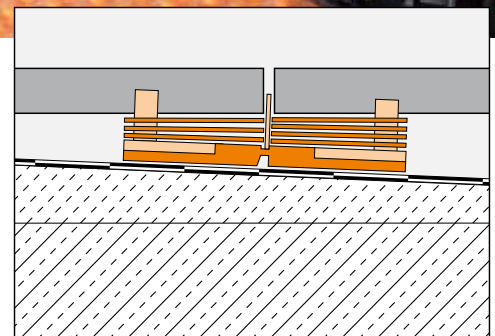


can be adjusted by stacking up to 10 TROBA-LEVEL-AP 1 in each tile or paver corner.

Schlüter-TROBA-LEVEL-PLV 60 are pre-assembled, rotatable tile and paver supports that can be variably adjusted from 60 - 130 mm with an adjustment ring and two opposing threads. The thread of TROBA-LEVEL-PLV 60 features a protection mechanism against accidental loosening and a vibration lock.

The paver support head incorporates 3 mm joint spacers and a perimeter spacer.

Depending on the condition of the substrate, **Schlüter-TROBA-LEVEL-LV 3** can be installed in combination with TROBA-LEVEL-PL 10 and TROBA-LEVEL-PLA 30 for load distribution. TROBA-LEVEL-LV 3 can also be used





as stand-alone tile and paver supports in combination with TROBA-LEVEL-AP 1 for particularly low assembly heights. TROBA-LEVEL-LV 3 features 3 mm joint spacers.

The height adapters **Schlüter-TROBA-LEVEL-PLA 70** are fully screwed into the bottom plate of TROBA-LEVEL-PLV 60. The thread of TROBA-LEVEL-PLV 70 features a protection mechanism against accidental loosening and a vibration lock.

Material

TROBA-LEVEL system products are made of PE or PP materials.

The protective pad **Schlüter-TROBA-LEVEL-PLS 6** is manufactured of granulated rubber with an aluminium lining laminated on one side.

All products are UV-resistant, non-rotting, recyclable, physiologically harmless and compatible with bitumen.

They are temperature resistant from -40 °C to +100 °C.

Material properties and areas of application

TROBA-LEVEL is designed for use with tiles and pavers on residential balconies, terraces and roof terraces.

TROBA-LEVEL can be installed over any kind of waterproofing assembly.

Please refer to the Technical Data table later in this document for further information.

Notes

The products of the TROBA-LEVEL system require no special maintenance or care.

Installation

The installation instructions of paver manufacturers and national standards applicable in individual countries (DIN standards, technical bulletins etc.) must be followed for installation!

The design requirements with regard to the slope situation, compression strength of the installed insulation materials, and waterproofing substances (film compatibility) must be verified.

Pavers can be installed in any assembly type (manufacturer specifications may need to be met).

Notes:

According to the applicable regulations, pavers can be installed with or without a surface slope. Please note that shifts may occur in loosely installed paver coverings due to one-sided or corner loads.

Recommendation: To guarantee sufficient construction space, we recommend starting with a tile and paver support height of at least 10 mm.

To protect the substrate waterproofing, we recommend the use of the drainage mats Schlüter-TROBA-PLUS or Schlüter-DITRA-DRAIN.

It is best to create an installation diagram for neat joint appearance.

1. The substrate must be load-bearing, with a recommended minimum slope of 1.5 - 2.0%.

Manufacturer specifications regarding the load-bearing capacity of tile and pavers must be observed. The installation of additional paver supports may be necessary.

- 1a. TROBA-LEVEL enables the installation of large-format pavers and tiles on terraces.

Please use the configuration tool on our website to determine the required number of tile and paver supports.

- 1b. Please refer to installation drawing 1b for a first overview of the number of support points – always start your installation at the highest point of the slope.

Drawing:

First panel = 4 support points

Edge panels = 2 support points

Area panels = 1 support point

2. TROBA-LEVEL-PL 10 tile and paver supports (10 mm) can be stacked with a 90° offset.
3. From an assembly height of 50 mm, TROBA-LEVEL-PLA 30 blocks (30 mm each) can be inserted between two TROBA-LEVEL-PL 10 tile and paver supports.
4. Levelling the slope: Use a spirit level to check how many TROBA-LEVEL-AP 1 levelling plates (1 mm each) must be stacked on top of one another. If more than nine TROBA-LEVEL-AP 1 levelling shims are needed, a TROBA-LEVEL-PL 10 paver support (10 mm) should be stacked instead. TROBA-LEVEL-AP 1 levelling shims (1 mm) are snapped

in laterally – make sure they are fully attached.

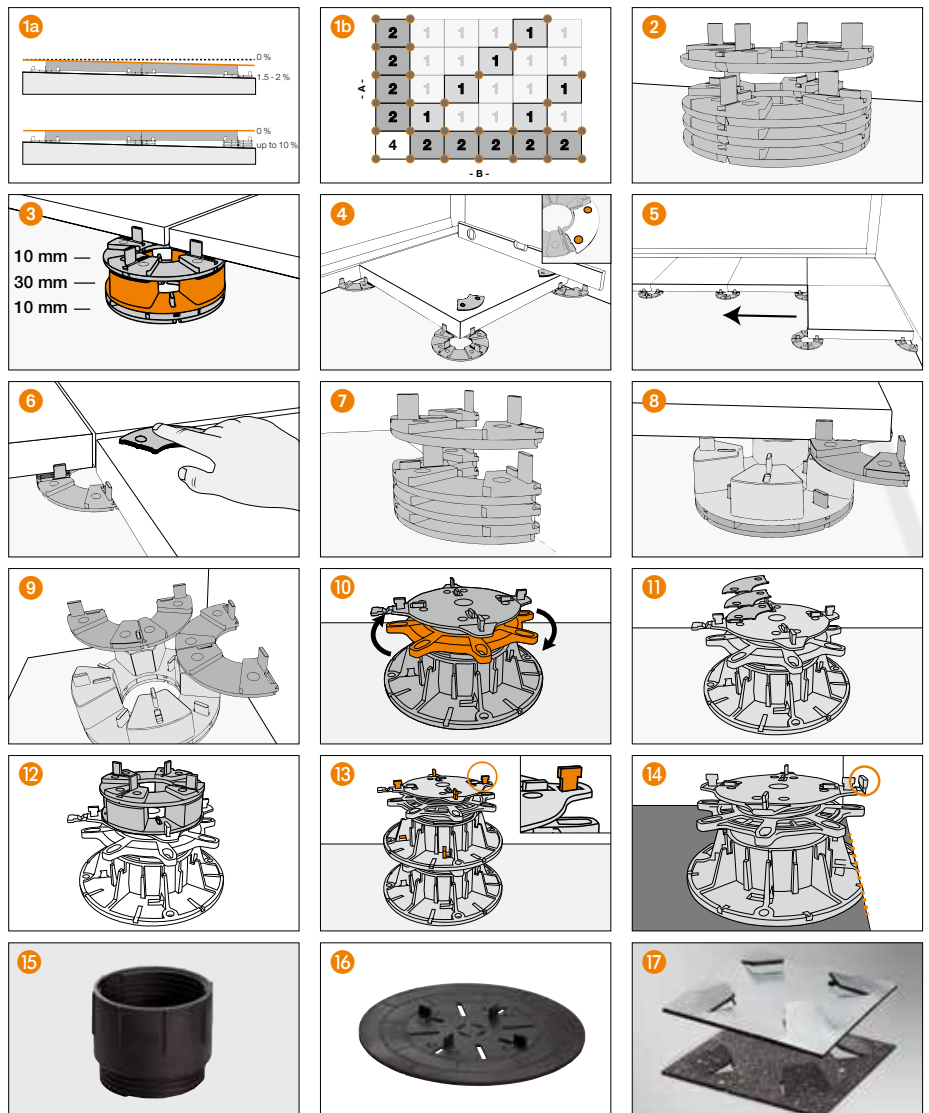
5. Keep the installation direction in mind.
6. Only stack as many TROBA-LEVEL-AP 1 levelling shims as required to reach the level of the adjacent paver.
7. Tile and paver supports at the edge can be stacked with a 90° offset to reach the necessary assembly height. TROBA-LEVEL-PL 10 supports (10 mm) can be cut into halves or quarters for use at edges or in corners (min. tile or paver width 60 mm). To this end, score the support with a cutter knife, break it off, and then trim off any unneeded joint spacers. Determine prior to cutting which halves fit together.
8. Edge solution from an assembly height of 50 mm. (including with cove shaped edge formations). Protruding joint spacers must be removed.
9. Corner solution from an assembly height of 50 mm. (including with cove shaped edge formations). Protruding joint spacers must be removed.
10. From an assembly height of 60 mm, you can also install rotatable TROBA-LEVEL-PLV 60 paver supports. The individual supports can be variably set up to a height of 130 mm by turning the setting wheel. For heavy use areas, additional mechanical fixings may need to be used to aid the locking mechanism. For further details please contact our Technical Services department.
11. If necessary, the final levelling and slope adjustment can be carried out with TROBA-LEVEL-AP 1 levelling shims (see Item 6).
12. If the required assembly height exceeds 130 mm, the TROBA-LEVEL-PLV 60 paver support can be combined with TROBA-LEVEL-PLA 30 as well as TROBA-LEVEL-PL 10 paver supports.
13. All assembly heights from 60 to 520 mm can be achieved by stacking up to four TROBA-LEVEL-PLV 60 paver supports on top of one another. The paver supports must be snapped together.
14. Edge/corner solution: Saw off the bottom plate in accordance with the underside cutting mark and fold the wall spacer up (see marking in Figure 14). Any unnecessary joint spacers can be removed. The minimum paver width is 85 mm.



15. Extension: TROBA-LEVEL-PLA 70 (H = 70 mm) enable the quick installation of larger heights. These adapters must be fully screwed into the bottom plate of TROBA-LEVEL-PLV 60. TROBA-LEVEL-PLA 70 is not designed for levelling. Make sure not to obstruct any existing drainage openings in the support profile when inserting Schlüter-BARA-RHA.

16. You can optionally use the tile and paver supports TROBA-LEVEL-LV 3 (200 mm, height 3 mm) for load distribution, which can be combined with TROBA-LEVEL-PL 10 and TROBA-LEVEL-PLA 30 supports. The tile and paver support TROBA-LEVEL-LV 3 is also suitable for creating low-height assemblies – final levelling is done with the levelling shims TROBA-LEVEL-AP 1. TROBA-LEVEL-LV 3 can be cut to size and features 3 mm joint spacers that guarantee an evenly spaced joint formation.

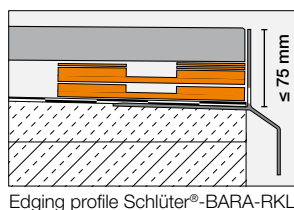
17. Protection of waterproofing assembly: For protective requirements, attach the bottom plates of TROBA-LEVEL-PLV 60 or TROBA-LEVEL-LV 3 in the slitted cuts of the protective support pads TROBA-LEVEL-PLS 6 (6 mm). In the case of PVC waterproofing assemblies, the aluminium separating layer of the protective support pads must be installed face down. If using TROBA-LEVEL-PL 10 tile and paver supports, these must be placed in the centre of the pads.



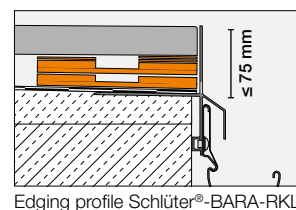
System products:

The exposed edge areas of tile and paver support installations must be protected against slippage with an suitable exterior border that is able to absorb shear loads. A variety of BARA profiles are available to finish exposed edge areas (see the corresponding product datasheets). Make sure not to obstruct any existing drainage openings in the support profile when inserting BARA-RHA.

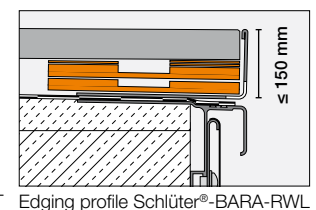
Schlüter-TROBA-LINE is a drainage channel that prevents the accumulation of water at door and wall transitions. In combination with the tile and paver support TROBA-LEVEL-PL 10, we recommend a channel width of 110 mm, while a width of 160 mm is best for TROBA-LEVEL-PLV 60. The drainage channel must be mechanically attached to the corresponding paver supports – for example with stainless steel metal screws.



Edging profile Schlüter®-BARA-RKL



Edging profile Schlüter®-BARA-RKLT



Edging profile Schlüter®-BARA-RWL



Height-adjustable cover profile Schlüter®-BARA-RHA



Gravel retaining angle Schlüter®-TROBA-LINE-TLK-E



Drainage channel Schlüter®-TROBA-LINE



The gravel retaining angle **Schlüter-TROBA-LINE-TLK-E** (H = 40/70 mm) is another available option.

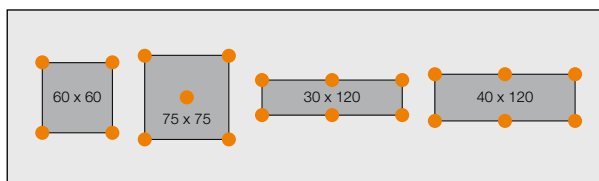
Estimated quantity calculation of paver supports:

60 x 60 cm ~ 3.4 supports/m²

75 x 75 cm ~ 4.0 supports/m²

30 x 120 cm ~ 7.0 supports/m²

40 x 120 cm ~ 5.4 supports/m²



Possible support points – depending on tile format

Product overview:

Technical data:	Height	Support area diam.	Material	Joint Spacer	Load-bearing capacity	max. stacking height	Combination options
Schlüter®-TROBA-LEVEL-PL 10 Support	10 mm	120 mm	PE	3 mm elastic	10000 kg / 100 kN	200 mm	PLA 30 / PLV 60 / LV 3 / AP 1
Schlüter®-TROBA-LEVEL-PLA 30 Height adapter	30 mm	–	PE	–	5000 kg / 50 kN	300 mm + 20 mm (2 x PL 10)	PL 10 / LV 3 / PLV 60
Schlüter®-TROBA-LEVEL-AP 1 Levelling shims	1 mm	–	PE	–	–	10 mm	PL 10 / PLV 60 / LV 3
Schlüter®-TROBA-LEVEL-PLV 60 Height-adjustable support	60 - 130 mm	200 mm	PP	3 mm	1000 kg / 10 kN	520 mm	PL 10 / PLA 30 / PLA 70 / AP 1
Schlüter®-TROBA-LEVEL-LV 3 Support	3 mm	200 mm	PP	3 mm	1000 kg / 10 kN	6 mm	PLA 30 / PL 10 / AP 1
Schlüter®-TROBA-LEVEL-PLA 70 Height adapter	70 mm	–	PP	–	1000 kg / 10 kN	910 mm + 130 mm (PLV 60)	PLV 60
Schlüter®-TROBA-LEVEL-PLS 6 Protective support pad	6 mm	260 x 260 mm	Granulated rubber/ aluminium lining on one side	–	–	–	PL 10 / PLV 60 / LV 3

**Text template for tenders:**

_____ units of Schlüter-TROBA-LEVEL paver supports for balcony and terrace coverings made of a special UV resistant, sound-insulating synthetic material with integrated 3 mm joint spacers to be installed for support and height adjustment. The items are to be combined according to the necessary height adjustment, following manufacturer's specifications - including the necessary levelling shims Schlüter-TROBA-LEVEL-AP 1 for precision adjustment.

Substrate:

Area drainage and installation mat Schlüter-

- TROBA-PLUS ...
- DITRA-DRAIN ...

Area drainage to be invoiced separately

- existing, waterproof installation area on site.

Article:

- TROBA-LEVEL-PL 10 paver support, height 10 mm
- TROBA-LEVEL-PLA 30 height adapter, height 30 mm
- TROBA-LEVEL-LV 3 paver support / load distribution panel, height 3 mm
- TROBA-LEVEL-PLV 60 height-adjustable paver support, height 60 - 130 mm
- TROBA-LEVEL-PLA 70 height adapter, height 70 mm

Properties

Material: PP or PE

UV resistant, non-rotting, recyclable, physiologically harmless

Temperature resistance: -40 °C to +100 °C

Load-bearing capacity: min. 1,000 kg/support

Integrated joint spacers: 3 mm

Height adjustment: mm

The installation instructions of the manufacturer must be observed.

Art.-No. _____

Material: _____ .../unit

Labour: _____ .../unit

Total: _____ .../unit

_____ units of Schlüter-TROBA-LEVEL-PLS 6 protective pads on existing, waterproof installation area on site (installation side to be verified).

The installation instructions of the manufacturer must be observed.

Art.-No.: _____

Material: _____ .../unit

Labour: _____ .../unit

Total: _____ .../unit

