

# TerraMaxx® TSL

## The dry pedestal bearing system

For mortar-free laying of self-supporting slabs.



TerraMaxx® TSL With leveling head



TerraMaxx® TSL-T Without leveling head



TerraMaxx® TSL-R

Infinitely height-adjustable dry pedestal support system for laying self-supporting outdoor flooring.

### Field of application

Walkable outdoor surfaces in private and public areas, e.g. on (roof) terraces and balconies.

### Covering types

Suitable coverings are those recommended by the covering manufacturer for the respective area of application and the respective type of covering installation.

The covering size is  $\geq 30$  cm edge length.

### Substrates

- Bonded substrates, concrete surfaces with or without waterproofing
- Unbound, earth-contacting substrates with delayed seepage (e.g. gravel-graded, vibrated and compacted surfaces)
- Thermal insulation of roof terraces

### Properties

TerraMaxx® TSL, TSL-T and TSL-R

- Tool-free processing for pedestal bearings and accessories
- Height adjustable from 14 mm up to 500 mm
- Joint web width = 2 mm, joint cross attachment = 5 mm width
- Integrated rattle stop for cushioning support of the flooring panels
- Temperature resistance: - 30 °C to + 80 °C
- Ensures backflow-free drainage of drain grates at low or barrier-free door connections; in accordance with DIN 18531-1:2017-07, 6.8, and ZVDH planning aid 2020-08, 4.1
- Can be used as a closed-joint covering with MorTec® SOFT
- Dressing installation possible

TerraMaxx® TSL

- Infinitely height-adjustable
- Head can be leveled up to 9
  - Compensates for unevenness in the substrate
  - Enables tooling-free formation of the covering joints

TerraMaxx® TSL-T

- Infinitely height-adjustable
- Telescopic threaded piece
  - Double adjustment range

TerraMaxx® TSL-R

- Height adjustment in 0.5 mm increments

### Load capacity

600 kg per dry pedestal bearing

### Delivery form

Pre-assembled at the factory (base element, threaded piece and head with joint bars and rattle stop)

Length/width: 23 x 14 cm

Variants, elevation heights:

2XS = 14-24 mm XS = 25-40 mm S = 38-45 mm M = 46-60 mm L = 61-75 mm XL = 76-120 mm 2XL = 120-208 mm

### Impact sound improvement

Up to +30 dB in combination with TerraMaxx® TSL Pad

### System components

- TerraMaxx® TSL extension element for extending the height of the 2XL pedestal support by 85 mm (up to max. 500 mm total height)
- TerraMaxx® TSL joint cross attachment, clip-on joint cross for 5 mm thick covering joints
- TerraMaxx® TSL Pad, aluminium-laminated rubber shot pad on the underside as a plasticizer barrier to protect the waterproofing layer and to compensate for overlap joints
- TerraMaxx® TSL wall spacer with integrated rubber buffer:
  - For maintaining connection joints on rising components
  - Mechanical protection of the rising waterproofing
- TerraMaxx® TSL edge support, wall spacer with integrated rubber buffer:
  - Support for partial paving slabs. Application for paving slab widths < 30 cm recommended
  - For maintaining connection joints on rising components
  - Mechanical protection of the rising waterproofing
- MorTec® SOFT special joint filler with fine grain structure
- MorTec® SOFT perforated bracket
- AquaDrain® TR reinforced separating layer (PE film with integrated mesh reinforcement for better flatness), laid directly as a slip layer with PE-compatible waterproofing layers; according to DIN 18531-2:2017-07, 5.4

### Notes on transportation and storage

The products must be protected from sunlight and moisture during storage and transportation.

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## Substrates

### Bonded substrates

Concrete, screed

### Unbound substrates

- Must be level (without height offset), load-bearing, firm and sufficiently compacted
- Must be designed to withstand the expected loads

### Insulations

- Pressure-resistant thermal insulation, applied to the substrate without cavities and as non-springy or compressible as possible
- Pressure load capacity  $\geq 150$  kPa (if the generally recognized rules of technology require a higher value, this applies)

### Sealings

- All types of waterproofing in accordance with DIN 18531, parts 1 to 5 are permitted.
- DiProtec® SDB plastic quick sealing membrane
- DiProtec® KSK bitumen cold self-adhesive membrane
- Separation layers in accordance with DIN 18531-2:2017-07, 5.4, may be required on waterproofing levels, e.g. PE film  $\geq 0.2$  mm, glass fleece  $\geq 150$  g/m<sup>2</sup>. AquaDrain® TR, separation layers with integrated grid reinforcement meet this requirement.
- Protective layers in accordance with DIN 18531-2:2017-07, 5.6, may be required on waterproofing levels, e.g. building protection sheets made of rubber granulate (at least 6 mm). TerraMaxx® TSL Pad, aluminum-laminated rubber shot pad on the underside, meets this requirement.

### Open/free edge areas

"Point bearing constructions, in particular pedestal bearing constructions, are to be provided with an edge framing as shear protection, as horizontal forces cannot be safely absorbed by point bearings." (Code of practice 002 "Point bearing construction", QSP e.V.)

These requirements are also met:

- The edge seal with GUTJÄHR ProFin® DP drainage and eaves seal profiles in combination with ProFin® BL push-on covers
- Jointing with the special joint filler MorTec® SOFT

### Underground gradient

#### Bonded substrates

- The substrate gradient should be  $\geq 1.0$  %.
- Slopes  $> 2.5$  % may require a slip protection system to be dimensioned on site, especially at free and open edge areas.
- Gradients  $< 1$  % favor standing water on the substrate level:
  - They have higher requirements for evenness in order to eliminate counter-slopes.
  - Water puddle depths are bridged at the corresponding height of the pedestal bearing.
- Barrier-free door connections and transitions must always be designed with a minimum gradient of  $> 1.0$  %.

#### Unbound substrates

Substrates capable of infiltration do not necessarily require a slope.

## Processing instructions

Approximate material consumption per m <sup>2</sup> (in the area)			
Format	Stückzahl	Format	Stückzahl
25 x 25 cm	16	50 x 50 cm	4
30 x 30 cm	pcs.	60 x 60 cm	pcs.
40 x 40 cm	12	80 x 80 cm	3
40 x 60 cm	pcs.	100 x 50 cm	pcs.
45 x 45 cm	7		7
	pcs.		pcs.
	5		4
	pcs.		pcs.
	5		
	pcs.		

The flooring manufacturer's instructions must also be observed here.

The consumption values stated refer solely to the positioning of the pedestal bearings in the joint intersections of the paving slabs in the surface. The additional requirement for edge areas must be determined according to object-specific quantities.

### Laying the dry pedestal bearings

1. AquaDrain® TR, reinforced Lay the separating layer over the entire surface of the waterproofing layer with an overlap of 5 cm. Drain slot openings on drain end profiles must not be covered by separating layers. Alternatively, if a protective layer is required on the waterproofing, the TerraMaxx® TSL Pad is suitable as a sliding, separating and protective layer.
  2. TerraMaxx® TSL dry pedestal supports are laid loosely on the separating layer or the TerraMaxx® TSL pad. The dry pedestal supports are generally positioned in the center of the cross or T-joints of the slab coverings.
  3. The long side of the TerraMaxx® TSL foot is laid parallel to all rising components in order to position the pedestal support as close as possible to the rising component. In the corner area, the base is shortened on one side.
  4. The TerraMaxx® TSL wall spacer must be positioned all around the covering surface on all rising components (also on ProFin® DP/BL cover and ProFin® KL gravel bar). The TerraMaxx® TSL wall spacer is placed under the blue rattle stop and held in place by the joint bars.
  5. Processing the TerraMaxx® TSL edge support:
    - TerraMaxx® TSL dry pedestal supports are positioned under the TerraMaxx® TSL edge support in accordance with the joint grid. For partial tiles where this is not possible, positioning is carried out at the next possible point in accordance with the joint grid.
    - The fabricator decides to what extent further supports are necessary to create a stable construction.
    - To position the TerraMaxx® TSL edge support on the TerraMaxx® TSL dry pedestal support, all 4 joint cross wings and the rattle stop must be removed.
    - The covering tiles are bonded directly to the TerraMaxx® TSL edge support using DiProtec® FIX-MSP. It is recommended that the previously removed joint cross wings of the TerraMaxx® TSL dry pedestal support are placed in the covering joints as spacers until the DiProtec® FIX-MSP has hardened.
- Using the TerraMaxx® TSL edge support increases the minimum installation height by approx. 2 mm. The TerraMaxx® TSL edge support is also used to support the AquaDrain® VARIO and KR drainage channels. For this purpose, the two box channel systems are mounted directly on the TerraMaxx® TSL edge support with DiProtec® FIX-MSP is bonded. Additional TerraMaxx® TSL dry pedestal supports are required to support the Aqua-Drain® VARIO/KR drainage channels. The substructure is installed at a maximum distance of 40 cm.

### Edge profiles on free pavement edges

Type and application can be found in the corresponding product links.

#### Drain end profiles with existing waterproofing

- ProFin® V22, V55
- ProFin® KL60, KL80, KL-H 61/92, KL-H 92/150

#### Drain and eaves end profiles with waterproofing still to be installed

- ProFin® DP11, 17, 21 base profiles in combination with ProFin® BL24, 49, 69 clip-on covers
- ProFin® DP30
- ProFin® BP



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### Drainage gratings for low or barrier-free door connections

- AquaDrain® FLEX
- AquaDrain® BF-FLEX
- AquaDrain® VARIO
- AquaDrain® KR/KR-U box channel system
- AquaDrain® DR drain grates



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### Laying the covering

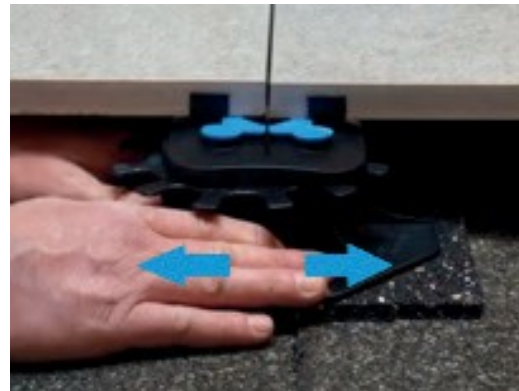
TerraMaxx® TSL, TerraMaxx® TSL-T and TSL-R

- The slab coverings suitable for self-laid installation are laid loosely on the dry pedestal support.
- Depending on requirements, the joint crossbars can be broken off individually, e.g. for simple joints, T-joints or also completely when positioned under a covering plate.
  - The height can be adjusted both before and after laying the respective flooring panel by turning the adjusting wheel.

TerraMaxx® TSL

- Tooth-free leveling of the covering plates:
  - By moving the foot element sideways, each corner of the flooring can be raised or lowered steplessly using the leveling head fixed in the flooring joints.
  - This creates an over-tooth-free transition between the individual covering plates without having to remove the covering again.

### The leveling head is used to level two already laid flooring slabs.



### Covering joints

Floor covering grouting with MorTec® SOFT:

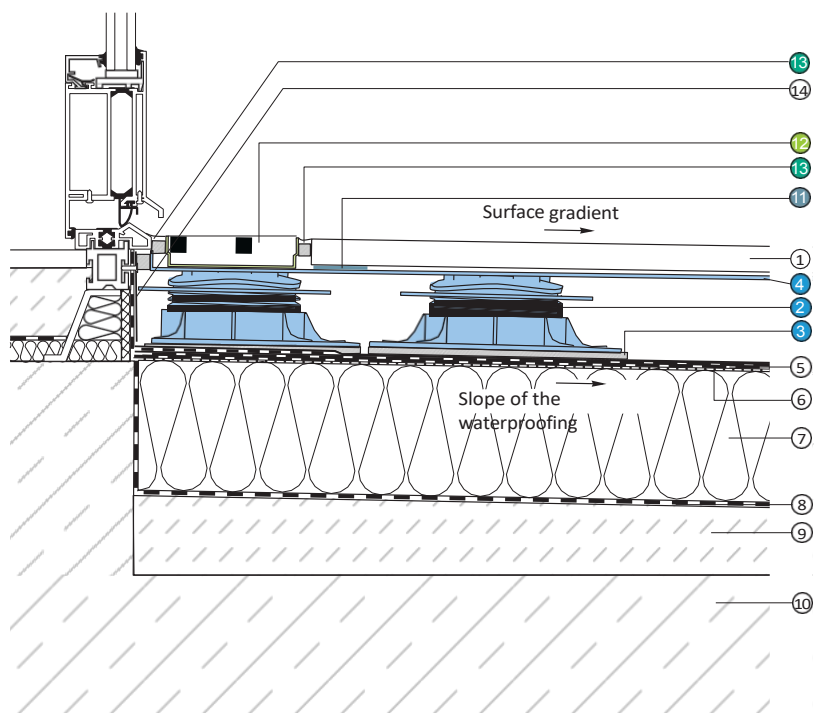
- Immediately after laying the floor covering, it can be grouted with MorTec® SOFT.
- Instructions and information on processing and application can be found in the MorTec® SOFT technical data sheet.
- For covering surfaces without shear-resistant edging, full-surface covering grouting with MorTec® SOFT is recommended as a minimum.

Open covering joints:

Open covering joints are possible with the TerraMaxx® TSL system.

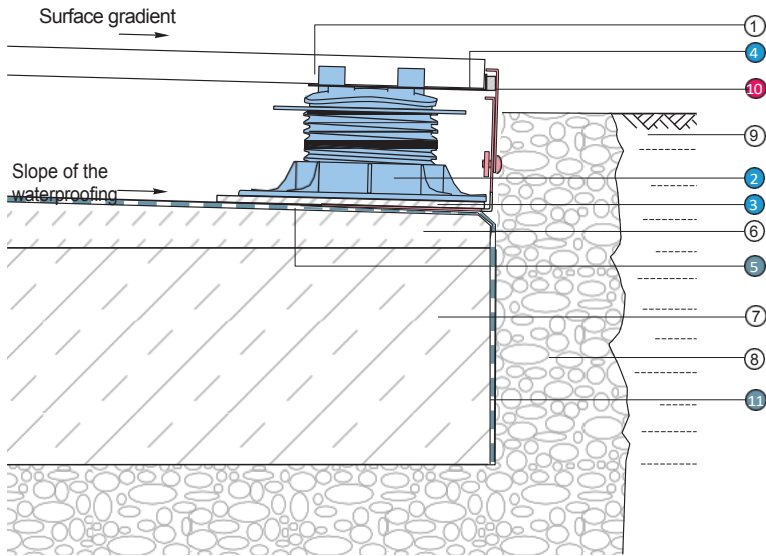
## Planning details

Barrier-free door connection in accordance with DIN 18040 with the ultra-flat AquaDrain® VARIO box channel on the TerraMaxx® TSL edge support and TerraMaxx® TSL dry pedestal support



- 1 Ceramic/natural/concrete paving
- 2 TerraMaxx® TSL dry pedestal bearings
- 3 TerraMaxx® TSL Pad, guarantees the protection of the waterproofing required by the DIN 18531 standard and replaces the separating layer required by the standard
- 4 TerraMaxx® TSL edge support with integrated sponge rubber strip
- 5 Waterproofing according to DIN 18531, here: Bitumen sheeting, two-ply
- 6 If required: Vapor pressure equalization layer
- 7 Pressure-resistant thermal insulation, applied to the substrate without cavities. Compressive load capacity  $\geq 150$  kPa (if the recognized rules of technology require a higher value, this applies)
- 8 Vapor barrier
- 9 Gradient bonded screed
- 10 Reinforced concrete ceiling
- 11 Fixing the covering plate with DIProtec® FIX-MSP
- 12 AquaDrain® VARIO flat box channel
- 13 Elastic joint made of neutral cross-linking sealant, e.g. MorTec® SOFT, on AquaDrain® SL joint tape
- 14 Wall connection with composite sheet, screwed on

Edge finish with height-adjustable ProFin® KL-H 92/150 drain gravel strip Floor covering on TerraMaxx® TSL dry pedestal bearing



- 1 Ceramic, natural or artificial stone paving
- 2 TerraMaxx® TSL dry pedestal bearings
- 3 TerraMaxx® TSL Pad guarantees the protection of the waterproofing required by the DIN 18531 standard and replaces the separating layer required by the standard
- 4 TerraMaxx® TSL wall spacer
- 5 DiProtec® SDB plastic quick sealing membrane, alternative:  
DiProtec® KSK cold self-adhesive membrane
- 6 Gradient bonded screed
- 7 Reinforced concrete slab in contact with the ground
- 8 Compacted, load-bearing, seepable substructure (e.g. mineral, gravel, etc.)
- 9 Lawn with soil
- 10 ProFin® KL-H 92/150 height-adjustable drainage gravel strip, fixed e.g. with DiProtec® KSK-AB sealing tape
- 11 Front edge, sealed with DiProtec® FLK liquid applied waterproofing with fleece inlay

## System accessories

TerraMaxx® TSL (230 x 140 mm)	TerraMaxx® TSL-T	TerraMaxx® TSL-R	TerraMaxx® TSL extension element attachment (85 mm height) joint width)	TerraMaxx® TSL Joint cross (5 mm)	TerraMaxx® TSL Pad (232 x 142 x 6 mm)
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## System components

TerraMaxx® TSL wall spacer (160 mm x 40 mm x 10 mm/ Rubber buffer 10 mm x 10 mm)	TerraMaxx® TSL edge support (800 mm x 110 mm x 2.5 mm thickness/ Rubber buffer 10 mm x 10 mm)	MorTec® SOFT, elastic joint filler	AquaDrain® TR, reinforced separating layer (1 x 50 m, approx. 0.2 mm thick)
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## Material

TerraMaxx® TSL dry pedestal support, extension element, joint cross top: polypropylene (PP) TerraMaxx® TSL pad: rubber shot pad with aluminum lamination on the underside  
TerraMaxx® TSL wall spacer: stainless steel, material no. 1.4301  
TerraMaxx® TSL edge support: steel, Sendzimir galvanization with subsequent powder coating (black)

You can find further components for the complete systems that you can implement with TerraMaxx® TSL by scanning the QR code or in the current price list.



The information contained in this technical data sheet is based on our careful investigations and our experience. The many substances and materials used in the overall construction as well as the different building site and processing conditions cannot be checked or influenced by us in detail. Specialist knowledge, correct professional judgment and the correct use of products are the basis for permanently reliable construction work. In case of doubt, you should carry out your own tests or seek technical application advice. In addition to the information in this technical data sheet, the relevant rules and regulations of the responsible organizations and trade associations as well as the respective national standards for the work to be carried out must be observed. With the publication of this technical data sheet, all previous data sheets lose their validity.

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The currently valid versions of the technical data sheets and the current installation instructions can be found at <https://www.gutjahr.com/downloads/>



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