

# DRAINAGE MEMBRANES



## INNOVATIVE SOLUTIONS FOR CERAMIC AND STONE TILE

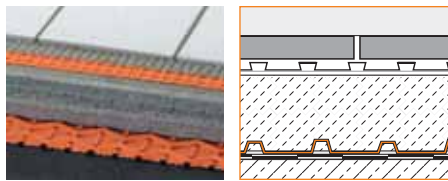
### SUB-SURFACE DRAINAGE FOR MORTAR BEDS

Proper drainage is an essential feature of exterior tile assemblies where water is allowed to infiltrate a mortar setting bed. Water expands when it freezes and can exert great pressure and cause damage to its surroundings. Thus, any moisture that enters a setting bed must be allowed to leave the system quickly. Schluter® drainage membranes are designed to provide a simple and effective means to allow seepage water to exit the tile assembly quickly and avoid permanent saturation of the mortar bed.

### Application and Function

Schluter®-TROBA/-TROBA-PLUS is used primarily in horizontal applications over sloped waterproofing layers to provide an effective drainage layer between the waterproofing layer and the covering assembly above. This system is generally used on balconies and terraces, but its applications also include industrial structures, swimming pool decks, washrooms, showers, etc. (all of which have been waterproofed). The load-distribution layer may consist of a mortar bed with a tile covering, or it may be constructed of crushed stone or gravel with a paver or stone covering. It is also possible to apply a covering of soil over TROBA/-TROBA-PLUS. Any water that penetrates the covering is collected in the stilted drainage area of Schluter®-TROBA/-TROBA-PLUS where it runs off, under normal gravitational force, toward the designated drainage exit. Thus, permanent saturation of the load-distribution layer, due to seepage water, is eliminated.

**7.1 Schluter®-TROBA** is a reliable and permanently effective drainage system for use over sloped waterproofing layers. It consists of a pressure-stable polyethylene

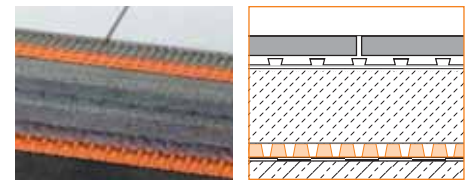


7.1 Schluter®-TROBA

sheet with perforated studs that form vault-like cavities between the waterproofing layer and the mortar bed. Any water penetrating the tile covering and the mortar bed passes through the perforations located at the sides of the trapezoid-shaped studs to the sloped waterproofing layer, where it runs off freely through the cavities to the drainage exit.

**7.2 Schluter®-TROBA-PLUS** is a reliable and permanently effective drainage layer for use in horizontal applications over sloped waterproofing layers. It consists of a high-impact, studded polyethylene sheet covered on one side with a water-permeable polypropylene filter fabric. The fabric-enhanced, studded side on which the surface covering assembly rests acts as a high-capacity drainage plane.

Schluter®-TROBA-PLUS provides additional protection for the waterproofing layer. The closely positioned studs, shaped like truncated cones, have an extremely high load-bearing capacity. In addition, loads are distributed evenly over the entire waterproofing surface. The open area between the studs and the fabric creates an insulated air space that protects the waterproofing membrane against harmful thermal stress. Moreover, the insulated air space provides an effective sound barrier. Schluter®-TROBA-PLUS stilted the mortar bed by 5/16" (8 mm) over the entire waterproofing surface. Thus, irregularities in the waterproofing layer that can lead to the collection of water, such as uneven sections or elevations at the seams, are effectively



7.2 Schluter®-TROBA-PLUS

bridged. Major defects in the slope of the waterproofing layer can be corrected prior to the laying of Schluter®-TROBA-PLUS by applying an appropriate mortar.

### Material Properties and Areas of Application

**Schluter®-TROBA** consists of a pressure-stable polyethylene sheet with a structure of trapezoid-shaped, 1/4" (6 mm)-high studs. The corners of the studs are perforated to allow the flow of seepage water. The contact area of the matting is approximately 50%; free space constitutes the remaining 50%. The material will not rot and is form-stable within a temperature range of -40 °F (-40 °C) to 176 °F (80 °C).

**Schluter®-TROBA-PLUS** consists of a pressure-stable polyethylene sheet with unilaterally positioned studs and a polypropylene filter fabric bonded to the studs. The material maintains its shape up to a temperature of +176 °F (80 °C). Schluter®-TROBA-PLUS has a compressive strength of 8,000 lb/ft<sup>2</sup> (39 t/m<sup>2</sup>). Its functional and material characteristics are permanently guaranteed. The material is resistant to aging and will not rot. Schluter®-TROBA-PLUS requires no special disposal.

The loosely placed Schluter®-TROBA/-TROBA-PLUS is adequately resistant to mechanical stresses incurred during the installation process; e.g., due to foot traffic and wheelbarrows.

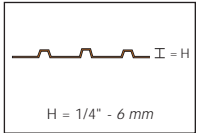


## Installation

### TROBA/TROBA-PLUS

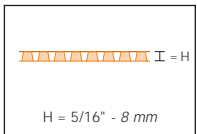
1. The load-bearing substrate and waterproofing membrane must be adequately sloped toward, and connected to, the designated drainage exit. Prior to laying the Schluter®-TROBA/-TROBA-PLUS, any severe defects in the slope of the waterproofed layer must be corrected using an appropriate mortar.
2. Irrespective of slope, Schluter®-TROBA/-TROBA-PLUS is loosely laid over the waterproofing membrane (filter fabric side up for TROBA-PLUS). Individual courses of Schluter®-TROBA are overlapped along the flat edges while the ends of two courses are overlapped by at least one row of studs. Adjoin sections of Schluter®-TROBA-PLUS by abutting the edges and overlapping the filter fabric.
3. The surface covering assembly is installed directly over the Schluter®-TROBA/-TROBA-PLUS according to current industry standards. If tile is to be installed using the Schluter®-DITRA system, please refer to the Schluter®-DITRA Installation Handbook for complete installation instructions and warranty criteria.
4. With respect to edging profiles, movement joints, and floor/wall transitions, please refer to the Schluter®-DILEX and -BARA series in the Schluter®-Systems Illustrated Price List.

## Product Item Numbers



### 7.1 Schluter®-TROBA

| Item No. | Thickness   | Width       | Length        | Area                                     |
|----------|-------------|-------------|---------------|--|
| TROBA-RO | 1/4" - 6 mm | 3' 3" - 1 m | 65' 7" - 20 m | 215 ft <sup>2</sup> - 20 m <sup>2</sup>  |
| TROBA-MA | 1/4" - 6 mm | 3' 3" - 1 m | 3' 3" - 1 m   | 10.73 ft <sup>2</sup> - 1 m <sup>2</sup> |



### 7.2 Schluter®-TROBA-PLUS

| Item No.     | Thickness    | Width       | Length       | Area                                      |
|--------------|--------------|-------------|--------------|---|
| TROBA-PLUS 8 | 5/16" - 8 mm | 3' 3" - 1 m | 41" - 12.5 m | 135 ft <sup>2</sup> - 12.5 m <sup>2</sup> |



PROFILE OF INNOVATION

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