

# DRAINAGE MEMBRANES



## INNOVATIVE SOLUTIONS FOR CERAMIC AND STONE TILE

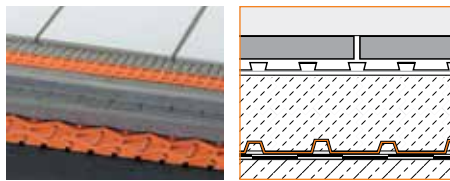
### SUB-SURFACE DRAINAGE FOR MORTAR BEDS

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 and TROBA-PLUS are 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 or TROBA-PLUS. Any water that penetrates the covering is collected in the stilted drainage area of TROBA or 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 sheet with perforated studs that form

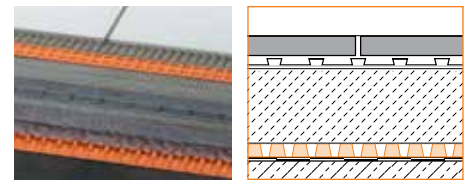


7.1 Schluter®-TROBA

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.

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. 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 bridged. Major defects in the slope of the waterproofing



7.2 Schluter®-TROBA-PLUS

layer can be corrected prior to the laying of TROBA-PLUS by applying an appropriate mortar.

#### Material Properties and Areas of Application

TROBA consists of a pressure-stable polyethylene sheet with a structure of trapezoid-shaped, 9/32" (7 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).

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). 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. TROBA-PLUS requires no special disposal.

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

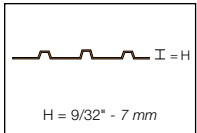


## Installation

### TROBA and TROBA-PLUS

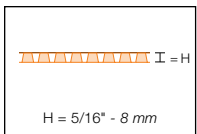
1. The load-bearing substrate and waterproofing membrane must be adequately sloped toward, and connected to, the designated drainage exit. Prior to laying the TROBA or TROBA-PLUS, any severe defects in the slope of the waterproofed layer must be corrected using an appropriate mortar.
2. Irrespective of slope, TROBA or TROBA-PLUS is loosely laid over the waterproofing membrane (filter fabric side up for TROBA-PLUS). Individual courses of 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 TROBA-PLUS by abutting the edges and overlapping the filter fabric.
3. The surface covering assembly is installed directly over the TROBA or 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	9/32" – 7 mm	3' 3" – 1 m	65' 7" – 20 m	215 ft <sup>2</sup> – 20 m <sup>2</sup>
TROBA-MA	9/32" – 7 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>



## Schluter®-Systems Drainage Membranes 10-Year Limited Warranty

**COVERAGE AND CONDITIONS:** Subject to the conditions and limitations as stated hereinafter, **Schluter-Systems\*** warrants that **Schluter®-TROBA** or **Schluter®-TROBA-PLUS** (the "Product") will be free from manufacturing defects, and will not rot, deteriorate or break down under normal use for a period of ten (10) years from the date of purchase only when the Product is used and installed in accordance with the terms and conditions of the Schluter®-Systems Drainage Membranes Technical Data Sheet and industry standard guidelines that are not in conflict with the Data Sheet in effect at the time of installation. Further, efflorescence is considered to be a natural occurrence with cementitious materials and is therefore not considered to be a defective condition and is not covered by this warranty. It is the responsibility of the owner/ builder/ installer to ensure the suitability of all building materials and all associated building materials for the owner's intended use. It is recommended that the owner consult with an experienced and professional installer.

**RESOLUTION:** If the Product fails to meet this warranty, then the owner's exclusive remedy and the sole obligation of Schluter-Systems, at its election, shall be to a) replace the failed portion of the Product or b) pay an amount not to exceed the original square foot cost of the Product verified to be defective.

**DISCLAIMER:** THERE ARE NOWARRANTIES BEYOND THIS EXPRESSED WARRANTY AS STATED ABOVE. ALL OTHER WARRANTIES, REPRESENTATIONS OR CONDITIONS, EXPRESSED OR IMPLIED, ARE DISCLAIMED AND EXCLUDED, INCLUDING WARRANTIES, REPRESENTATIONS OR CONDITIONS OF **MERCHANTABILITY** OR FITNESS FOR A PARTICULAR PURPOSE ARISING BY STATUTE OR OTHERWISE BY LAW OR FROM A COURSE OF DEALING OR USAGE OF TRADE. SCHLUTER-SYSTEMS EXCLUDES AND IN NO EVENT SHALL HAVE ANY LIABILITY FOR LOST PROFITS OR ANY OTHER INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES, ARISING OUT OF OR OTHERWISE CONNECTED TO FAILURE OF THE PRODUCT OR TILE ASSEMBLY OF WHICH IT IS PART, NOR MISUSE OF THE PRODUCT OR TILE ASSEMBLY, REGARDLESS OF ANY STRICT LIABILITY, ACTIVE OR PASSIVE NEGLIGENCE OF SCHLUTER-SYSTEMS, AND REGARDLESS OF THE LEGAL THEORY (CONTRACT OR TORT OR EXTRA-CONTRACTUAL OR OTHER), NOR FROM ACTS OF WAR, TERRORISM, FAULTY AND NEGLIGENT PENETRATION OF THE SYSTEM, FIRES, EXPLOSIONS, ACTS OF GOD, INTENTIONAL ACTS OF DESTRUCTION OR ANY LOSSES DUE TO STRUCTURAL FAILURE OR OTHER CAUSES UNRELATED TO THE PRODUCT OR DELAYS, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY IS GIVEN IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED. THE REMEDIES CONTAINED HEREIN ARE THE ONLY REMEDIES AVAILABLE FOR BREACH OF THIS WARRANTY. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS; SOME STATES AND PROVINCES DO NOT ALLOW DISCLAIMERS OR OTHER RESTRICTIONS OF IMPLIED WARRANTIES, SO SOME OF THE ABOVE DISCLAIMERS MAY NOT APPLY TO YOU.

**TRANSFERABILITY:** This Limited Warranty extends ONLY to the original end user (defined as original intended owner and user of the property/unit in which the installation is incorporated - herein referred to as "Owner") and is not transferable or assignable, unless approved in writing by the Technical Director or an Officer of Schluter-Systems or otherwise prohibited by specific state or provincial law.

**MODIFICATIONS TO WARRANTY:** No changes or modification of any terms or conditions of this warranty are allowed unless authorized by written agreement and signed by the Technical Director or an Officer of Schluter-Systems.

**EFFECTIVE DATE:** This warranty shall supersede and replace any and all prior oral or written warranties, agreements, or other such representations made by or on behalf of Schluter-Systems relative to the Product or the application of the Product and shall apply to any installation occurring on or after January 1, 2013.

**CLAIMS ON THIS LIMITED WARRANTY:** To make a claim under this Limited Warranty, the Owner must provide Schluter-Systems with written notice within 30 days of any alleged defect in the Product covered by this Limited Warranty, together with date and proof of purchase of the Product, proof of the costs of the original installation and name and address of all installers, failing which this Limited Warranty shall be of no legal effect. Schluter-Systems reserves the right at its election and as a condition of this Limited Warranty to inspect the alleged failed and defective condition.

All U.S. Claims shall be sent to:

Schluter Systems L.P.  
Attn: Warranty Claims Dept.  
194 Pleasant Ridge Road  
Plattsburgh, NY 12901-5841

All Canadian Claims shall be sent to:

Schluter Systems (Canada), Inc.  
Attn: Warranty Claims Dept.  
21100 chemin Ste-Marie  
Ste-Anne-de-Bellevue, QC H9X 3Y8

\*For the purpose of this warranty **Schluter Systems, L.P.** shall provide the warranty for all products for end users located in the United States, and **Schluter Systems (Canada) Inc.** shall provide the warranty for all products for end users located in Canada. This warranty is limited to sales of the Product made in and intended for use in the United States and Canada.



**Schluter Systems L.P.** • 194 Pleasant Ridge Road, Plattsburgh, NY 12901-5841 • Tel.: 800-472-4588 • Fax: 800-477-9783  
**Schluter Systems (Canada) Inc.** • 21100 chemin Ste-Marie, Ste-Anne-de-Bellevue, QC H9X 3Y8 • Tel.: 800-667-8746 • Fax: 877-667-2410  
info@schluter.com

[www.schluter.com](http://www.schluter.com)