Schluter® Systems

PROFILE OF INNOVATION

8.7 Schluter®-KERDI-LINE

Installation Manual
Maintenance and Material Information

INNOVATIVE SOLUTIONS FOR CERAMIC AND STONE TILE

LINEAR DRAINS FOR BONDED WATERPROOFING ASSEMBLIES

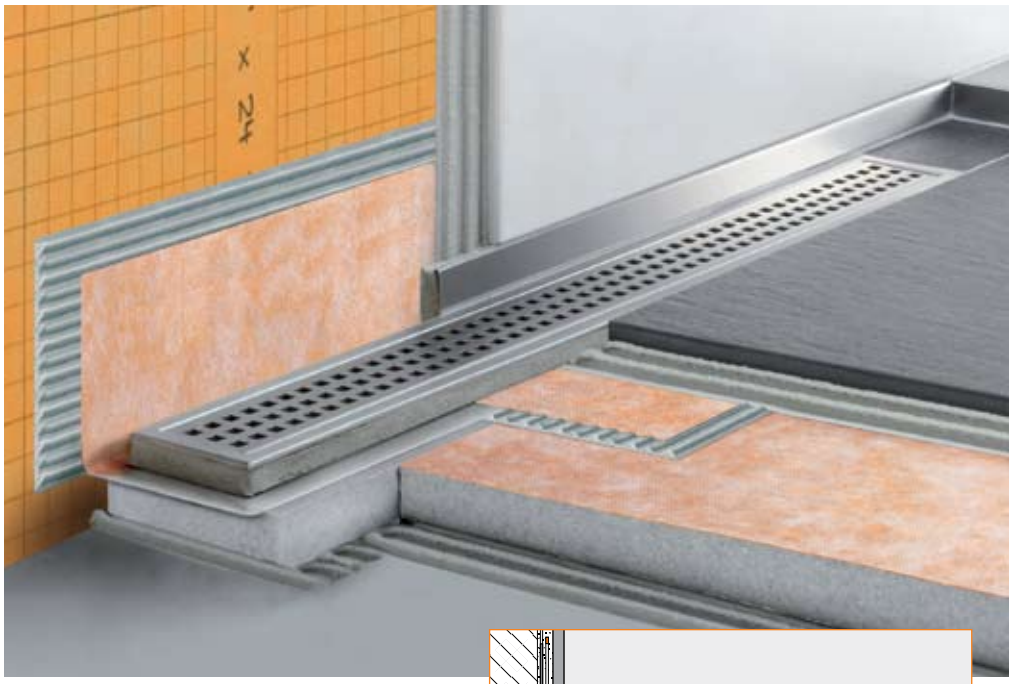
Application and Function

8.7 Schluter®-KERDI-LINE is a low profile linear floor drain specifically designed for bonded waterproofing assemblies. KERDI-LINE can be installed adjacent to walls or at intermediate locations in showers, steam rooms, wet rooms, and other applications that require waterproofing and drainage. The floor can be sloped on a single plane to KERDI-LINE, which enables the use of large-format tiles and creates interesting design opportunities.

Schluter®-KERDI-LINE consists of a formed stainless steel channel body and a grate assembly that can be seamlessly adjusted to the thickness of the ceramic tile or stone covering from 1/8" to 1" *(3 mm to 25 mm)*. The channel body features a standard 2" *(50 mm)* no-hub outlet and is attached to the pipe using an appropriate mechanical (e.g., flexible or no-hub) coupling. The simple connection to standard drain outlets makes KERDI-LINE suitable for new construction and renovation.

Schluter®-KERDI-LINE includes a corresponding polystyrene foam channel support and can be installed in conjunction with the matching **8.8 Schluter®-KERDI-SHOWER-L/-LS** sloped trays with integrated Schluter®-KERDI waterproofing or a sloped mortar bed covered with the **8.1 Schluter®-KERDI** waterproofing membrane. The trays are available for wall (-LS) or center (-L) drain placement. Surrounding walls are made waterproof using Schluter®-KERDI or Schluter®-KERDI-BOARD.

The perimeter of the channel body consists of a bonding flange laminated with a collar made of Schluter®-KERDI. It ensures a simple and secure connection to the bonded waterproofing assembly, both in the floor area and on adjacent walls.

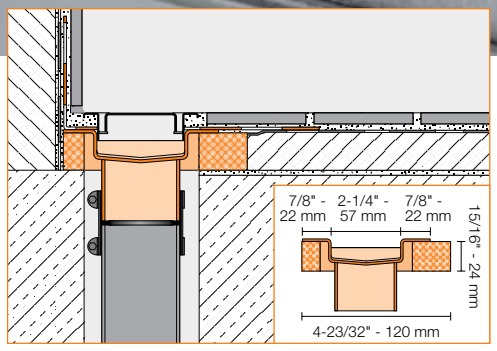


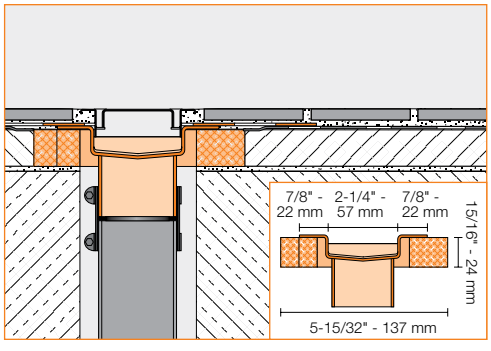
8.7 Schluter®-KERDI-LINE

The grate assembly consists of a brushed stainless steel frame and three design grate options. Option A is a closed-design, brushed stainless steel grate. Option B is a brushed stainless grate with square perforations. Option C is a stainless steel pan with Schluter®-KERDI laminated on the inside for setting tile inserts up to 3/8" *(10 mm)* thick.

Schluter®-KERDI-LINE is available in channel lengths from 20" to 48" *(50 cm to 120 cm)* in 4" *(10 cm)* increments. Please note that the bonding flange extends approximately 1" *(2.5 cm)* beyond the channel on all sides.

The **14.4 Schluter®-SHOWERPROFILE-S/-R** system profiles represent an elegant solution for finishing the area between





the floor and the first course of wall tile in a way that eliminates cutting wedges of tile and ensures a consistent elevation of the first course of wall tile in Schluter®-KERDI-LINE applications. Schluter®-SHOWERPROFILE-S consists of a trapezoid-perforated anchoring leg with a groove, which accepts a tapered brushed stainless steel profile that matches the slope of the KERDI-SHOWER-L shower tray. The profile is adjusted to cover the exposed wall area and forms the visible surface. Schluter®-SHOWERPROFILE-R consists of a brushed stainless steel profile and corresponding channel. The profile is adjusted to fit the space between the KERDI-LINE and the wall tile and forms the visible surface in applications where KERDI-LINE is placed adjacent to a wall.

Material Properties and Areas of Application

The Schluter®-KERDI-LINE channel body is formed using 304 (1.4301 = V2A) stainless steel and features a bonding flange with a Schluter®-KERDI collar laminated on the surface. Schluter®-KERDI is a bonded waterproof membrane made of soft polyethylene, which is covered on both sides with a special fleece webbing to anchor the membrane in the thin-set mortar. The frame and grates are made of 304 (1.4301 = V2A) stainless steel. The channel support is made of pressure-resistant, expanded polystyrene (EPS).

Schluter®-KERDI-LINE is suitable for use in residential and commercial applications, including areas subject to foot and wheelchair traffic, such as showers and wet rooms in homes, hotels, schools, healthcare facilities, etc.

The Schluter®-SHOWERPROFILE-S anchoring leg is made of recycled, rigid PVC. The Schluter®-SHOWERPROFILE-S/-R profiles are made of 304 (1.4301 = V2A) stainless steel with Schluter®-KERDI laminated to the backside.

Stainless steel can sustain high mechanical stresses and is particularly suitable for applications requiring resistance against chemicals and acids. However, even stainless steel is not resistant to all chemical stresses, and may be affected by hydrochloric and hydrofluoric acid or certain chloride and brine concentrations, which may be present in detergents or swimming pools. In special cases, the suitability of the selected floor drainage system must be verified based on the anticipated chemical, mechanical, and/or other stresses.

Maintenance

Schluter®-KERDI-LINE requires no special maintenance and is resistant to mold and fungi. The grate may be removed to clean the channel body and the drainpipe. Stainless steel grates exposed to the environment or aggressive substances should be cleaned periodically using a mild household cleaner. Regular cleaning maintains the neat appearance of stainless steel and reduces the risk of corrosion. All cleaning agents must be free of hydrochloric and hydrofluoric acid.

Installation

The following installation instructions include the steps necessary to install the Schluter®-KERDI-LINE linear drain within a bonded waterproofing assembly. Please refer to the Schluter®-Shower System Installation Handbook for comprehensive details and installation instructions regarding Schluter®-Shower System applications. Please also refer to the installation video provided with KERDI-LINE. The Handbook and video are also available on our website at schluter.com.

Preparation

1. It is recommended that shower walls are made waterproof using Schluter®-KERDI or Schluter®-KERDI-BOARD prior to construction of the shower base. The waterproofing is carried to the height of the showerhead (at minimum).
   The substrate must be clean, even, and load bearing. Any leveling of the floor must be done prior to placing the channel support and Schluter®-KERDI-SHOWER-L/-LS tray.
2. For installation adjacent to the wall, the channel body must be aligned in accordance with the thickness of the wall covering. For intermediate installation, use the supplied filling strip with peel-and-stick adhesive layer to make the channel support symmetrical. After locating the correct position, cut a hole in the substrate for the drain outlet and coupling to the waste line.
   Fill in box-outs in concrete floors with dry-pack mortar. A pipe coupling or similar can be used as a form around the waste line. Select form to accommodate the KERDI-LINE outlet and mechanical coupling. Limit the diameter of the hole to 5" *(125 mm)* maximum to ensure proper support of the tile assembly. A larger hole can lead to lack of support and damage the tile assembly (e.g., cracked grout around drain).
   Note: When a flush installation of KERDI-LINE is desired, a registered design professional (i.e., professional engineer or professional architect) must be consulted for a subfloor repair/modification design and detail to ensure conformance of the subfloor with applicable building code(s) after the subfloor section is cut to accommodate the channel body.

KERDI-LINE

3. Schluter®-KERDI-LINE can be installed in conjunction with the provided channel support as described below or set in loose mortar. KERDI-LINE is connected to the waste line with the appropriate mechanical coupling (e.g., flexible or no-hub connector) in accordance with the coupling manufacturer's instructions.
   a. When there is access to the plumbing from below and the waste line can be connected after

installing Schluter®-KERDI-LINE, apply unmodified thin-set mortar to the substrate where the drain is to be placed with a notched trowel and solidly embed the channel support in the mortar. Apply unmodified thin-set mortar to the top of the channel support and press the drain firmly into the mortar, ensuring full support of the bonding flange.

b. When there is no access to the plumbing from below, the channel body must be set and connected to the waste line simultaneously.

Begin the drain installation by dry fitting the components as follows. Attach the mechanical coupling to the Schluter®-KERDI-LINE outlet. Measure and cut a section of pipe to connect the coupling to the odor trap below the floor, using the channel support as a spacer. Remove the mechanical coupling from the outlet.

Continue the drain installation as follows. Apply unmodified thin-set mortar to the underside of the bonding flange and press the channel support firmly into the mortar. Attach the mechanical coupling to the drain outlet per the coupling manufacturer's instructions. Attach the cut section of pipe to the mechanical coupling per the coupling manufacturer's instructions. Apply unmodified thin-set mortar to the substrate where the drain is to be placed with a notched trowel.

Prepare the cut section of pipe and odor trap with cleaner, primer and ABS or PVC cement per the solvent cement manufacturer's instructions. Solidly embed the channel support and KERDI-LINE into the mortar on the floor and connect the cut section of pipe to the odor trap.

Note: Schluter®-Systems recommends installing KERDI-LINE according to 3a whenever possible. This method affords the installer greater control over the final position of the drain and makes it easier to obtain full support under the bonding flange. When possible, it is also recommended to leak test the connection between the drain and the waste line prior to continuing with the remainder of the installation.

Shower base

4. a. When using Schluter®-KERDI-SHOWER-L/-LS tray:

If necessary, cut the tray to size prior to application. When the KERDI-LINE is placed at an intermediate location (e.g., center of shower), it is recommended that the KERDI-SHOWER-L tray be cut by equal amounts from the ends to ensure a consistent height of the first course of tile. When KERDI-LINE is placed adjacent to a wall, cut the KERDI-SHOWER-LS tray from the thick end to ensure a flush transition at the drain. The shower base can also be extended beyond the tray using dry-pack mortar, which is in turn covered with the KERDI membrane.

Cut the flat end of the KERDI-SHOWER-L/-LS tray to fit around the channel support. Apply unmodified thin-set mortar to the substrate using a 1/4" x 3/8" *(6 mm x 10 mm)* square- or U-notched trowel. Slide the KERDI-SHOWER-L/-LS under the edge of the channel body flush with the surface of the channel support, making certain to solidly embed the tray in the mortar. Check the underside of the tray to ensure that full coverage is achieved.

b. When using a mortar bed:

The screed is placed flush with the top of the bonding flange of the KERDI-LINE. Slope the mortar bed using the bonding flange and a perimeter screed as guides.

As soon as the mortar can be walked upon, apply a bond coat of unmodified thin-set mortar to the screed (mixed to a fairly fluid consistency, but still able to hold a notch) using a 1/4" x 3/16" *(6 mm x 5 mm)* V-notched or the Schluter®-KERDI-TROWEL, which features a 1/8" x 1/8" *(3 mm x 3 mm)* square-notched design. Embed Schluter®-KERDI in the bond coat and work the membrane onto the entire surface to ensure full coverage and remove air pockets. The KERDI is carried to the stainless steel bonding flange.

Waterproofing connections

5. The Schluter®-KERDI collar on KERDI-LINE is integrated with the adjoining waterproofing assembly using unmodified thin-set mortar. The KERDI collar must be cut and folded where the KERDI-LINE is installed adjacent to walls.

Mix the mortar to a fairly fluid consistency, but make sure that it is still able to hold a notch. Apply the thin-set mortar using a 1/4" x 3/16" *(6 mm x 5 mm)* V-notched trowel or the Schluter®-KERDI-TROWEL, which features a 1/8" x 1/8" *(3 mm x 3 mm)* square-notched design. Embed the membrane into the mortar throughout its entire surface to ensure proper adhesion and to remove air pockets. Repeat this procedure for all seams and connections within the waterproofing assembly using Schluter®-KERDI-BAND waterproofing strips and Schluter®-KERDI-KERECK-F preformed corners.

Note: The sequence of membrane installation can vary provided that a minimum 2" *(50 mm)* overlap is maintained at all joints and proper connection to the KERDI-LINE is established. Top-over-bottom or shingle laps of the membrane are not required.

6. Once the entire membrane, including seams, corners, curbs, and connection to drain, have been completely bonded and, therefore, waterproofed, the assembly is ready to be tiled.

Note: Prior to setting tile, if the assembly is to be water tested, wait 24 hours to allow for final set of the mortar before testing to ensure waterproof performance of the assembly at seams and connections.

Grate assembly

7. Apply unmodified thin-set mortar to the underside of the grate frame and place it in the channel body. Insert the foam spacers in the grate frame to reinforce it during the remainder of the installation.
8. Insert the plastic height adjustment spacers with threaded bolts under the tabs along the inside of the grate frame

to adjust the elevation of the frame such that the surface of the frame will be flush with the surface of the tile covering. The spacers may be adjusted simply by turning the bolts by hand or with the enclosed Allen wrench.

Tile

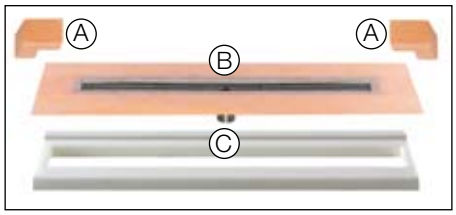
9. Apply unmodified thin-set mortar directly to the exposed Schluter®-KERDI surface and install the tiles, ensuring full coverage. For acid-resistant coverings, use an epoxy adhesive to set and grout the tile. Once the tile covering is set and grouted, remove the spacers from the grate frame and insert the grate.
   Follow steps 10 and 11 in conjunction with step 9 if the Schluter®-SHOWERPROFILE-S/-R profiles are to be included in the tile assembly.
10. Schluter®-SHOWERPROFILE-S
    a. Select the profile according to the tile thickness. Using a notched trowel, apply unmodified thin-set mortar where the profile is to be placed. Press the trapezoid-perforated anchoring leg of the support profile into the mortar and align.
    b. Measure the required length and height of the tapered profile. Keep in mind the insertion depth into the U-shaped groove.
    c. Remove the protective foil and cut the tapered profile to size. Apply unmodified thin-set mortar to the back of the cut tapered profile and insert it into the U-shaped support profile. Press it in place and align it flush with the floor or wall.
    Note: If the Schluter®-SHOWERPROFILE-S is being placed along a wall and the wall tile is already installed, insert the tapered profile into the U-shaped support profile before setting the support profile in place.
11. Schluter®-SHOWERPROFILE-R
    a. Select the profile according to the height of the wall area to be covered. Remove the protective foil and cut the profile to length.
    b. Connect the two components of Schluter®-SHOWERPROFILE-R to achieve the desired height.
    c. Apply a sufficient amount of unmodified thin-set mortar to the fleece fabric, which is laminated on the reverse of the profile, and set the profile in place so that it is flush with the tiles.

Note: Protect the visible surfaces of the grate frame, grate and profiles from contact with setting and grouting materials. Setting and grouting materials must be removed immediately.

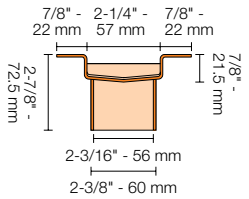
Product Overview

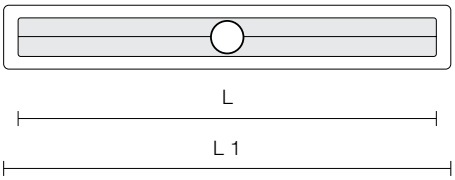
Channels

Nominal lengths:
20 / 24 / 28 / 32 / 36 / 40 / 44 / 48 inches
50 / 60 / 70 / 80 / 90 / 100 / 110 / 120 cm



A. Schluter®-KERDI-KERECK-F corner seal (for lateral wall connection)
B. Channel body with Schluter®-KERDI waterproofing collar
C. Channel support





L =
20 / 24 / 28 / 32 / 36 / 40 / 44 / 48 inches
50 / 60 / 70 / 80 / 90 / 100 / 110 / 120 cm

L 1 =
22 / 26 / 30 / 34 / 38 / 42 / 46 / 50 inches
55 / 65 / 75 /85 / 95 / 105 / 115 / 125 cm

Frame/grate

Lengths:
20 / 24 / 28 / 32 / 36 / 40 / 44 / 48 inches
50 / 60 / 70 / 80 / 90 / 100 / 110 / 120 cm

Frame heights

H = 3/4" / 1-3/16" *(19 mm / 30 mm)*

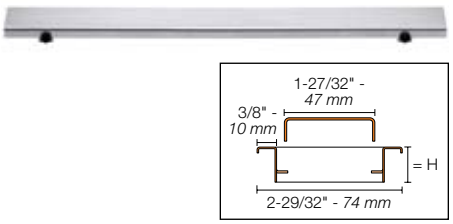
3/4" (19 mm) frame

(for coverings with thicknesses from 1/8" to 9/16" - *3 mm to 15 mm*)

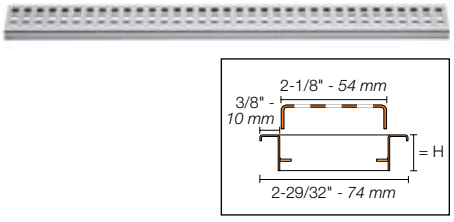
1-3/16" (30 mm) frame

(for coverings with thicknesses from 1/2" to 1" - *13 mm to 25 mm*)

Design grate A



Design grate B



Tile pan C

(for covering thicknesses up to 3/8" - *10 mm*