

# MAKING IT Watertight

**B**athrooms are where we begin and end every day of our lives, and because homeowners tend to invest in rooms they most frequently use, bathrooms are becoming the primary focus of today's building and remodeling projects. With this kind of attention, it's no surprise that bathrooms are also becoming more luxurious—a sort of retreat facility—complete with steam showers, oversized bathtubs, aroma-therapy, and the latest in fixtures and lighting.

This being the case, tiled showers, floors, walls, and vanities are in very high demand. The wide variety of sizes, colors, and styles in today's tile selections allows freedom in design, and people have come to expect that "lap-of-luxury" experience. The increased demand for tile makes it more important than ever to ensure that proper tile installation methods and quality installation systems are used.

## THE TRADITIONAL METHOD



The traditional method for installing tiled shower assemblies creates what

can be described as a water in/water out system. It begins with the installation of a mortar bed that is sloped to the weep holes in the drain. A waterproofing membrane (pan liner) is placed over this "pre-slope" and clamped into the drain. Some regions of the country also employ hot mop systems that involve applying layers of asphalt and roofing felt to build up a pan liner. Pan liners are carried up to a height of at least 3" above the finished height of the curb, and must not be penetrated by any fasteners. Pan liners are not designed to allow for the direct application of ceramic or stone tile. Thus, a mortar bed must be installed

to provide load distribution and a bonding surface for the floor tile. Crushed stone or tile is placed around the weep holes of the drain to prevent blockage before installing the mortar bed. Most wall assemblies incorporate 4-mil polyethylene or roofing felt placed behind the tile substrate (i.e., floated mortar or backerboard panels) and lapped over the pan liner.

Each component described above is essential to the function of the overall system. For example, a common error is to ignore the pre-slope installation and place the pan liner directly over the flat subfloor. When this is done, the system will not effectively drain the water to the weep holes in the drain, creating a permanently saturated mortar bed. This increases the potential for efflorescence and mold growth within the system. Another common mistake is to penetrate the pan liner by using nails to fasten backerboard panels to the curb. Even small penetrations in a pan liner can lead to large leaks and damage to surrounding materials.

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Lack of training and understanding has contributed to the improper execution of the traditional method for waterproofing tiled showers and resulting failures.



### AN INNOVATIVE ALTERNATIVE



The Schluter®-Shower System is an integrated family of products that creates what can be described as a sealed system. Unlike shower pan liners in traditional assemblies, bonded waterproof membranes, such as Schluter®-KERDI, bond directly to the mortar bed and protect it from becoming saturated with regular use. In addition, KERDI protects wall cavities from vapor penetration. The Schluter®-KERDI -DRAIN provides a simple and secure connection to the KERDI membrane at the top of the assembly via the unique integrated bonding flange. Other components include the Schluter®-KERDI-SHOWER-ST/-SC/-SR prefabricated EPS foam substrates, which can reduce weight

KERDI protects wall cavities from vapor penetration.

and installation time. The integrated Schluter®-Shower System eliminates the potential for leakage, efflorescence, and mold growth in the system, is maintenance-free, and dramatically reduces total installation time to ensure success and make shower installation easier than ever. The Schluter®-Shower System has given flooring distributors and dealers, tile installers, builders, and end users a new-found confidence in tiled shower installations.

Madison Daniels, a second-generation tile setter in Edmonton, Canada, has been using Schluter®-KERDI for over 5 years.

"I tried every shower system I could get my hands on," says Daniels. "My first KERDI shower was better than anything else—it is ten times the product of any other system, and much more reliable and easier to install."

Most of Daniels' tile-setting jobs were in high-end homes, many of which included steam showers. He was often asked to warrantee his steam shower installations but was only comfortable doing so if the homeowner agreed to the conventional method of waterproofing—a proven method that was also very time-consuming. He decided to do some research and become more of an "authority on waterproofing."

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Daniels said that once he began using the Schluter®-Shower System, he felt comfortable giving a warranty for his shower installations and has never had any call-backs or problems.

### THE WATERPROOFING COMPANY



In fact, Daniels has been so impressed with the system that he has created an entire waterproofing company around it.



"The way the industry is right now, there just aren't people who know how to do these showers properly. It takes 5-6 years to learn the trade, and people aren't waiting that long before they begin installing. I saw a need to do these showers properly."

A little over a year ago, Daniels began The Waterproofing Company ([www.thewaterproofingcompany.ca](http://www.thewaterproofingcompany.ca)). The company exclusively uses the Schluter®-Shower System to waterproof showers, and Schluter®-DITRA and Schluter®-KERDI-BAND to waterproof decks, floors, etc, and according to Daniels, reputation and word-of-mouth is increasing his business every day.

"Being a tile setter, I didn't want to waterproof either," says Daniels. "It's like a painter who pays someone to tape and band his or her walls and floors. Tile setters are so busy setting tile, which is where they make the most money, so they don't want to take the time to do the waterproofing."

Now Daniels and his crew are exclusively waterproofers; they set no tile whatsoever. According to Daniels, this is how he prefers it. Not only does he escape the physical strain that tile setting puts on his body, but he's also able to train new people quickly and efficiently because the Schluter®-Shower System is so easy to install.

Presently, The Waterproofing Company waterproofs one shower per day. However, Daniels is starting to hire more help to meet the increasing demand for his company's services.

"I knew that growth would be good; the ceiling is unlimited because we are the only ones doing it and every-one needs it... and that's just in Edmonton."

As the company grows, Daniels continues to keep in close contact with his local Schluter® representative, Bob Weins, and also with Schluter®'s Canadian Technical Director, Dale Kempster, regarding job specs and installation questions.

"You guys have been able to help me answer every technical question I have had, while other companies had never been able to answer any."

**THE WATERPROOFING COMPANY**



**RELIABLE LIVING**



Ronny Wiskin from Toronto, Canada, has also been able to create a business around the Schluter®-Shower System.

A general contractor for 17 years, Wiskin worked on high-end residential bathroom and kitchen renovations. He found out about Schluter® two years ago after seeing the Schluter®-Shower System used during an episode of Holmes on Homes on Canada's HGTV.

"It was a new system," says Wiskin, "and I liked how it worked right over the drywall and directly under the tiled surface. It seemed like a more reliable method than the conventional rubber membrane and cement board."

At the time, Wiskin had been researching various ways to remodel his grandmother's shower to make it barrier-free. All he'd been able to find was a fiberglass shower unit with a 2-inch lip at its base.

Once he saw the Schluter®-Shower System, however, he knew he had found the perfect fit, given the fact

that the waterproofing is typically applied. The system also features the convenient Schluter®-KERDI-SHOWER-SR prefabricated EPS foam ramp that facilitates the construction of tiled access ramps. Wiskin called Schluter®'s Montreal office and attended one of their seminars at the TTMAC in mid-2003 to learn more about the system and how to properly install it.

Shortly thereafter, Wiskin installed a barrier-free tiled shower in his grandmother's apartment using the Schluter®-Shower System. Now, two years later, his installation company has transformed into Reliable Independent Living Services



(www.reliableliving.com), a company focused on providing access solutions for individuals with limited levels of mobility.

The goal of Wiskin's company is to "provide maximum independence for people with physical impairments or disabilities," and when it comes to tiled shower installations, the Schluter®-Shower System is always used. In many cases, the full Schluter®-KERDI-SHOWER-KIT, with a 32" x 60" Schluter®-KERDI-SHOWER-ST prefabricated, sloped shower tray, is incorporated. Wiskin says his company will soon begin using Schluter®'s new 6' x 6' SHOWER-ST tray as well.

Since installing his grandmother's shower two years ago, Wiskin's company has installed over 50 of these barrier-free tiled showers.

"It's amazing how the water stays in the shower and people are able to walk right onto the ramp using a walker, and it's even possible for them to use a roll-in chair in the future, if necessary," says Wiskin.

According to Wiskin, people often have the mis-conception that a barrier-free shower must be a pre-fabricated acrylic unit and look "institutional." The Schluter®-Shower System breaks down that stereo-type and allows those with handicapped accessible needs to have a "bit of luxury" in their bathrooms.

For more information on the Schluter®-Shower System, or to view an installation video, please visit [www.schluter.com](http://www.schluter.com).



**S**team showers were built by ancient cultures to cleanse the body and cure illness. Later, these showers were installed in private clubs and health resorts, making them a symbol of wealth and luxury.

Today, homeowners have begun to realize the multiple benefits of these "wet heat" showers. As a result, residential steam shower installations are on the rise in both the U.S. and Canada.

Steam showers are enclosed and constantly filled with vapor, which can cause mold growth and damage framing in wall cavities if not controlled through the use of a vapor retarder. It is essential, therefore, for homeowners and tile contractors to be aware of the fact that NOT all waterproofing membranes are also vapor retarders.

Schluter®-KERDI, an integral component of the Schluter®-Shower System, is a sheet-applied polyethylene membrane that protects tile installations not only from water penetration, but from vapor as well. Materials with a water vapor permeance of 1.0 perm or lower are generally considered to be vapor retarders. Water vapor permeance is a measure of how quickly water vapor is transmitted through a material. The higher the vapor permeance, the less effective a material is at slowing vapor transmission.

The water vapor permeance of Schluter®-KERDI was determined according to the ASTM E96 Standard Test Method for Water Vapor Transmission of Materials to be 0.75 perms. Thus, KERDI functions as both a waterproofing membrane and vapor retarder in steam shower applications.

Doug Rayburn, a tile contractor from Rochester, NY, who just recently installed two steam showers, says, "The biggest concern with a steam shower is how much more moisture there is than in a regular shower, and the fact that it is enclosed. As soon as I heard steam shower I thought of KERDI and knew it was perfect."

KERDI is both thin and pliable, making it extremely easy to work with. "I love KERDI," says Rayburn. "It is easy to use—it's like hanging wallpaper!"

