Choosing a Waterproofing Method for a Tiled Shower

This page intentionally left blank because that's what all the cool kids do!

Legal crap: I don't know how legal it's gonna be (probably not very) but I'm going to put it here to help you understand a few things. Anything in this ebook is strictly advice. Yes, I am a professional tile contractor with over 18 years of experience and an absolute wealth of useless knowledge about tile, but this is still only advice.

Ultimately I am not responsible for any decisions you choose to make regarding your particular project or the application of discussed materials and products. Everything I describe and suggest are all materials and methods I utilize on a day to day basis, so they work – well. I, however, am not the one making use of these methods in your home – you are. You are the one ultimately responsible for the outcome.

This is not meant to frighten you in any way, but there's always that one guy that wants to sue an elf that lives halfway around the world because he didn't properly utilize the correct materials. Don't be him, okay? 'Cause it's not gonna work – I have a loaded lawyer in my pocket and I'm not afraid to use him! (That last sentence *was* meant to frighten you) So let's get on with it.

This page intentionally left blank because I want to be really, really cool!

So you wanna build a shower, eh? Okay – we're gonna help you build your shower correctly! This manual is your first step.

There are several different ways to PROPERLY build a shower (and even more ways to build it improperly). All of the different methods I describe here work just fine when properly built – we just need to figure out which one fits your needs.

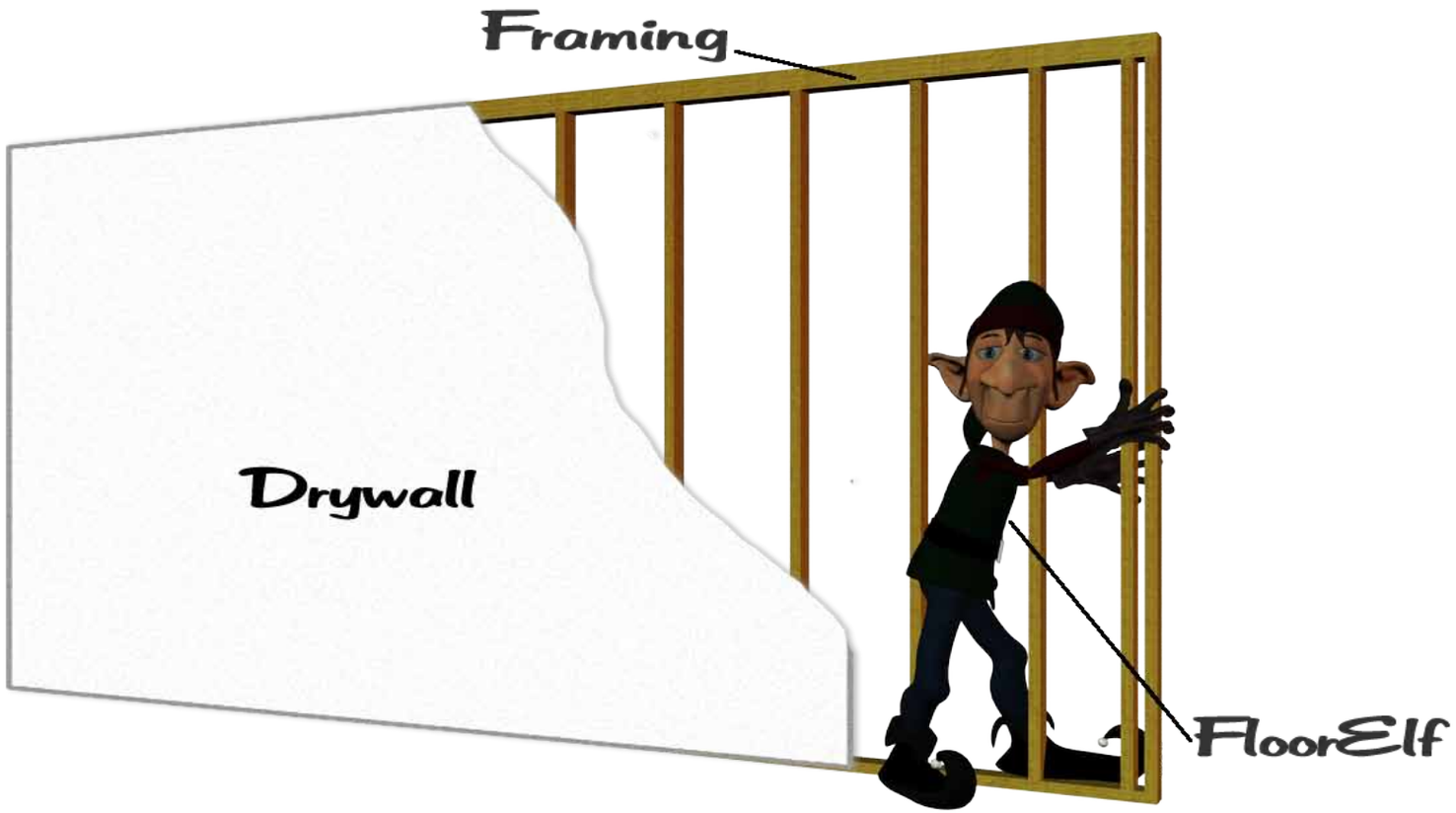
<u>This will be based on three basic things:</u>

- **Cost – How much you want to spend?**
- **Skill – How handy are you?**
- **Time – How soon do you need it?**

So I'm going to sit here and suck up adult beverages and help you figure out which method is for you.

This may be easier if you join me with an adult beverage of your own – or chocolate milk. Chocolate milk is good, too.

We're gonna start this off with a horribly constructed diagram of, what else, a wall.



So there you have it – a wall. Nothing special or difficult about it. It is simply a wooden frame with drywall screwed to it.

Now, this square frame onto which drywall is screwed is called…wait for it – your framing. The frame of the wall is typically built out of normal 2X4's. The vertical (up and down) boards in your framing are called the studs.

When drywall is screwed to the frame the collective materials form a wall.

I realize this is all very basic stuff to some people, but not to everyone. So I'm just trying to cover all the bases so everyone can understand it.

Crash course in carpentry: Build a square frame out of 2x4's and screw drywall to it. Repeat until collective group of frames and drywall is shaped like a house. Collect check – find bar.

Hang in there – it gets more exciting.
A little later we'll have unicorn farts and dogs bursting into flames.

Substrates

Substrates

Aaaahhh, your first big scary word. This one's easy, in the case of our wall the substrate is simply the layer of drywall we screwed to it. The drywall is the substrate.

If we were to install tile to this drywall, like we might on a kitchen backsplash, the drywall would still be your substrate.

The substrate is just everything between your tile and your wall studs. That's it.

While figuring out which method of waterproofing you should choose we will start by simply discussing the shower walls themselves – nothing about the tile.

Why? It's very simple:

Important!

During this entire process you need to remember two things. Seriously – remember these. There may be a quiz later.

1. A properly built shower is completely waterproof before you even touch a piece of tile.

2. Tile and grout ARE NOT waterproof.

The method you choose to waterproof your shower has absolutely nothing to do with what type of tile or stone you will be installing. None. Any type of tile or stone can be installed on any type of properly waterproofed substrate – really.

So – back to our wall. We have the 2x4's (framing/studs) and the drywall (substrate).

When we're talking about a shower we're gonna replace the drywall with something else because when drywall gets wet it disintegrates. If your tile is attached to this disintegrating drywall it will fall off. We don't want your beautiful tile to fall off the wall, right?

We're going to replace the drywall with something called cement backerboard. Why? Because cement backerboard doesn't disintegrate when it gets wet like drywall does.

Cement Backerboards

Cement Backerboard

Think of a cement backerboard as a sheet of drywall, except rather than being made out of a disintegrating chalk-like substance it is made out of either a formed lightweight concrete or a concrete-based fiber adhered together in layers to form the board.

Unlike drywall, the cement backerboards are not affected by water – they will not swell, come apart or disintegrate when soaked in water like drywall does. They will remain dimensionally stable when wet – they don't change size or come apart.

Backerboards **will** soak up water, they **will** get wet. They are just not affected by this moisture. At all. A cement backerboard is essentially a ½” thick sheet of your driveway – it’s basically a sheet of concrete.

You can take a sheet of backerboard and throw it into a swimming pool. If you leave it there for a week, or for a year, and take it out it will be intact and exactly the same size as it was when you threw it in – it will simply be wet.

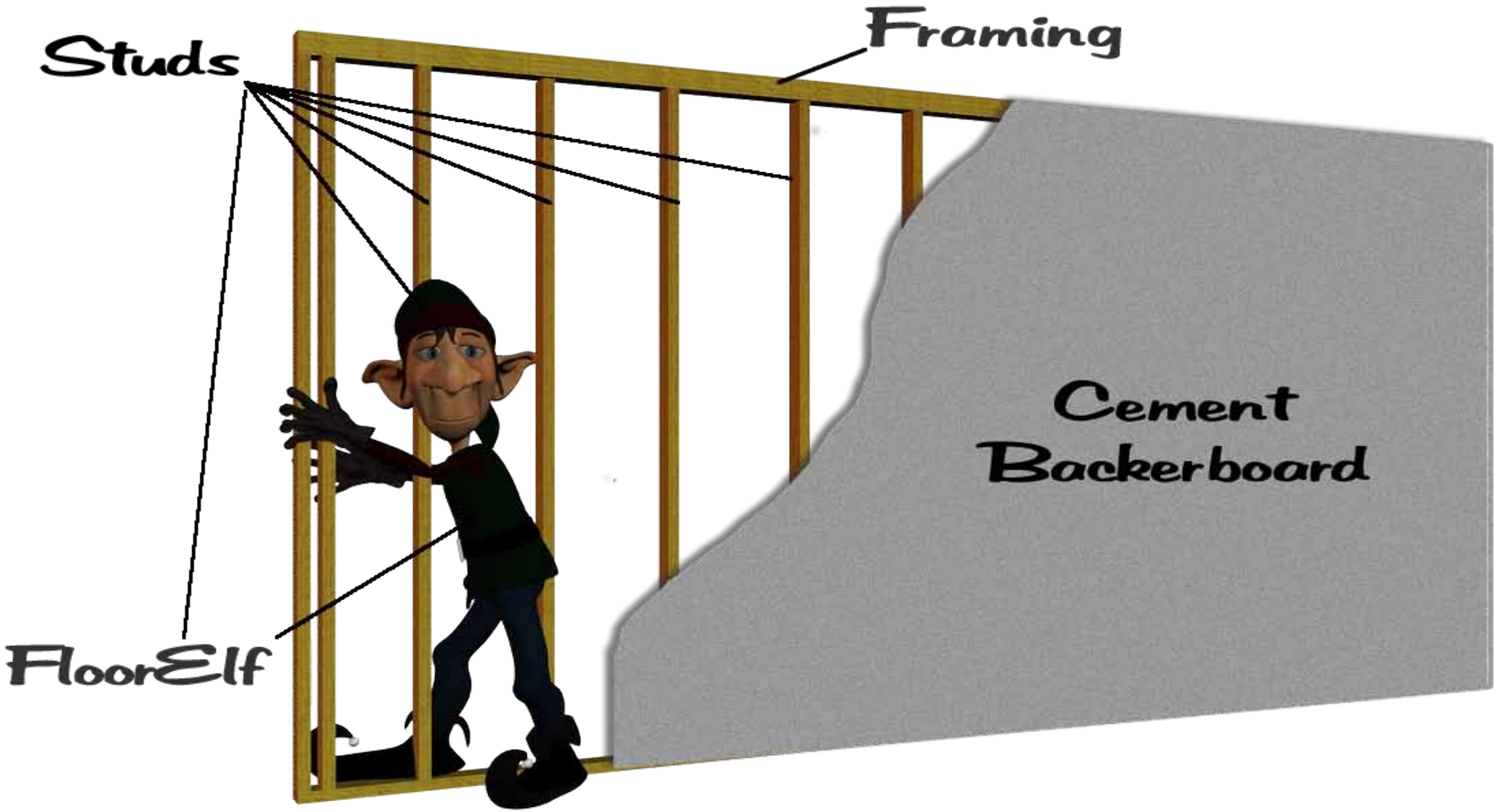
It’s stable – get it?

So now our wall consists of our studs and our backerboard.

Which one is the substrate?

That's right – it's the backerboard. Well done! Get yourself another glass of chocolate milk – I'll wait.

Okay, let's get this thing in here...



Okay, our new wall with the backerboard substrate is going to become your shower wall. Since the only thing in that wall that will be affected by water is your framing – the studs – we need to protect them from water.

Remember, the backerboard won't be affected by water but the studs are still made from regular wooden 2x4's – they will swell, disintegrate, grow mold, all kinds of nasty stuff.

You wouldn't throw a 2x4 into a swimming pool, leave it there for a year, and expect it to be the same when you pulled it out, would you? Of course not, it would swell and come apart. We need to keep them dry.

The purpose of waterproofing a shower is to keep your wall framing (and everything else outside of your shower) nice and dry and keep all the water inside so it can go down the drain.

If your wall framing gets wet your house will blow up!

Okay, your house isn't gonna blow up, but the structure around your shower – your bathroom floor, walls, basement, carpet, etc., may get ruined. We need to keep the water where it belongs – inside the shower.

For the purposes of explaining waterproofing methods I want you to visualize a simple box with four sides and a bottom. If this box were made out of plastic it would hold water, right? It would be waterproof.

This is what we're trying to accomplish. We want to turn your shower into a huge waterproof box. So think about that box being made out of our walls we've been mentally building.

We have a box with the 2x4 framing and cement backerboard substrate. Right now that's it. It isn't waterproof. If we fill it with water it will eventually soak through the backerboards and soak into your framing – that's what we want to avoid.

So we need to figure out how to make our box waterproof so we can fill it with beer and go camping. We need some sort of moisture barrier between our beer and our framing.

To begin with we're going to use a regular sheet of plastic similar to what a painter's dropcloth may be made of. It needs to be fairly thick – 4-6 mils thick, to be exact.

Mils is simply a measure of the thickness of the plastic. For instance a normal shopping bag is about 2 mils thick. A heavy-duty garbage bag is about 4 mils thick. Look on the box, it will tell you how thick your garbage bags are – then you can go brag at parties.

So the first way we're going to waterproof our box is to take the regular sheet of plastic and install it between the studs and the backerboard. It's very easy to do, just staple the plastic to the studs, then install your backerboards.

Now if we fill up our box our framing won't get wet – it's protected by the plastic. The cement backerboard will get wet, but that doesn't matter, right? Right.

So we have our box made out of 2x4 framing with plastic installed, then backerboards. The plastic is our **moisture barrier**.

And before you've realized it I've just snuck in and taught you something. That's called drive-by education. I just taught you what the traditional shower waterproofing method is.

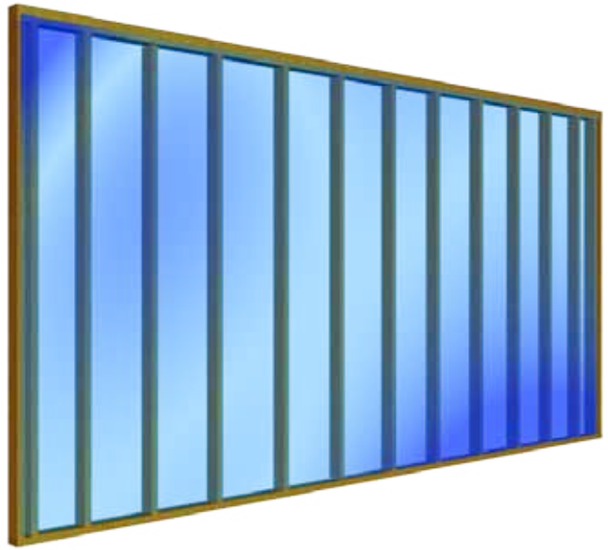
That's what it's called – the traditional method. You've just learned one of the two types of base methods of shower building.

Traditional waterproofing method

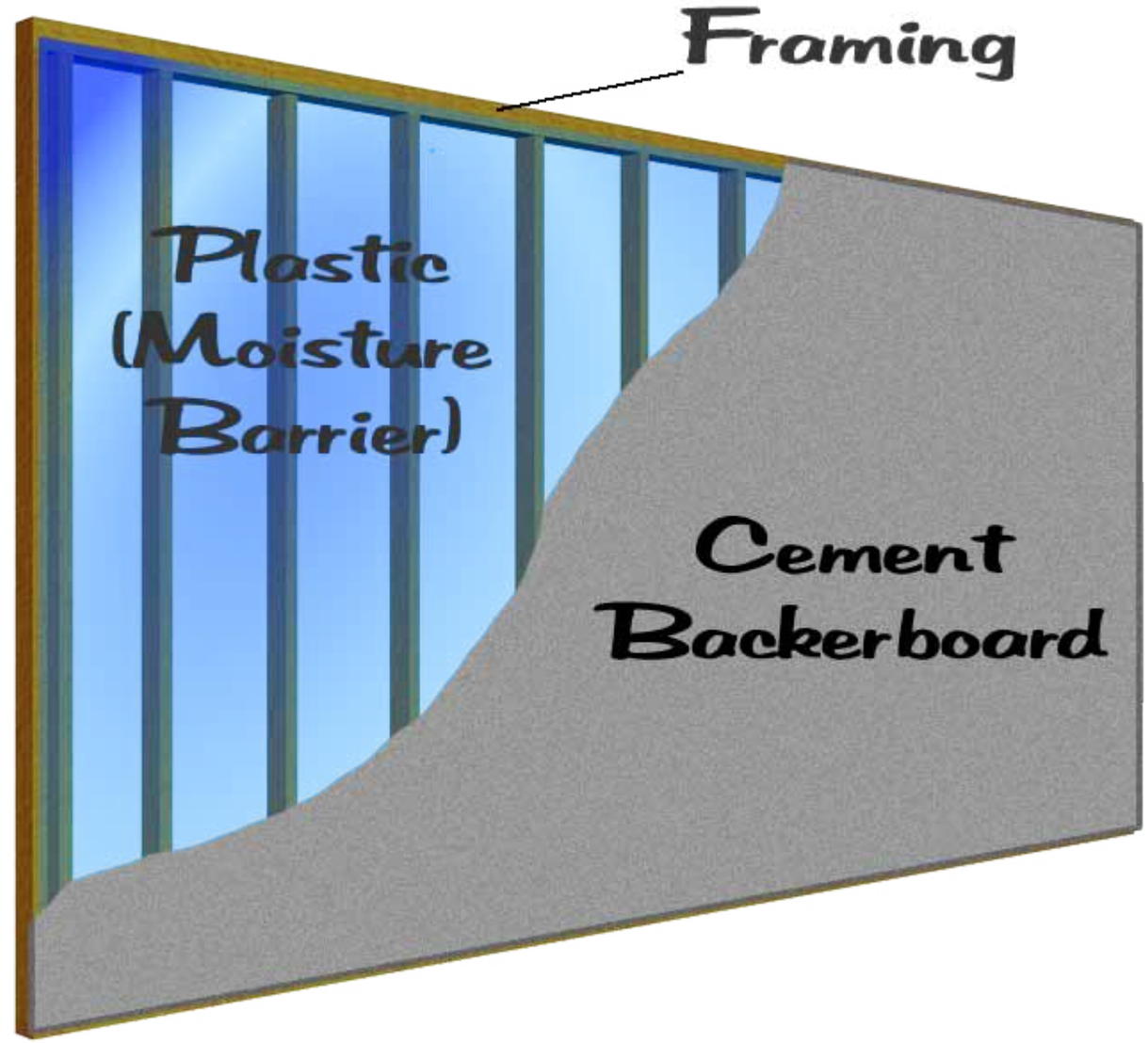
- **Studs**
- **Moisture Barrier**
- **Substrate**
- **Tile**

Traditional waterproofing method

Studs



Moisture Barrier



Well done – go get yourself some more chocolate milk.

That was fairly painless, yes? I'm going to try to keep up the painless factor. So let's start over with our basic box – the one with just the studs and the backerboard. It's still not waterproof – water (or beer) will soak through the backerboards and into your studs – so we need some type of waterproofing to prevent that.

We're going to take our thick sheet of plastic again and use it to waterproof the box in a slightly different way this time. We are going to line the inside of the box with it.

So we essentially have our box, with the studs and backerboard, and we've put a garbage bag into it just like we would a trash can. Now if we fill up our box with beer again we can still go camping.

If we fill our box with water it will not soak into the backerboard or the framing – both of them stay completely dry.

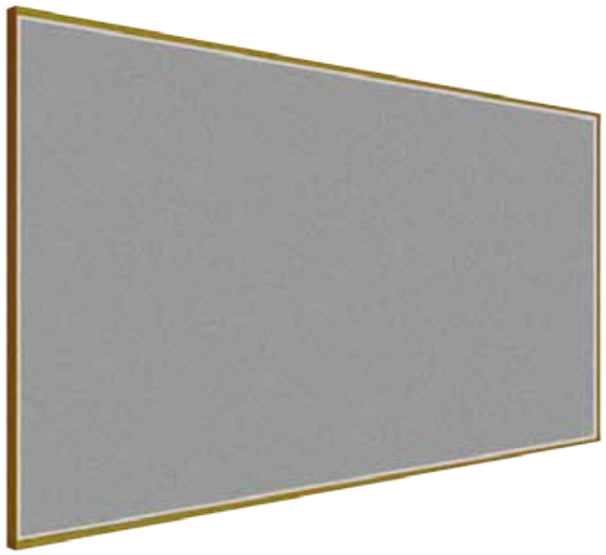
Well, that one was quick. You've just learned the second method of waterproofing a shower. It's called the topical method, or topical waterproofing.

Topical waterproofing method

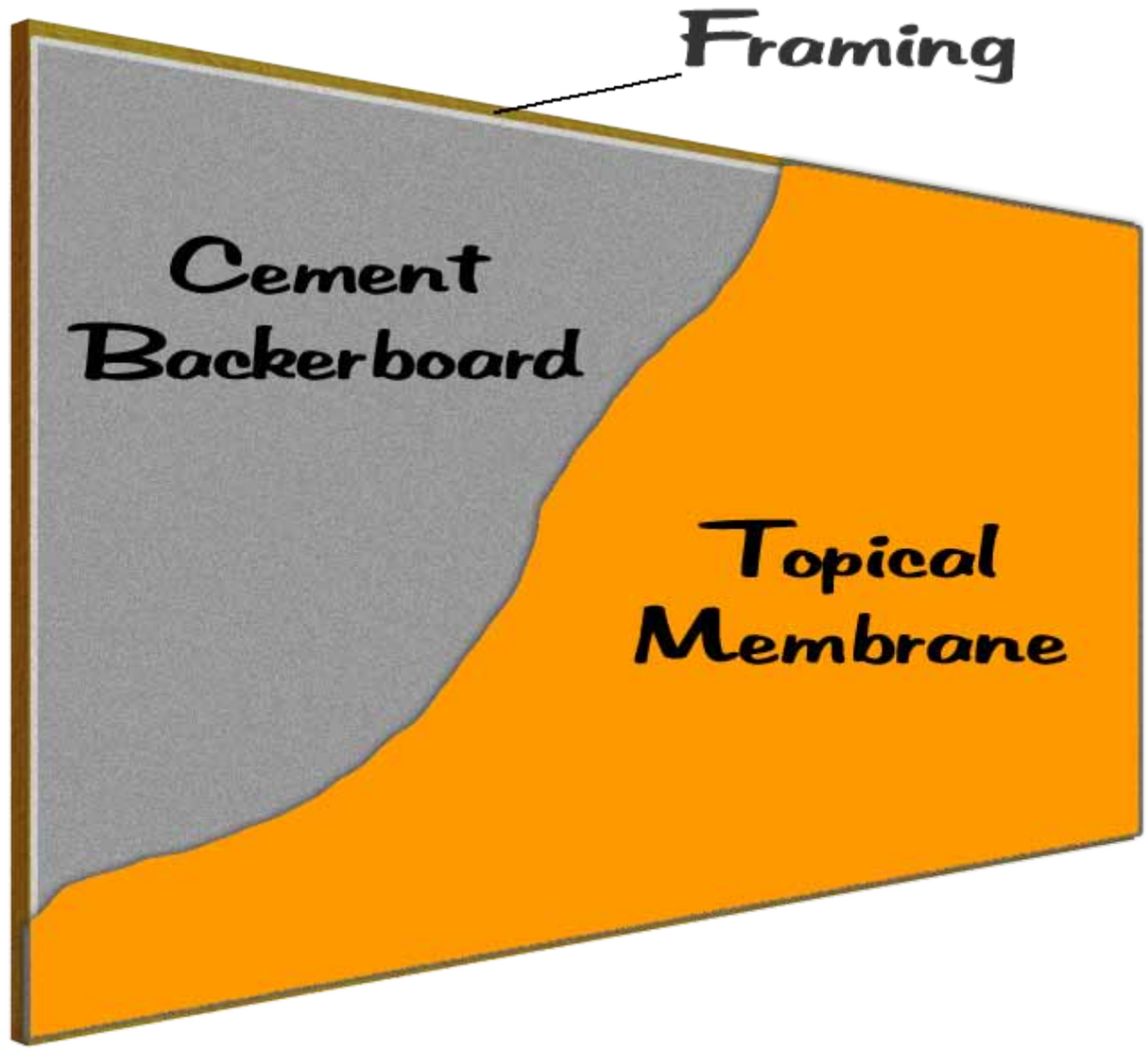
- **Studs**
- **Substrate**
- **Moisture Barrier**
- **Tile**

Topical waterproofing method

Studs



Substrate

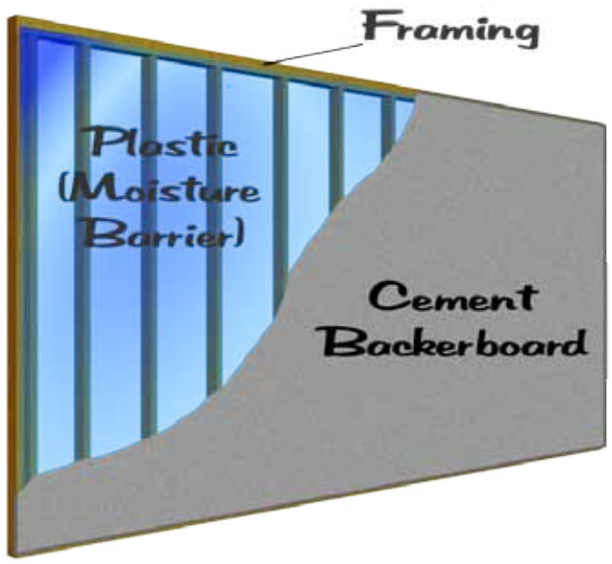


These are your two base choices for the method of waterproofing your shower.

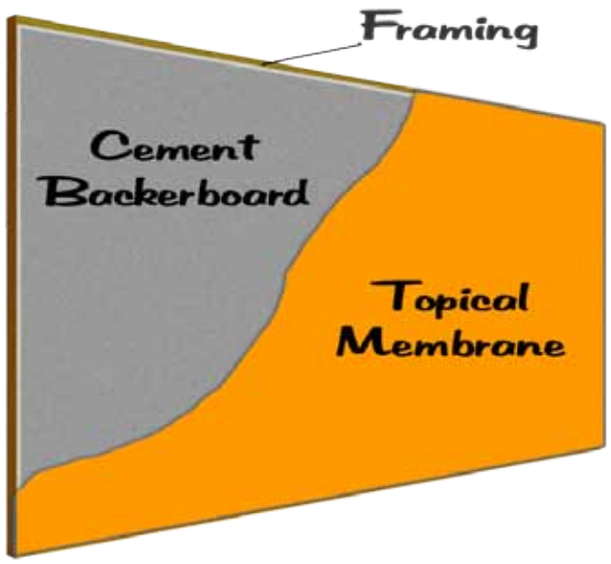
Traditional and Topical.

And that's the first decision you need to make.

TRADITIONAL



TOPICAL



Now remember, tile and grout are not waterproof so water will get behind your tile. As long as your shower walls are waterproof before you install tile this will not be a problem.

Of the two choices, traditional and topical, the topical method of waterproofing is better. Since your waterproofing membrane (the plastic) is directly behind your tile nothing else ever gets wet.

In the **traditional** method your substrate (the backerboard) will become saturated before water gets to your waterproofing (the plastic). This method allows water to be retained inside your substrate, behind the tile, in between uses. This is completely normal! As long as you have your plastic behind the substrate water will never reach your framing.

If you have a traditional wall in your shower the water that saturates your backerboard will be flushed down into the drain every time you shower. It will simply be replaced with fresh water. Again – completely normal.

Any water getting behind your tile with a **topical** method will immediately come in contact with your waterproofing and be directed down into your drain. Your shower will completely dry out between uses. It's simply quicker and cleaner.

So those are your two basic waterproofing methods. They both work just fine and, when built correctly, either one will last a very long time.

With that out of the way let's take our pop-quiz:

What are your two basic methods of waterproofing a shower?

<Insert sound of Jeopardy clock here>

That's right – Traditional and Topical!

Round of chocolate milk on the Elf!

Now let's discuss some specific types of products for each.

Traditional Products

For the traditional method of waterproofing a shower there is only one basic way of doing it – and you already know what that is. Four to six mil **plastic** over your studs and **cement backerboards** installed over it.

The plastic can actually be replaced with **roofing felt,** it will work in the same manner. As far as the traditional method on walls that's it, simple and easy.

Let's review the four things you've learned:

- Traditional method of waterproofing
- Topical method of waterproofing
- Traditional products for waterproofing
- I like beer

Okay, got it?

Let's move on.

Topical products

With topical waterproofing membranes (topical membranes) there are three different types of product available.

The only difference is how they are installed!

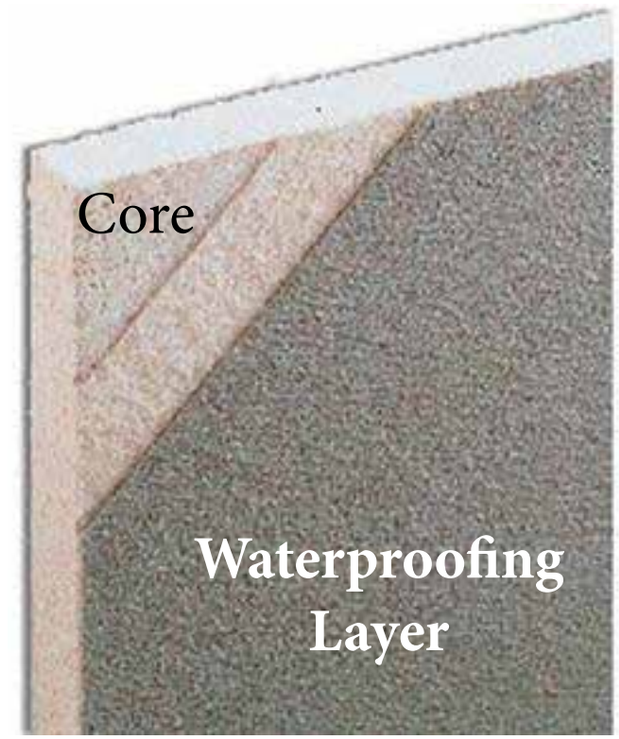
There is no difference in how they work or how tile is installed to them – they are all identical in that respect. The only differences in the three are how they install which dictates the amount of time and skill needed as well as the price of each – they vary quite a bit.

Faced topical membranes

A faced topical membrane simply means that the waterproofing layer (the plastic) comes already attached to face of the substrate (the backerboard). This is how you buy it.

It is normally sold in 3’ x 5’ sheets and is simply installed directly to your wall studs. It takes the place of your backerboard. It is essentially a waterproofed backerboard.

To install the faced topical membranes you still need to waterproof parts of it – the seams and the holes where you screw it in. This is done with regular silicone (in most cases).



Faced Topical Membranes

So with the faced topical membranes your shower wall looks like this:

- **Studs**
- **Faced substrate**
- **Tile**

Quick and easy.

<u>Faced products in this category</u>

- Denshield
- Wedi

Liquid topical membranes

I don't mean you're drinking liquid as you install it (but you can if you want to). Liquid topical membranes are simply a very thick, paint-like substance that you install onto the walls like, well, like paint. It has the consistency of pudding – really.

You attach the backerboards to your studs and paint the liquid onto them. Once it's cured it is completely waterproof and you install your tile right to it.

These liquids cure to a thick rubber-like surface. They all require at least two coats to be effective and you must wait for each coat to cure before adding the next. They are fairly time consuming but not terribly difficult to understand.

So with the liquid topical membranes your shower wall looks like this:

- **Studs**
- **Backerboard**
- **Liquid membrane**
- **Tile**

<u>Liquid products in this category</u>

- Redgard
- Hydroban
- AquaShield

Sheet topical membranes

Sheet topical membranes are, in my opinion, the best way to waterproof a shower. These are sheets of polyethylene (that's just a big word for a type of plastic), or a similar type of flexible plastic, which are installed to your substrate with thinset – yes, the same stuff you install your tile with.

They come in rolls that are about 3' wide and are installed in sheets similar to wallpaper onto your shower walls. It is essentially waterproof wallpaper, if you want to think about it like that.

Sheet Topical Membranes

Sheet topical membranes, while the best and installed pretty quickly, **require a fair amount of knowledge and have a fairly steep learning curve**.

Until you get used to them they are the most difficult to install simply because they contain the most potential of any of the topical methods for mistakes. It must be installed correctly or it will not be absolutely waterproof.

Sheet Topical Membranes

So with the sheet topical membranes your shower wall looks like this:

- **Studs**
- **Substrate**
- **Sheet membrane**
- **Tile**

Sheet products in this category:

- Schluter Kerdi
- NobleSeal TS

That was probably a bit more difficult, yeah? It's just three different types of the same thing – topical waterproofing. You have:

- Faced
- Liquid
- Sheet

Try this, just think of the three different types as the finish on a regular wall.

Faced would just be a simple substrate with nothing on it – because it already has the waterproofing attached.
Liquid would be like paint on the wall.
Sheet would be like wallpaper.

Is that easier? Take a chocolate milk break and think about it.

Pop Quiz!

Incorrigible little bastard, aren't I? By now you should know the two basic types of waterproofing methods as well as the different product types available for each. What are they?

No peeking!

Traditional

- **Plastic with backerboard**
- **Roofing felt with backerboard**

Topical

- **Faced with no backerboard**
- **Liquid with backerboard**
- **Sheet with drywall**

AHA! I cheated a little bit there – I didn't tell you that the suggested substrate for the Kerdi sheet membrane is regular drywall. Sorry about that. I won't deduct that from your grade.

The suggested substrate for the Kerdi sheet membrane is regular drywall – you do not need cement backerboards.
Although you can absolutely use cement backerboards should you choose to do so.

I still feel a little bit bad about doing that to you so here's a useless fact you can amaze your friends with:

Unicorn farts smell like gumdrops.

There, I feel better now.

Shower Floors

Shower Floors

<Insert evil mad scientist laughter here>

Up until now we've only been talking about the walls around your shower. If you have a normal bathtub or a plastic-like (acrylic, fiberglass, or other pre-formed) floor for your shower all of the above applies. Now we're going to talk about shower floors.

The mad scientist laughter was for the ridiculous notion that I could actually describe this in a manner that would be easily understood. Don't get me wrong – it is easily understandable – but the shower floor is the part of the shower most prone to leaking, growing mold and/or causing a great amount of damage to everything surrounding it.

It is important that they be absolutely waterproof! I simply do not want to understate that – it is extremely important.

If your shower floor is improperly built your dog may burst into flames. Just sayin'.

So now that you understand the importance of a properly built shower floor (and the ramifications of an improperly built one) we can move on to the easy part.

The different ways to do it.

The Easiest Part

With just a few little changes your shower floor will be built and waterproofed exactly like your shower walls. So you already know how to do it.

Let's go back to the box we built in the beginning – just the studs and the backerboard. The bottom of that box is built in the exact same way – the studs, which in the case of the floor are called joists, and your substrate, which in the case of a floor is just plywood.

Unless your shower is built on concrete, in which case the entire floor is simply made of concrete. Regardless of whether your floor is wood or concrete – it is waterproofed in the same manner.

So that is the basic construction of the bottom of your box – just like the walls. With a shower floor, however, we are going to utilize one more layer of substrate – it's called deck mud.

Deck Mud

Deck Mud

Deck mud is simply the material that we make your sloped floor out of. It is very similar to concrete except it has a lot more sand in it. That's it, very simple.

When mixed it can be formed into any shape you need. On a shower floor we need to shape it like a very shallow bowl which will have the drain located at the bottom. This is how all the water drains.

Deck mud, when cured, has the exact same properties as cement backerboard – it will not swell, disintegrate, or change size when wet. It will retain water, it is not waterproof. This is what we make our shower floor out of. And we still need to waterproof it so the water is all contained inside the shower and doesn't cause your dog to burst into flames.

So the basic construction of the floor of your box is this:

Joists (studs)

Backerboard (plywood or concrete)

(The above should be your existing floor)

Deck mud shaped like a shallow bowl

That's it – just like your walls except it has the shallow deck mud bowl so that water will drain.

Waterproofing a Shower Floor

You already know how!

Well, provided you're not drunk on chocolate milk.

The two methods to waterproof a shower floor are the same – **traditional and topical**.

There are just a few little tweaks in regards to materials, though.

Traditional Shower Floor

The waterproofing works in the same manner. The substrate your tile is installed to (deck mud, in this case) will soak up water. The water will soak into the substrate until it hits your waterproofing layer, then it will be channeled down into the drain.

Rather than the plastic as your waterproofing membrane, though, we use a rubber pvc or cpe liner. These are just irritating acronyms for a very thick rubber.

You have a sloped substrate made of deck mud which is installed right to your floor – this is called the pre-slope, it is the 'shallow bowl' I mentioned above. Your rubber membrane is installed over the top of it as your waterproofing layer. So you have a shallow rubber bowl with the drain at the bottom. Follow?

Now, on top of your rubber membrane is your tile substrate – another shallow bowl made out of deck mud. Your tile is installed directly to this layer.

This method of shower floor construction works in exactly the same manner as the walls. The initial substrate will retain water until it is flushed through and replaced with fresh water.

So your traditional shower floor is constructed like this:

- **Joists and Floor *or* Concrete**
- **Pre-Slope**
- **Rubber Membrane**
- **Deck Mud (This is called the final slope)**
- **Tile**

That's it. Been built like that for 100 years – literally. And I've torn them out. And they never leaked. Ever.

This system works – well.

And you already know the other method of waterproofing a shower floor – don't you?

That's right, **topical**! And you already know the three ways to do it, don't you?

That's wrong – you don't.

Sorry about that. Sometimes I'm an ass.

You actually do know the ways to do it – but there are only two – liquid and sheet topical waterproofing. There is no faced option.*

Topical Shower Floor

Topical shower floor waterproofing is exactly the same as a wall with both products – the liquid or the sheet.

*There is a product called Tile-Redi which is a pre-formed shower pan that you install tile directly to. It is sold with the epoxy adhesive with which to bond the tile. They work fine if you follow the instructions! If you don't follow the instructions precisely - they don't work. (Just like nearly anything else. It does work in the same manner as a faced topical membrane.

Liquid Waterproofing

With the liquid you simply paint the product onto your 'shallow bowl', or pre-slope, and install the tile directly to it.

You do need to know that not all the liquid waterproofing products are approved for waterproofing your shower floor. You need to ensure that whichever you choose is approved for that.

There is also fabric reinforcement which is needed at the changes of plane (corners) and around the drain with some of these products. These are simply the spots most prone to movement in your floor – the fabric keeps the membrane intact.

Sheet Waterproofing

The sheet membranes are installed exactly the same way they are on the walls. Simply install them onto the pre-slope (the shallow bowl) with thinset – that's it. Tile is installed directly to it.

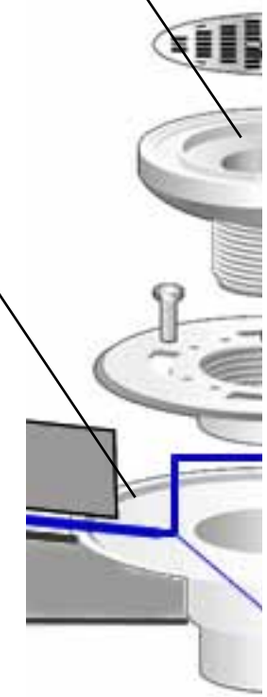
Sound easier and quicker? It is. There is a minor drawback to topically waterproofed shower floors, if you want to consider it a drawback.

With either of these topical methods you need a specialized topical drain for the floor – a normal drain will not work.

Drain

A normal shower drain has three separate pieces and two inlets for water. The big hole in the top is only one of the ways water drains into it.

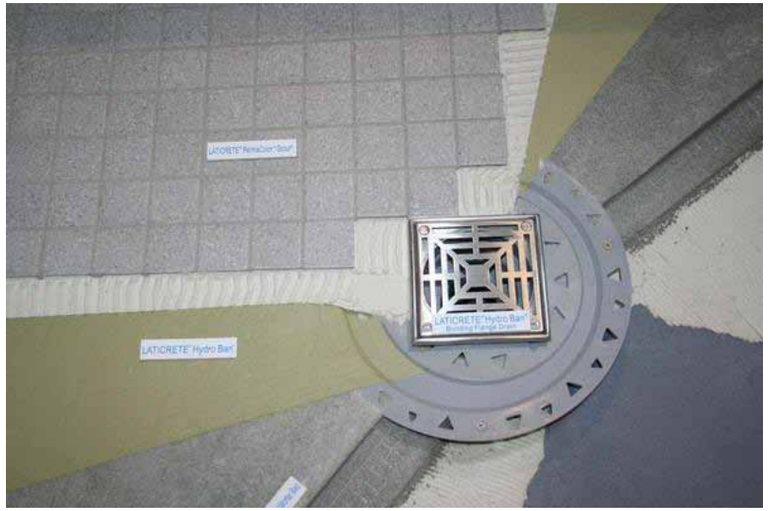
The other is what are called ‘weep holes’ and they are located further down the drain.



If you use a normal drain with a topical membrane you would have open holes beneath your waterproofing layer – this defeats the purpose since water can get beneath your waterproofing. You need a specialized drain.

I use the Kerdi or Laticrete drain. There are others but I don’t know how easily they are to install or work with. The kerdi drain is easy and easily adjustable to fit your tile installation.

Why the hell am I telling you this? Because the Kerdi drain is a bit over $100 USD. It can be a bit more or less depending on the finish you choose, but it's a little expensive for a drain.



Laticrete Drain

Kerdi Drain

I don't consider this a drawback because the topical method works so much more effectively with regards to draining water that the cost of the drain isn't even a concern.

But I'm not buying your materials, right? (It's right – I don't even know why you paused to think about it) It's up to you to decide if it is a viable option for you.

So there you have it – the way the different methods all work. You can now figure out which one you want. Have yourself a glass of milk – switch it up and go strawberry this time – and figure out which method that you want.

When you come back we have one more thing to figure out.

Go on, now, off with you…

Which one do you need

Let's discuss three things to determine which you should use: price, amount of time, and skill level / amount of knowledge needed.

Price

How much money do you have budgeted (above and beyond the price of the tile itself) for your shower? While I cannot give you actual dollar amounts (they vary greatly) I can help you narrow down where they sit on a scale of expense.

No money – I'm broke, I couldn't borrow a nickel with a dime down-payment!

The least expensive option would be a traditional method. Whether you are only doing the walls or both the walls and the floor that still applies.

I have a little left over – I could probably buy a pack of gum or two.

The mid-range product would be faced topical waterproofing. These are more expensive than the traditional supplies but considerably less than the liquid topical waterproofing. Liquid waterproofing would be the next step up but it is still fairly expensive. It does still fit the mid-range category, though, as long as you are only doing walls and not the floor.

I'm ten-cents shy of Bill Gates; I drive a purple Mercedes with real tiger fur interior.

Okay, you don't need to have that much. Compared to the others, though, liquid (walls and floor) or sheet methods are the most expensive. And yes, they are the better methods. The sheet products themselves run anywhere from $1.75 - $2.50 / square foot USD. Along with the price of the drain these products kick into the upper end of price for all the materials needed.

Amount of time required

I need it done yesterday, I planned on installing tile this morning and I'm already late!

If this is the case a faced topical membrane is for you! Just cut them to size and screw them to your studs. The seams require silicone as well as the holes from the screws but it's quick and easy. Right after that would be the traditional method. If you're doing walls and floors the same applies. Both methods are the quickest possible to get your shower substrate properly waterproofed.

Amount of time required

I have all the time in the world – or until the in-laws show up next month.

If this is the case then sheet membranes or liquid membranes fit the bill. Sheet membranes are considerably quicker than liquid. With liquid membranes you need to wait for each layer of fresh liquid to cure before putting the next one on. Either method will end up taking a considerable amount of time.

Skill level and amount of knowledge needed

Skill Level required

I can't even draw a straight line on a piece of paper, but I know what a screwdriver looks like.

Neither faced topical products or traditional methods take a great amount of knowledge to utilize effectively. You still need to follow proper procedures and install the products correctly but both are fairly straight forward – there is nothing terribly difficult about them.

I cut a 2x4 once and painted my laundry room.

While liquid membranes take a fair amount of time to utilize, they are not too difficult to use. They still require installing cement backerboards, but the installation

Skill Level required

of the product itself is pretty easy. You do need to pay close attention to make sure all surfaces are covered correctly and there are no bare spots. I'm not talking about huge uncovered areas – I'm talking about pin-holes.

I own power tools, I can build a coffee table in my sleep, and cherry wood trembles at the sight of me.

Well, a true do-it-yourselfer. You should be fine with sheet topical membranes, or any of the others. They do require research and a high attention to detail, but if you're willing to do that you'll be fine.

And my favorite...

Skill Level required

I know everything! There isn't anything you can teach me about it at all, I'm just gonna do it.

Do me a favor – ***step away from the shower and don't touch anything*** – really. I'm just trying to do you a favor and save you money. People with that mindset are the reason I have job security. So, thanks.

So there you have it. Which method you ultimately end up using is entirely up to you. Hopefully you have a better idea of what will work for you.

No flames today Sparky!

I hope this has been helpful with your understanding of the different methods and products available for a tile shower installation. If you ever have any questions about any of these, or anything tile related at all, please do not hesitate to ask me! If this was your first visit to my site you may not know that I answer every question and reply to every comment from my readers – that means you too!

You can leave a comment on **any** of my blog posts at FloorElf.com and I will reply to all of them usually every evening after work.

If you like this ebook – or don't like this ebook – please let me know that as well. If you feel I have missed something blaringly obvious you can cyber-slap me in the head and tell me what it was. Everything I write is for you guys – I already know all this stuff, so feedback helps me determine what you guys need and what is helpful. Feedback shapes the FloorElf; apparently my feedback at present has very large ears.

If you are interested in a step-by-step manual for your chosen waterproofing method - you're in luck! I just happen to have written some. Just click on the link for your particular method and it will magically transport you right to the page you need. Yes, it's really magic.

Traditional Waterproofing method with Shower Floor and Walls

Traditional Waterproofing method around a Tub or Pre-formed Shower Base

Traditionally Waterproofed Shower Floor with Topically Faced Walls

Topically Faced Walls around a Tub or Pre-formed Shower Base

Liquid Topical Membranes for Shower Floor and Walls

Liquid Topical Membranes for Shower Walls around a Tub or Pre-formed Shower Base

Kerdi Waterproofing for Shower Floor and Walls

Kerdi Waterproofing for walls around a Tub or Pre-formed Shower Base

If you don't yet see the one you need keep an eye on the 'library' tab on my site -
I'm always adding the new ones as I get them finished.

Thank you for hanging out with me and Sparky for a little while. I hope we've helped out and made your tile installation a bit less daunting.

Roger

Gotta Go!