

# How To Grout Ceramic Floor Tile



**Tim Carter**  
Founder - [AsktheBuilder.com](http://AsktheBuilder.com)

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## Introduction:

Grouting a new ceramic tile floor is the final step in a long process. Grout is both a vital structural material for a tile floor, and it's a decorative component that can really add a second dimension to your flooring. But if you make one or two mistakes while grouting, all of your work can be ruined.

In just a few minutes using this descriptive book, you'll discover grouting secrets that took me decades to perfect. A link to a secret page at my [AsktheBuilder.com](http://AsktheBuilder.com) website is at the end of this book. There you'll discover four high-resolution **videos** that will have you grouting like a pro in no time.

The step-by-step photos in this book will be your trail markers along your grouting journey. You'll use them from the time you open up the grout bag until the time you buff the ceramic tile with that old bath towel revealing your new, gorgeous ceramic tile floor. High-resolution copies of these photos are on that same secret page at [AsktheBuilder.com](http://AsktheBuilder.com).

As you read this book, you'll discover that clean, fresh water is absolutely essential to achieve professional grouting results.

But this same water can be your enemy. If you don't treat it with the utmost respect, this clear fluid will wreak havoc, and you'll be on your hands and knees for hours and hours carefully trying to salvage your floor.

How helpful is the advice in this book? Here's what folks just like you have said who've followed my directions. I'm particularly fond of the comments made about the four videos that are part of this book:

*“Your directions are the clearest instructions I’ve found!”*

*“This is a terrific series of instructional videos.”*

*“Followed your steps and everything looked great!”*

*“I learned something from your videos. Now I’m confident to do my first grout job.”*

*“Just grouted my floor tiles following your methods, and I have to say they look great.”*

Well, I think you get the picture. I say it’s time to get to work and let’s use my motto as well as my instructions:

## **Do it Right, Not Over**

Tim Carter

P.S. If you want great **FREE tips each week** like you’ll discover in this book, you can get them by simply subscribing to my AsktheBuilder.com Newsletter.

Each issue has tips, product or tool reviews and plenty of information that will save you both money and time! [Subscribe Here](#).

## About Tim Carter:



Tim Carter is the founder of [AsktheBuilder.com](#). Prior to starting his online business, Carter was a hands-on remodeling contractor and custom home builder. He was fortunate to be picked one of the Top 50 Remodeling Contractors in the USA in 1993, and used that award to launch AsktheBuilder.com.

Carter has decades of **ceramic tile installation experience** under his belt and a magical skill to share that acquired knowledge with homeowners like you.

# Chapter One: Tools and Supplies

Grouting tile requires some basic tools that will help you with the job. I'll describe those you'll find me using. If you don't own them, you can buy them using a link below. I've listed the most basic tools and materials you'll need to finish the job.

**Stiff 3 or 4-inch Putty Knife:** I use this tool to hand mix the grout in a five-gallon bucket. I also use it to spoon out the grout onto the floor. Beware of flexible knives as you would use for drywall. If you apply too much pressure while mixing the grout, you can snap the tool. That's the voice of experience talking.

**Rubber Float:** This is the handy tool you use to apply the sanded grout to the joints between the pieces of tile. Don't buy a cheap one. This is a mission-critical tool.

**Grout Sponge:** You'll need several of these. Make sure the sponges have the rounded edges and corners. Never use a sponge that has squared edges. These can dig grout out of the joints.

**5-gallon Bucket:** You'll need two or three buckets. One for mixing the sanded grout. The others for clean water.

**Grout:** Sanded grout is what you use for any joints that are one-eighth inch wide or wider. The sand in the grout is fine silica sand which adds incredible durability to the grout. Silica is what makes granite rocks so durable, so you can understand why it's so useful in sanded grout. It's also very uniform in color so your sanded grout will look the same color throughout. Don't mix too much ahead of time. We'll talk about that later.

**Grout Release Agent:** A clear liquid that blocks the grout from bonding with the top surface of dull unglazed tile or slate.

**Kneepads or Kneeling Cushion:** Since you'll be spending a lot of time on your knees, kneepads or a kneeling cushion will protect your knees.

**Tile Sealer:** Use a sealer if you want a wet look to your unglazed tile or slate.

**Scouring Pads:** Useful if you make a mistake and there are some stubborn spots of grout left on the tile.

**Clean Water:** Lots of this will be used when cleaning the tile.

Here's a [handy link](#) so you can buy all the tools I'd use.

## Chapter Two: Grouting Tile - Skills and Magic

Once the tile, or slate tile as shown in the following pictures, is all down, and you've let it set for at least 24 hours, preferably 48 hours, it's time to grout. You've really worked hard so far, but I'm afraid to tell you now is when the real work starts. **Make a mistake at this stage, and you'll ruin all you've worked so hard for. Grouting the tile takes skill and patience.** I can teach you the skill aspect in these pages, but the patience part is all you.

Slate is much harder to grout than ceramic tile because of the cleft nature of the surface of the slate. Of course this texture, along with the colors of slate, are what makes it so beautiful. The cleft texture was actually created when the silt was deposited millions of years ago. The layers resemble those you sometimes see in fine flakey pastries or dinner rolls.

These stepped layers trap the grout. If you don't remove all the grout from the face of the slate as you work, you ruin the texture of the slate making it appear featureless and dull. This task is especially challenging if you're working with a dark grout on a dark tile.

### Salvation Tip:

If you're a rookie grouter, then you must make up a test panel of slate or tile. Take some of your scrap tile at the end of the job and thinset them to a scrap piece of underlayment. I suggest a piece about 4 feet by 4 feet, maybe slightly larger. You're going to grout half of this at first and allow it to dry. If the results are great, move on to the floor. But if your grout job is poor, continue to refine your skills on this and other test panels.

### Type of Grout

The joints between ceramic floor tile or slate are almost always  $\frac{3}{8}$  of an inch wide or maybe slightly smaller. Joints this large mandate you must use sanded grout to fill the joints.

Sanded grout is simply regular wall grout with fine silica sand blended into the grout. The grains of sand are very fine, but highly necessary.

The sand performs two tasks. It prevents cracks in the grout as it dries and cures. If you were to use regular wall grout with no sand, you would see all sorts of shrinkage cracks in the grout once it dried and cured.

The sand also makes the grout incredibly strong and durable. The silica sand is basically pure quartz, one of the most durable minerals you can find. Quartz is very hard, and wears like iron.

The quartz sand in the grout basically creates a miniature concrete mix in between each piece of tile or slate. This is often overlooked as many people forget that concrete is just a mixture of rock, sand, Portland cement and water.

Sanded grout is the exact same thing except the rock in the mixture is the quartz sand. Concrete that's mixed correctly and allowed to cure properly is very durable. This is why sanded grout will hold up to every bit of abuse you and your family can dish out.

### **Grout-Release Agents**

Before you start mixing grout for a slate floor or a ceramic tile that does not have a glazed surface, you have a job to do. **I beg you to apply a grout-release agent.** These are clear liquids that block the bonding of the grout to the top surface of the slate or dull tile surface. Because slate doesn't have a glazed surface, grout will stick to the micro-texture of the slate readily. If this happens, you'll have a nightmare on your hands.

In this photo, you can see me applying the clear liquid release agent to the top surface of the slate. Remember, before you do this you **MUST** allow the thinset to cure 24 to 48 hours. If you walk, kneel or twist your feet/knees on an individual piece of slate or tile, you can break the bond with the thinset. Once the slate or tile is grouted, it's much stronger and resistant to this damage as the grout interlocks all the pieces of slate or tile into one giant slab.



The grout-release agent is easy to work with and dries pretty quickly. You can almost always grout within an hour or two of applying it. Remember, if your ceramic tile has a glazed or shiny surface, there's **NO NEED** to apply a grout-release agent.

**WARNING:** If you fail to apply a grout-release agent, proceed to grout **Slate or Dull Tile** at Your Own Peril.

### Watch the Videos Now or After?

You may be a visual learner. Or you may prefer to read about the process, then watch my videos as a supplement. Either way, here's a link to a page at my AsktheBuilder.com website where the four videos reside.

<http://go.askthebuilder.com/HowToGroutImages>

Please take the time to watch them as they will show you exactly how I grout ceramic floor tile.

### Mixing the Sanded Grout

I've never had a problem mixing sanded grout by hand. It's not nearly as sticky as the thinset that bonds tile or slate to the floor. Swishing it around in an older five-gallon bucket with a stiff 2 or 3-inch putty knife is not a chore.

### CAUTION:

**DO NOT** use any bonding agents when mixing your grout. Bonding agents are usually milky liquids that add extra adhesive strength to the grout. They aren't necessary and can create huge issues with colored grout. Every time I've used a bonding agent, the colored grout dried mottled with uneven coloration.

In this photo, you can see a small amount of grout mixed. I did this so you can get an idea of its consistency once it's mixed. You can see the lump of wet grout in the center of the bucket. It's fairly stiff and has little slump. If you mix the grout to where it's pourable or will flow slowly from the bucket, you added too much water. Water is a vital ingredient when mixing grout, but **too much water when mixing, finishing or cleaning the grout will ruin it.**



I frequently get distress emails

from people who wonder why the grout they or a professional installed crumbles and turns to dust weeks after the job is finished. The most common reason is too much water was introduced to the grout as it was being finished. Remember, the Portland cement in the grout is what gives it its strength. Adding too much water dilutes the cement in the grout. It's no wonder the grout is weak when this happens. **Only mix about one gallon of grout at a time.**

### **Applying and Spreading the Grout**

Once the grout is mixed, you can start to spread it. This is indeed a messy job, but somewhat fun. You will be sore at the end of the process, as you're bending over on your knees. Be sure to use kneepads or a kneeling cushion or pad that's commonly used by gardeners.



In this photo, you can see I scooped out a glob of grout from the bucket. A 4-inch drywall taping knife is a great tool to use for this purpose. The grout you see in this photo is just about enough to fill the grout lines that are visible in the photo. You only want to apply as much grout as you can spread in an area about 2 feet by 2 feet square. You can always scoop more grout from the bucket, so there's no need to make a huge pile in one spot and move it around.

The next step is to use the rubber float to distribute the grout to the joints. Dip the float in some water to get the rubber blade wet. This simple trick will help the float glide over the rough slate.

In this photo, you can see the approximate angle you hold the rubber float to the face of the grout. It's between a 45 and 30-degree angle. Note that the long edge of the float blade is also at a 45-degree angle to the grout joints between the pieces of slate. This is very important. Make sure you scrape the float across the joints at this angle. Doing this prevents the edge of the float from dropping down into a grout joint and thus removing grout from the joint.



You want the top of the grout at each joint to be flush with the top of the slate or tile on either side of the joint. This will not always be easy as some slate can be thicker than others. You'll see how the rubber float controls this fairly well as you glide it across the slate. Note in the photo, how almost all of the excess grout has been removed from the slate.

There is grout residue in the texture of the slate, but this will be removed with a sponge. The rubber float isn't capable of removing any more grout than this from slate. When working with glazed ceramic tile, the float will get virtually all of the grout from the surface of the tile so long as you apply moderate to heavy pressure as you scrape the float along the surface of the tile.

### **How Much to Grout at Once**



One danger area is putting too much grout onto the slate or tile at once. In other words, filling a large area of the slate without cleaning off the residue from the face of the slate. There's no magic number here. It depends on the humidity of the air, the temperature in the room and how quickly your grout is setting up or getting hard.

If you put on too much grout and haven't cleaned the slate perfectly, the grout can and will harden on the face of the slate. This is death on a

jagged stick - your worst nightmare.

You can see in this photo, that about 10 to 12 square feet has been grouted. Of that, about 4 square feet has been cleaned of the grout residue. The finished slate that's been grouted and cleaned is in the left side of the photo.

What's really important is to grout only what you can comfortably reach as you clean the joints. Avoid stretching way out where you're off balance. You can see that I've only grouted a space about 2-feet wide from where the wall is to where the grout ends. This is a comfortable reaching distance for many.

And now for the most critical aspect of grouting and installing slate: *Removing the Grout Residue from the Tile.*

If you make a mistake here, you'll ruin the grout and all of your hard work. It's time to go to Chapter Three.

## Chapter Three: Removing the Grout Residue

Grouting is really a two-step process. You apply it and fill the joints between the tile or slate, but then you must remove the excess residue that's on the face of the flooring. I get at least one email a week from a person who made a mission-critical mistake and left too much residue on either slate or ceramic tile. They discover, after it's too late, that it's nearly impossible to remove the grout. The other emails I get are from the people who wonder why their grout is crumbling. Both of these common mistakes happen at this phase of the job. You can see why it's so very important that you do this part correctly.

### Practice Panel

If you've never grouted slate before, I BEG you to follow the **Salvation Tip** in the last chapter. In it, I suggested that you make up a test panel of slate or tile and attempt to grout it. Many will not heed this advice as they are impatient. But I'm hoping that by now I've thoroughly scared the beegeebers out of you. I want you to think you will fail at this point.

What I really want is for you to grout and CLEAN off a test panel successfully. When you see how hard it really is, you'll want to perfect this step before trying to grout your floor. The common mistake that's made is that you actually think the slate or tile looks good and is free of residue when, in fact, it's not.

This illusion happens when you're sponging off the slate or tile. The wet flooring looks fantastic, but in reality, there is a great possibility there is some grout on the slate or tile.

You only discover this AFTER the grout has dried. You'll see a grout haze on the slate. A light grout haze often comes off glazed ceramic tile with an old towel. It will NOT come off slate that easily.

I've reproduced a photo from the last chapter to illustrate this point. In it, you can see an extreme example of grout haze. This is actually a fantastic photo to illustrate the point. In the photo you can't tell, but I've already started the removal of the grout over all the slate. The first pass of the sponging technique is complete. The grout lines are perfectly smooth and all excess grout has been removed from the slate at the left of the photo. You can still see massive amounts of grout haze on the slate to the right.



But believe me, you can continue to rinse the slate in the right of the photo and there's a good chance it will dry with a haze. The slate in the left of the photo is perfect. Those slate are DRY for the most part. Look closely at the photo and you'll see a few wet patches. You can see a small amount of haze on the bottom and right edges of the larger square slate. I left that on for the purpose of the photo. But note how the color of the slate in the upper left is the same as the slate at the bottom which has yet to be grouted. They appear the same.

### **Clean Water - and Lots of It**

The first secret to removing grout residue is you need vast amounts of clean water. Perhaps hundreds and hundreds of gallons of water. The photos in this eBook were taken in my Sun Room. It measures 15 x 15 feet. I didn't keep track, but I'll estimate that I used at least 50 to 100 five-gallon buckets of water to rinse off the grout residue. Remember, the dirty water is ALWAYS dumped outdoors and NEVER into a drain line. At this stage of the job, it's really helpful if you have an assistant who is in charge of bringing you the clean water and taking away the dirty grout-filled water.

### **The Right Sponge**

To get the best results when grouting, you must use the right sponge. The ones I've had the best results with are synthetic, are about 5 x 7 inches in size and about 2-inches thick. They have rounded corners and slightly rounded edges. NEVER use a sponge that has square corners or any square or 90-degree edge. These rounded

sponges are easy to find. I see them at the home centers, and you'll get the BEST ones from stores that just sell ceramic tile to professionals. That's where I've found the highest-quality sponges over the years - at specialty tile stores. I urge you to purchase two or three of them at once.

Also be aware these sponges often come in different sizes. If you have small hands, get the smaller size. These smaller sponges give you much better control when you're trying to remove the grout haze from tight corners.

### **When to First Use the Sponge**

Before you even put the sponge on the slate and grout for the first time, you must make sure the grout is stiff enough for you to begin. This is the tricky part and why it's so important at first NOT to grout too much slate. If you're a rookie, don't underestimate the amount of time it will take to clean the tile or slate of the grout residue.

It can take easily one minute, perhaps two, PER square foot of slate for an experienced craftsman! That means if you grout just 15 square feet, you - as a rookie - may spend 30 minutes getting it perfect. If you have grouted say 45 square feet of slate, by the time you get to the last section, the grout will be too hard to finish!

The perfect time to start to do the first coarse screeding is when the grout in the joints is firm enough that with moderate pressure from your finger it imprints no more than one-sixteenth inch. You want the grout to be quite firm but NOT rock hard. Once again, this transition from a plastic mass in the bucket to rock hard in the joint can happen in 30 minutes, 90 minutes or even hours depending upon the air temperature, humidity, wind conditions on the floor, the temperature of the grout, etc. This is why it's so critical to test your skills on a test panel of slate so you can see how long it takes for the grout to get hard.

### **Using the Sponge**

Using the grout sponge is an art. I can tell you now that you should wear rubber gloves. I always forget to do this. At the end of the day, my hands are raw from the water and the extreme alkalinity of the fresh Portland cement in the grout. You'll be miserable if you don't protect your skin.

Removing the grout haze is a multi-step process. The first phase is what I call the coarse screeding. This is where you are trying to smooth the grout joints to make them look smooth and uniform. To achieve this, you rub the sponge in circular motions across the slate. This knocks off any high spots that you may have missed with the rubber float.



I talked earlier about water. Anytime you're using the sponge on the slate or grout you **MUST** make sure you have squeezed all the water possible from the sponge. This is imperative. You can see me doing that in the photo. Your hands will get very sore from this repeated task, but don't allow that to leave water in the sponge.

When you're doing this first phase of striking the joints, it's not so important to change the water frequently. The first time you rinse the sponge after

rubbing it on the slate, you immediately soil an entire bucket of fresh water.

In this photo, you can clearly see the grout haze is still going to be thick on the slate. In fact, there is still considerable grit from the silica sand on the face of each of the slate. That will be removed in the second step.

It helps to frequently rinse the sponge in this first stage to deposit as much grout and silica sand in the bucket as possible. The sponge will foul quickly with grout and sand as you rub it in circular motions around on the slate. You want to swirl the sponge in small circles about 10 to 12 inches in diameter while moving the sponge around the slate. Imagine your arm is a low-speed buffing machine you see custodians use to polish commercial or institutional terrazzo and vinyl-tile floors.



## **The Second Step**

Once you have rubbed down the section of slate you've grouted with the sponge to finish the coarse screeding, it's time to get a majority of the grout haze off the slate or

tile without harming the actual grout joint. You may have to take a small break to allow the grout in the joints to harden, but if you're careful this isn't necessary.

The second step is far more tedious. You now have to get the grout residue out of the textured areas on the face of the slate or tile. This requires you to rinse the sponge very frequently and to be working with great light. You need to be in the zone and at the top of your game here. Fatigue is your mortal enemy at this point.

I take the sponge and squeeze every drop of water I can from it. I then compress it quite a bit in my hand and stroke it across each slate pulling it parallel with a grout joint and at the same time not allowing the sponge to touch the grout joint. You can usually get within a quarter inch of the grout joint doing this. You can only make one pass with the sponge before it fouls with grout.

It's possible to rotate the sponge in your hand to reveal a clean side, but two cleaning strokes is all you usually get before you must rinse the sponge. If you try to make two passes with the same face of the sponge, you don't really remove any grout.

Your goal at this point, and it takes repeated passes with the sponge, is to make the face of the slate appear exactly as it did before you started to grout. You'll discover this is not easy to do, nor does it happen quickly. Once again, you'll gain enormous respect for the skill required to do this when you practice on your PRACTICE PANEL.



Here's the photo again that's your goal. You MUST have each slate look exactly like slate that has yet to be grouted. It's possible to have perfectly clean slate with NO HAZE on it.

See the large 12 x 12 slate in the left side of the photo that's 95 percent clean? I've put a green dot on it. This is what you want. You can see just to the right of it a 6 x 6 slate that has the dark gray haze all over it. The difference is night and day between the two but realize this entire section of slate WAS

GROUTED at the same time. I didn't just do the small patch that's clean and then do the part that's still got the haze on it. It's possible and mandatory that you get your slate as clean as you see mine in the photo. In fact, it's non-negotiable.

### Step Three - The Light Touch

The photo above is a perfect time to discuss the final step and trick to get the grout haze off the slate. Look again at the large 12 x 12 slate that is in the upper-left corner. On purpose, for the photo, I left that half-inch wide line of grout haze so I could explain the next step. You can also see a slight amount of haze on the lower bottom edge of this piece of slate, but not nearly as much as the right edge.

The way you remove this last remaining haze is totally different than the way you got most of it from the slate. You take a perfectly clean sponge that has had all water squeezed from it. Do not compress it in your hand, just hold it fairly lightly. In the example photo above you would glide the edge of the sponge LIGHTLY across the slate at a 90-degree angle pulling the grout residue TOWARDS a slate that's yet to be cleaned or is partially clean.

It's really important that you don't put pressure on the sponge as it crosses over the grout line itself. You want to be lifting the sponge off the slate as it crosses the grout line just as an airplane takes off from a runway. This motion takes practice. I doubt you'll get it perfect the first time. But it works. You MUST use a clean surface of the sponge with each stroke. You can't double swipe. If you try this, you just smear grout on the clean areas at the center of the slate.

### Very Light Haze

Until you become an expert at lifting the sponge at the precise moment, you may smear a little grout onto a slate that's already perfectly clean. Don't freak out or get frustrated. Within a short amount of time the grout in the joints will be getting pretty hard and you'll be able to come back and wipe the grout from the slate.

It's imperative that if you do smear some grout on a clean slate, use the technique in Step Two to get all but a small amount off. This step is where



you take the sponge and slide it parallel with the grout joint staying as close as possible to the joint but not touching it.

## **The Last Cleaning**

If you've done everything right so far, the slate will look amazing. It's clean with maybe a slight trace of grout at some of the edges of the grout joints. You can get those clean the next day. It's time to take a break for 24 hours.

After this amount of time, the grout should be very hard. You should be able to take a sponge and rub across a joint and not make an impression on the grout at all. You may get a small amount of pigment from the grout on the sponge. This is normal. At this time you can go around and clean up the last remaining traces of grout from the slate or tile.

If there are stubborn spots, use a Dobie Scouring Pad to clean the grout from the slate. These plastic dish-cleaning pads are perfect for slate. They don't hurt the cleft face of the slate at all, but will readily get off light amounts of grout haze.

## **Chapter Four: Sealing the Tile**

For all intents and purposes you're done! Hooray and congratulations! But some people want to seal the tile or slate and the grout with a wet-look sealer. Others like the dull natural appearance of the slate. The only way for you to determine what you want is to try a wet-look sealer on your TEST panel. Remember the test panel we've talked about?

Kathy wanted the wet look on our red slate floor. It's easy to apply with a cotton rag that's in good shape. DON'T use an old towel or some other rag that's falling apart and shedding fibers. The fibers will get attached to the slate permanently. You can brush on some sealers. This is perhaps the best method.



There are invisible sealers that will not change the appearance of the slate. Once again, TEST these on the test panel before you commit yourself to applying them to the floor.

READ the instructions on the label of the sealers and follow them to the letter. Be sure you have waited the amount of time they say to wait to ensure

the grout is cured and

the floor is ready for the sealer. Some sealers MUST be put on with very light coats. Don't ever think that more is better. Test, test and test again on your test panel. Congratulations on your completed project!

## Videos and High-Resolution Photos:

To watch the entire video series from start to finish and to see all the large photos from this book, just click this link:

<http://go.askthebuilder.com/HowToGroutImages>

## Acknowledgments:

Until you spend the time writing a book, an eBook, or any document that's nearly 5,000 words, you have no idea how much work it is, and how much help you need to make it come to life.

This small book is no different. I had lots of help from my wife Kathy, not only picking out the slate and helping with the job, but also her unending patience with me. She

would never mention it in public, but she waited far too many years for her sunroom to be finished.

My oldest daughter Meghan and my videographer Brent Walter helped install the slate floor as well. Meghan was instrumental in pushing me to complete the sunroom as a Christmas present for Kathy.

I want to thank Roger Henthorn, my virtual assistant and life-long friend, for his input and technical assistance that made it possible for you to obtain this document.

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**Tim Carter**

Founder - [AsktheBuilder.com](http://AsktheBuilder.com)

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