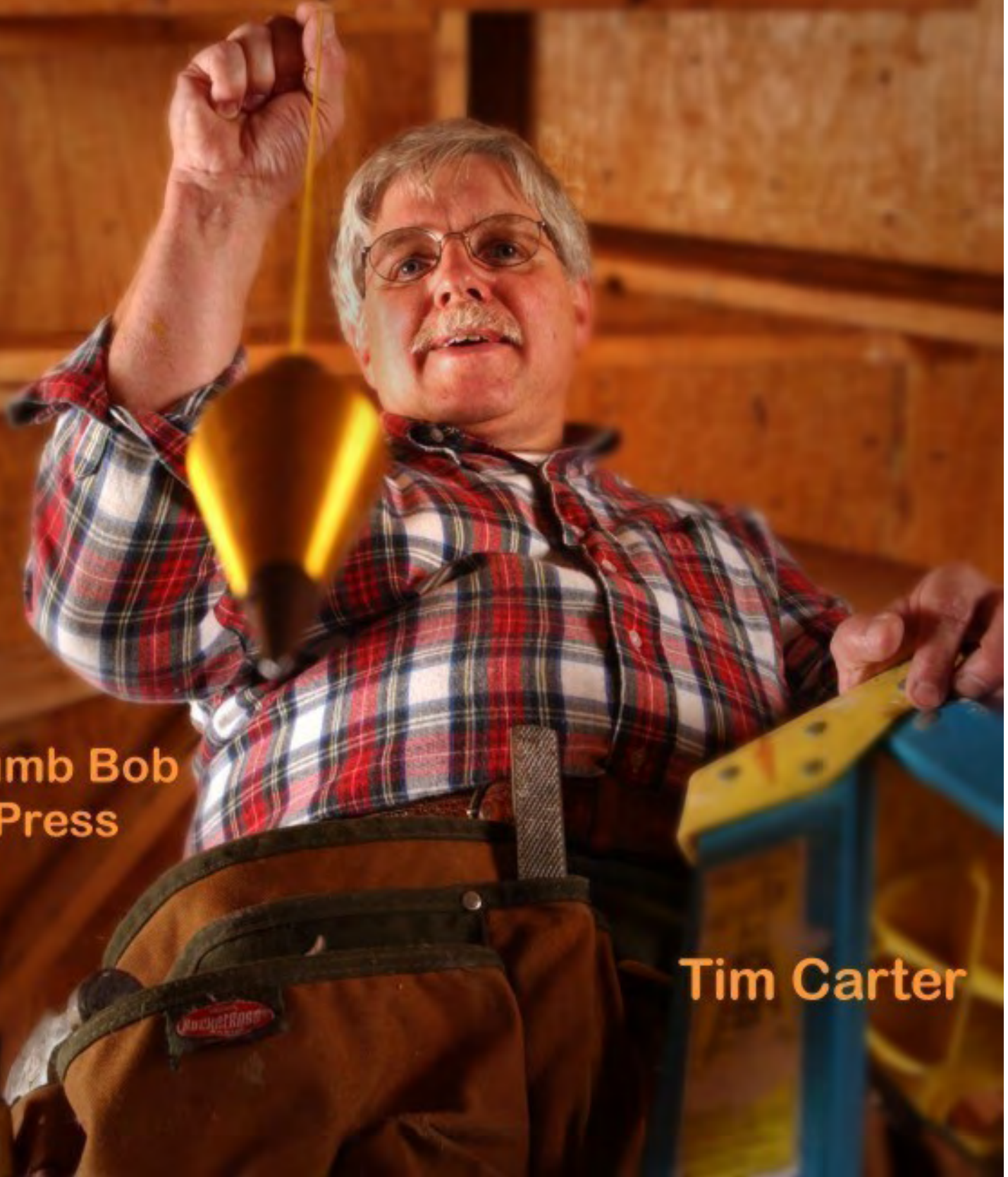


Cork Flooring: Install It, Love It!



Plumb Bob
Press



Tim Carter



Cork Flooring: Install It, Love It!

Installing a Cork Tile Floor

By: Tim Carter

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The information in this book strives to be like a plumb bob at rest – delivering true and accurate information to those who look at it.



Introduction

Over the years, I've personally installed nearly every flooring material: carpet, hardwood, ceramic tile, vinyl tiles, sheet vinyl, marble, granite, rubber, etc. These materials all require skill to install — sometimes considerable skill, as well as specialized tools. Also, those materials are all quite common, not especially distinctive.

Sometime during the early 1970's, I saw my first cork floor in a residential home. It immediately caught my eye, it was so different! After that, I saw cork flooring in our huge main public library in downtown Cincinnati, OH. Imagine how many people walk on that floor each day!

Several years ago, I had the pleasure of installing my first cork floor. Within minutes of installing the first pieces I discovered that cork was the darling flooring material. This was the easiest flooring material I had ever installed!

The cork flooring in the AsktheBuilder headquarters and offices gets lots of comments. New visitors always say in amazement, "What is that?" When was the last time anyone noticed — let alone complimented — your carpet, tile, or hardwood floor?

You are going to love your cork floors. I guarantee it!



Helpful Tips While Reading:

CAUTIONS: From time to time as you read this book, I will alert you when certain information requires added attention. Watch for this warning:

CAUTION CAUTION CAUTION CAUTION CAUTION
When you see text like this, highlighted in yellow with a piece of Caution Tape attached, *be alert!* This is important warning is vital to your safety or to the success of your project.

From time to time, I provide in-depth and often interesting scientific background information about the topic. When this happens, you will see these pieces of tape:

$E=mc^2$ $F=ma$ $S=\frac{1}{2}at^2$ $a^2=b^2+c^2$ $A=\pi r^2$
Information highlighted in green with a piece of Formula Tape attached may help you win a round of *Trivial Pursuit* or *Jeopardy*, but don't feel required to memorize it!

When you see the following icon, you are at the end of a chapter and it is time to proceed to the next step.



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Acknowledgements and Credits

It didn't take me long when I was building each day to figure out that I needed to surround myself with quality sub-contractors. These were people who helped me create the new homes, businesses and room additions that became my trademark of quality. Quality is everything and I soon discovered that consumers placed a high value on this characteristic. It should come as no surprise that I have adopted the same philosophy in my current media career. I am constantly striving to work with people who feel the same way as I do about quality.

AsktheBuilder may seem like it is just me, but there are many people who are responsible for my success. The list is large. Some I have known for years, others just in the past several months. No doubt the biggest thanks should go to my lovely wife Kathy. She has supported me since day one when I decided to jump feet first into the writing and publishing world. In fact, the idea to write the syndicated newspaper column was hers. My children, Meghan, Tristan, and Kelly, also need to be thanked. When I am grumpy because of deadline pressures or tired from working too hard, they have suffered.

Who else has helped me get to this point where I can so readily share my knowledge with others? Let's start at the beginning. I owe much to:

- Roger Henthorn - for his years of computer support
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- And countless others who have helped me get to this point

...For this cork flooring book, I would particularly like to thank the folks at [Natural Cork](#) (Augusta, Ga.) for their expertise, information, and the use of their photos.

Chapter One: Cork, a Perfect Flooring Material

Installing a new floor can be a major project, and your choice of flooring material is a critical decision. Don't make this job any harder than it needs to be, and don't settle for lackluster results. Consider cork – a versatile and often-overlooked flooring material with a lot of potential.

Cork just might be the darling – perhaps even the Holy Grail, in some respects – of flooring materials. I love it, and I've installed it in my house. It has a unique, warm appearance. Cork also combines many of the best attributes of more common flooring materials such as hardwood, ceramic tile, vinyl tile, and carpet. If you want soundproofing, durability, resiliency, and cleanliness, cork offers all that.

Best of all, cork floor tiles are simple to install, finish, and care for. Also, cork is truly a renewable and environmentally friendly material. As long as you understand a few simple “cork quirks,” you'll easily be able to create a floor you'll be proud of.

What Is Cork and Why Is It Eco-Friendly?

Cork is a wood product – but it's actually **bark**, not wood. The cork oak tree grows in forests around the Mediterranean – primarily in Spain, Portugal, and Tunisia. Harvesters manually strip cork trees of their bark every 9-14 years (**Figure 1**). The tree is never cut, and the habitat remains undisturbed.

This product is truly continually renewable – unlike hardwood flooring, which often is considered (and marketed as) “renewable.” But think about how you have to cut down trees in order to get the materials for hardwood floors, as well as what the logging process does to the landscape. That's pretty harsh compared to harvesting cork.

I think of it this way: Harvesting cork is rather like shearing sheep, while harvesting hardwood is like making leather after slaughtering a cow.



Harvesting cork bark. (Source: Natural Cork)

Cork bark is composed of millions of dead cells filled with air (about 30-40 million per cubic centimeter). It's lined with alternating layers of cellulose and a waxy substance. Cork trees live up to 500 years, so their bark must offer maximum durability. It's also inherently fire retardant, insect resistant, water resistant, and tolerant of temperature and humidity.

Cork flooring is made by grinding up the bark into small pieces. These pieces are then coated with a non-toxic resin binder. The flooring is produced in sheets of different thickness, usually precision-cut into square or rectangular tiles.

Durability

Cork flooring is extremely durable. Definitely do not confuse cork flooring with the unfortunate way that most of us first encountered cork: those horrible, stinky, crumbly, dark-brown cork bulletin boards. This book is about something entirely different – quality cork flooring materials.

TIP: Cork Density

Make sure that the cork flooring you buy has a minimum density of 31 lbs per cubic foot (500 kilos/cubic meter).
(Source: *Natural Cork*)

For many years, cork flooring has been used in institutional and commercial buildings, churches, universities, libraries, and so on. Hundreds of thousands of people have walked on cork floors in these settings. This is important to consider, since the typical commercial floor gets tens of thousands of times more foot traffic than your home.

You can use cork flooring on steps or in just about any location – even straight inclines such as wheelchair access ramps.

Unique Appearance

Cork flooring looks incredibly nice. It doesn't actually have a grain, so when installed the floor has a smooth, "pebbled" look that's very attractive and unique. Cork flooring also is available in marbled textures and linear "veneer-style" patterns.

Cork flooring comes in many colors, all in the brown range – from a light tannish brown ("natural") to a deep brown similar to dark walnut wood (**Figure 2**). At the factory, cork flooring tiles are baked in ovens. The longer cork bakes, the darker it gets.

For a lighter-colored floor, purchase unbaked cork tiles ("natural state"). These are a very light brown, and the urethane finish alone will cause them to take on a rich amber color.

Cork flooring material is all in the brown range, and can be stained. Another cool finishing technique is to glaze (tint) it by adding pigment of any color (red, green, etc.) to the urethane. You can also pickle your floor by adding white pigment to the second urethane coat. (See [Chapter 8, under *Adding Color*](#), for more on colorizing.)

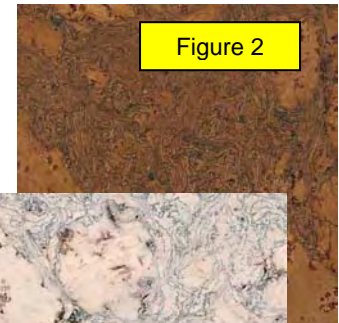


Figure 2



Cork tiles come in a side range of colors and patterns.
(Source: *Natural Cork*)

Soundproofing

Remember, the structure of cork is not dense and solid like concrete. Instead, it has a wide-open cellular structure comprised of millions of cells. More than half the volume of a typical piece of cork flooring is actually air! Consequently, cork captures sound very effectively. In fact, cork-floored rooms seem unusually quiet. That's why many libraries, churches, and institutional buildings choose cork.

Because cork flooring offers soundproofing, it might be a particularly good choice for rooms containing a TV or stereo. A cork floor will help keep sound from bouncing around.

Cork flooring also can be an excellent choice for the kitchen, since kitchens are inevitably noisy – clanking glasses and dishes, appliances, and such). As long as the flooring has been well-finished with an extra coat of urethane, and as long as the finish is maintained, you won't have to worry about splashing water. (See [Chapter 8 for more on Maintaining Your Finish.](#))

Laundry rooms are another high-noise area where you might consider cork flooring. Also, if you entertain a lot, you might want it for your living room. In fact, you might seriously want to consider cork for any room where a lot of noise is generated, or where you want to keep noise down (like the hall outside a bedroom). See [Chapter 3](#) for a more complete list of where to/not to install cork flooring.

Resilience and Elasticity

A cork floor “gives” just a little bit when you walk across it. This resilience is due to the millions of small air pockets that also give cork its soundproofing characteristics. Consequently, cork floors are easy to stand or walk on for long periods of time – like when you're cooking a big meal in your kitchen, or working in your basement.

However, cork flooring is not at all spongy. This is definitely not like walking across foam rubber or carpet. Yet, it's not hard on your ankles, legs, or knees. You can definitely feel the difference when you walk across cork flooring as opposed to a ceramic tile floor.

Cork also is fairly elastic. That is, it has a lot of "memory" and recovers well from compression, such as from heavy furniture or high heels.

CAUTION CAUTION CAUTION CAUTION CAUTION

Like any other flooring material, cork flooring can be punctured by sharp or ragged edges. Therefore, **do not drag heavy objects with a sharp edge** (like a refrigerator or antique chest) over your cork floor. Also, if the feet of your furniture are damaged, put protective pads underneath them.

Easy to Clean

A cork floor is one of the easiest things in the world to keep clean. It has random textured look (not a solid color), so it does not show dirt. Also, since cork flooring is finished with urethane like a hardwood floor, its surface won't trap allergens, pollen, pet dander, or dust. This makes cork an **especially healthy choice** for people with pets, asthma, allergies, infants, and so on. Plus, spills are never a problem if the floor's finish is intact. (**Figure 3**)

CAUTION CAUTION CAUTION CAUTION CAUTION

Never wax your cork floor. That could cause problems when you apply your recommended biannual maintenance coat of urethane. (See Chapter 8, under *Maintaining Your Finish.*)



Figure 3

Cork floors simply wipe clean.
(Source: *Natural Cork*)

Chapter Two: Different Types of Cork Flooring

There are two basic types of cork flooring: glue-down tiles (which are easy to install) and floating floors (planks, which I think are pretty hard to install). Both options look nice and work well. Each has its own pros and cons.

Glue-Down Tiles

A glue-down cork floor is probably **the easiest flooring I've ever installed**. The installation process is almost identical to gluing down vinyl tile or putting in ceramic tile. Just use a cement/adhesive to permanently glue the cork tile to the subfloor so it cannot move.

This means that cork flooring works great on concrete floors. In fact, that's exactly how I did my basement floor. All the cork in my house is glued down. I have had no trouble with it, I love it. It's beautiful. **Figure 4** shows a glue-down cork tile floor in a kitchen.

Here's why installing a glue-down cork floor is so simple: As long as you get your first piece of cork down right, then you just butt the next piece right up against it, and the next, and the next. I mean, how hard is that?

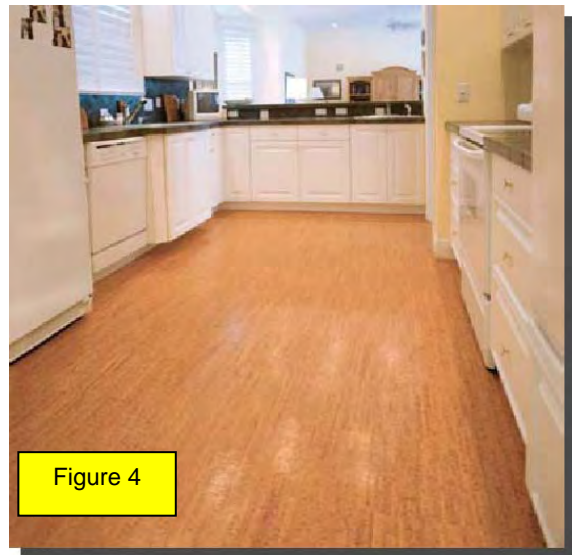
Glue-down cork floor tiles are **easy to repair**, too. If a tile gets damaged, carefully pry it out with a scraper. Then apply some glue and slip a spare tile (which you'll have saved from your original batch, of course) back down into that space.

Cork tiles are **packaged unfinished**, so after you install your floor you'll have to finish it with urethane. You'll need to apply four or five coats, since cork is so porous. Finishing a cork floor isn't difficult; it just takes a little time and effort. One big advantage of finishing your floor on-site is that the resulting surface is virtually seamless.

The only real disadvantage of glue-down cork floors is this: Because the tiles are so thin (less than ¼ inch), **imperfections in the subflooring easily "telegraph" through** and appear on the top surface. This is why you must ensure that your subfloor is absolutely, perfectly smooth before applying glue-down cork tile.

Floating Floors

Some cork flooring companies have developed a product that mimics laminate flooring. You've probably seen laminate flooring – it's very similar to traditional hardwood flooring. Each plank of cork floating floor material is laminated to a substrate (usually medium-density fiberboard).

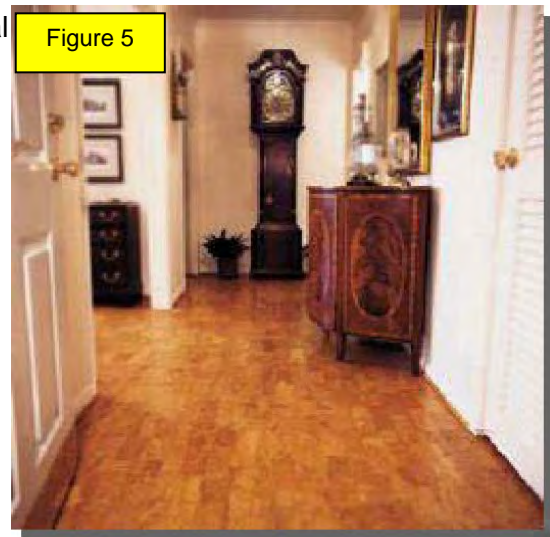


Cork floor in a kitchen.
(Source: Natural Cork)

Figure 5 shows a cork floating floor installed in a residential hallway.

Basically, a cork floating floor is a wood product that comes in **tongue-and-groove planks**. You have to interlock the pieces – and that’s what makes the floating floor system so hard to install. It requires a fair amount of finesse.

Don’t be tricked by television shows that claim it’s easy to install laminate or floating floors. This task requires a specific skill set. You have to make sure the joints are right, that exactly the right amount of glue has been applied... it’s a pain. This is why, if you want a cork floating floor, you should **hire a professional** to install it. Sure, you may be able to handle this job – but I guarantee you’ll hate it!



Cork floating floor in residential hallway.
(Source: Natural Cork)

Because of the more costly materials and the labor costs, floating floors will always be more expensive than glue-down tiles. Also, do not install a cork floating floor in bathrooms or other places that are likely to get splashed regularly with water. If that medium-density fiberboard core gets wet, you’re toast!

Finally, fixing a piece of floating floor is an unbelievable nightmare. Cutting and installing a replacement plank is very difficult.

In certain applications, however, there are some advantages to a floating floor system.

First of all, a cork floating floor is thicker than glue-down tile (up to 3/8 inch thick), providing extra resiliency and soundproofing. Floating floors need to be thicker in order to get the tongue-and-groove structure to interlock. Some cork floating floors also include a less-expensive grade of cork underlayment (an extra layer of cork on the bottom, then the fiberboard, then the finished cork on top). With these, the double layer of cork provides even more resiliency and soundproofing.

Since floating floors are thicker, to a slight degree they’ll bridge defects in your subfloor.

Also some floating floor products come pre-finished, so you don’t have to apply urethane. Some people might prefer this kind of “instant floor” – as soon as it’s installed, you can immediately walk on it and move furniture onto it. However, some manufacturers still recommend applying one coat of urethane over a pre-finished floating floor, to prevent dirt from nestling in the seams between the planks.



Chapter Three: Preparing for Installation

As mentioned in [Chapter 1](#) (under Soundproofing), cork flooring can meet a lot of requirements in addition to simply looking nice. However, this does not make cork a perfect solution for every situation.

Here's a quick guide to the do's and don'ts of where to install a cork floor:

DO consider cork flooring for these spaces:

- TV or music room
- Living or dining room
- Hallways
- Bedrooms
- Stairs
- Straight inclines (such as wheelchair access ramps)
- Bathrooms: Glue-down only, not floating floors
- Kitchen and laundry: Apply an extra coat of urethane to protect from splashes
- Basements, as long as flooding or seepage is unlikely. For instance, the cork floor in my own basement is in perfect condition for two simple reasons: I waterproofed my exterior foundation so water will never get into cracks, and I also have a superior vapor retarder under the concrete floor. After allowing my basement slab to cure for 120 days, it was safe to install my cork flooring.

DON'T install cork flooring:

- Over subflooring that has serious defects
- Wherever water puddles or seeps – like a wet basement, or a bathroom used by kids
- Over a radiant floor heating system (unless you select a floating floor)
- Over sheet vinyl or vinyl tiles
- On porches that are open or screened (not glassed-in)
- Anywhere that's directly exposed to the weather
- Rooms that experience extreme humidity fluctuations

If you aren't sure whether cork flooring is a good idea for the room or conditions you have in mind, call the manufacturer and check.

A Smooth Subfloor Is a Must!

When installing cork flooring, it's absolutely critical for your subfloor to be in excellent condition – that is, as smooth as you'd want drywall to be before painting, even as smooth as glass. The most minor humps, cracks, or divots will telegraph right through the cork and become embarrassingly, glaringly obvious – especially with a glue-down floor.

TIP: Bathroom Floors

If you decide to install cork flooring (glue-down only, please) in your bathroom, **caulk the perimeter** of the room *before* you install the molding or baseboard.

Also, **seal all joints** in the molding or baseboard with at least two coats of urethane. When finishing your floor, add an extra coat of urethane (for a total of five coats.) These precautions will prevent water damage to your subfloor or walls.

Thereafter, apply a **yearly maintenance coat** of urethane, rather than every two years. (See Chapter 8 for more on *Maintaining Your Finish*.)

If you have a wood subfloor, make sure that there's no rot, or spongy areas. Also, the subflooring must be firmly attached to the floor joints. If some nails look loose (like they're moving in and out), remove them and replace them with screws.

Fit all seams or cracks between the pieces of plywood or OSB with a floor-leveling compound – a powered spackling compound for floors. This comes in a bag, and it can be purchased at any home center – just add water. (See [Chapter 4, Step 2](#)) Pay special attention to the subfloor joints; they also must be smooth.

Let Cork Tiles Acclimate On Site

Cork is hygroscopic, which means it absorbs moisture from (and releases moisture into) the air. This is why it's a bad idea to start gluing down cork tile as soon as you uncrate it.

Give your cork a chance to get comfortable in its new home. Let it acclimate on site – that is, shrink or swell in response to local weather or environmental conditions — before it gets installed. I recommend letting cork tile acclimate for **at least four days** after it's unpacked.

A friend of mine recently installed cork flooring in his entire home. It was shipped from a factory in hot and humid Atlanta, GA, across the USA to Boise, ID. Those tiles faced drastically reduced humidity and temperature, as well as lower atmospheric pressure (due to the higher altitude). My friend did the smart thing: He set out his cork tiles to acclimate for three days before installing them. This gave his tiles a chance to shrink in response to their new environment.

TIP: How to Acclimate Cork

To acclimate your cork flooring, you don't have to spread out all your tiles across the floor. The important point is to get air circulating around every tile.

When you open the carton, break the tiles apart in stacks of four or five. Put little sticks between the tiles in each stack – or anything that will provide space for air circulation.

Expect all tiles in a given batch of flooring material to acclimatize in the same way, and to the same extent. Don't worry, you won't end up with tiles of various sizes.

TIP: Finding Subfloor Defects

Here's a trick to locate defects in your subfloor before you tile:

At night, take one of those "trouble lamps" you use when fixing your car engine and bring it into the room where you'll be tiling. Turn out the room lights. Lay the lamp down on the floor so that the beam shoots off horizontally at floor level.

Look for little dark shadows or bright spots – those are the defects you'll have to smooth out. Move slowly throughout the room, checking carefully. **Mark cracks, seams and divots with colored caulk** – you'll need to fill them in later with floor-leveling compound. Replace loose nails with screws. Sand down humps.

Now, if he'd uncrated those tiles and glued them down just a few hours later, it would have looked good – at first. But gradually, over the next couple of days, a seam or crack would have appeared around each tile because the cork would have shrunk in response to the dry climate.

Similarly: If you order cork tiles manufactured in a dry climate install them in a humid climate, your seams inevitably will buckle in a couple of days because the cork will expand.



Chapter Four: Step-by-Step Instructions

As mentioned in [Chapter 2](#), it's easy to install a glue-down cork floor. However, floating floor systems are so difficult to install that I strongly recommend you hire a professional for that job.

To install a glue-down floor, follow the steps below. These represent the basics and key points.

Don't forget to read [Chapters 5-9](#) as noted for more details on various aspects of installing a glue-down cork floor.

Tools and Supplies

For a **glue-down** cork floor installation, you'll need these tools:

- Offset hand saw
- Wide, broad knife (to spread leveling compound)
- Auto "trouble lamp" (for spotting subfloor defects)
- Colored chalk (for marking subfloor defects)
- Drywall screws
- Measuring tape
- Pencil
- Chalk line
- Paint roller on a pole
- Razor knife (to cut tile)
- Framing square
- Cutting board (a scrap of plywood will do)
- Floor roller (at least 75 lbs., you can rent one)
- Lambs wool applicator on a pole
- Paintbrush (two inch or larger)

... And these **supplies**:

- Leveling compound mix
- Primer (sealer) and glue (adhesive) – only those supplied by the manufacturer!
- Water-based urethane

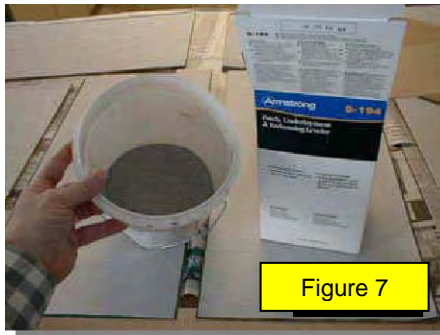
To install a **floating floor**, you'll need all of the tools listed above plus a power saw and other power tools to cut the planks. (I assure you, you will *not* be cutting those planks with a razor knife!) In addition, depending on the type of floating floor system and how the pieces lock, you may also need:

- Hammers and other tapping tools
- Sponges

Step 1: Undercut the door trim and jambs

To install a cork floor in existing home, you'll have to undercut the door trim and jambs so the cork can slide beneath these pieces of wood. **(Figure 6)** Use a piece of cork flooring to mark the height of the undercut.

You'll need a special offset hand saw to make the horizontal cut. Contact any hardwood flooring installer and ask where they bought the saw that they use on a daily basis. These tools also are readily available online.



Step 2: Mix the leveling compound

As [Chapter 3 noted](#), *A Smooth Subfloor Is a Must!* After carefully going over your subfloor with a trouble lamp and marking imperfections as I described in Chapter 3, use a cement-based **floor-leveling compound** to fill in all seams, cracks, and divots. Mix it with very cold water – to the consistency of creamy, fluid cake icing. **(Figure 7)** Work fast! This compound sets in 10 minutes or less. The colder your mix water is, the slower your compound will set.

Step 3: Apply the leveling compound

Use a wide, broad knife to spread and smooth the leveling compound onto your subfloor. **(Figure 8)** This is the same tool I use to apply drywall joint compound. As the leveling compound hardens, you can “dress” the edges with a damp sponge to get a perfectly smooth transition interface between the compound and the adjacent subfloor.



TIP: Prevent Squeaky Floors

Once your wood subfloor is clean, smooth and ready to go, it's a great idea to get hundreds of drywall screws (maybe 1 5/8" long) and actually screw the subfloor down to the floor joists throughout the room. This will minimize, or even eliminate, future squeaks.

Step 4: Measure for your primary base line

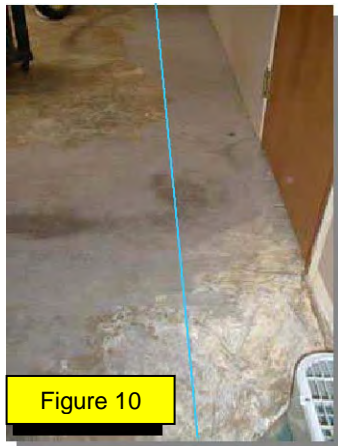
The base line is the primary line along which you will lay the long edge of the first row of cork is. Your floor will look great if you plan a balanced layout. (See [Chapter 5](#)) The primary base line is the most crucial layout element.

If the area you're tiling has an obvious “most visible wall,” your base line should run parallel to that wall. But in most cases your base line will simply run down the center of the room. Be sure to consider how you'll get into and out of the room. It's possible that, depending on where your base line is, you may end up stuck sitting for an hour in the side of the room away from the

only door, waiting for the glue to dry. (That's not really a big deal; just remember to bring a book to read!)

Use a tape measure to measure the correct distance from the longest or most visible wall to where the first major longitudinal seam of your tile layout will be (**Figure 9**) Use a pencil to mark this line.

For this kitchen floor, I wanted the cork flooring seams to run parallel to the primary visible wall. Due to the way I had to tile this particular space, my primary baseline ended up only being about a foot away from the most visible wall. Also, since that wall is a little bit wavy (most walls are not perfectly straight), I decided to leave a quarter-inch gap next to the wall. After I was done with the floor, I used toe stripping to cover that little gap – but the gap also gave the cork just a little room to expand and contract. Therefore, I measured my base line 12.25 inches away from the baseboard, parallel to the most visible wall.



Step 5: Draw the base line

Once you've penciled in your baseline, **you may** use a chalk line to draw it more visibly. **Figure 10** shows this, with the chalk line digitally enhanced for easier viewing. Again, for this job the base line had to be just one foot from the most visible wall; but in most cases your base line will run down the center of the room.

REMEMBER: Always “pop” your chalk line in the air before you snap it onto the concrete floor. This removes excess chalk from the line. Failure to do this will result in a very fuzzy chalk line – which can, in turn, lead to errors when gluing down tiles.

ALSO: Don't skip [Chapter 5, under Starting Point: Your Primary Base Line](#), for more important advice on this crucial aspect of your cork flooring project.

Step 6: Apply primer

Primer (sealer) seals the surface of your wood or concrete floor, so the glue will remain on the surface where it's needed. Here, I have poured some primer onto the floor. (**Figure 11**) I'm using a standard 3/8-inch nap paint roller on a stick to spread it. Roll primer out as you would wall paint. The coat should be neither thin nor heavy. Pay attention to coverage-rate recommendations on the primer label!

Be sure your floor is completely **dust-free and clean** before applying primer. If that means wet-mopping it, do it. Or, if you have a superb central vacuum or a wet-dry vacuum, use it to remove all traces of dust.

As soon as you're done applying primer, clean the roller with warm soapy water so it can be used to apply the glue. Rinse it well!



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Step 7: Let the primer dry

Primer dries very fast – less than an hour in almost all cases. In **Figure 12**, the primer is applied and dry.

Once dry, the primer is completely clear. This adds a level of gloss or sheen to the floor, but that's the extent of its visual impact.



Step 8: Apply the glue (adhesive)

To apply the glue, use the same paint roller that you used for the primer (after cleaning it, of course). The glue is thicker than the primer, but it spreads easily. In **Figure 13**, liquid glue is being applied. Your glue layer should be thin enough so you can see through it to the floor below. (**Important:** Don't skip [Chapter 6 for *More Advice on Rolling Out Glue.*](#))

When wet, the glue appears slightly translucent and baby-blue in color – as you can see in this picture. As it dries, the glue turns even more translucent and a deep royal blue in color.

Step 9: Wait for the glue to dry thoroughly

The tacking process can take **30-60 minutes**. Be patient and wait for the glue to become totally cured and tacky. **NEVER** lay cork down on wet glue!

You'll know the glue is ready (fully cured) by how it transforms visually and to the touch. It'll change from a faintly translucent baby blue (or robin's egg blue) to a more translucent, darker ocean blue. You'll be able to see through it down to the subfloor. At this point, the glue also will feel very tacky. Just touch your thumb to it – if it still feels at all wet, it's not ready. Wait until it feels very tacky.

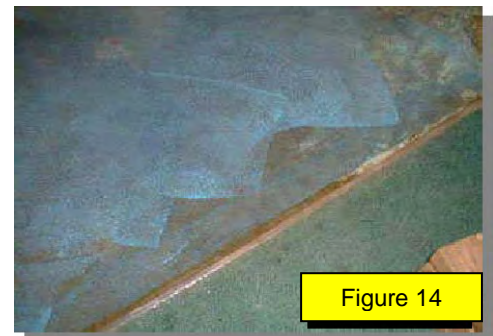


Figure 14 shows wet glue that has yet to dry completely. It's easy to see where the glue is still wet, because the wet areas are still baby blue.



Step 10: Start laying down cork tiles

Here, I'm installing the first piece of a cork floor. When you're doing this, **be gentle!** It is very important to make sure your first cork tile just "kisses" the base line (chalk line). In **Figure 15**, the chalk line has been digitally enhanced for easier viewing.

It's also crucial that you **do not twist or contort the tile at all** in order to hit your base line.

If you twist or force – even slightly – the long edge of that first tile against the line, that will cause fitting problems throughout the rest of your project. (I learned this the hard way – see [Chapter 7](#))

TIP: Don't Scuff the Cork

When installing your cork floor, **don't wear black-soled shoes or boots**. While finished cork is very durable and scuff-resistant, unfinished cork marks easily!

If you forget about this and end up marking the cork accidentally, you should very lightly sand off all scuff marks before finishing the floor with urethane.



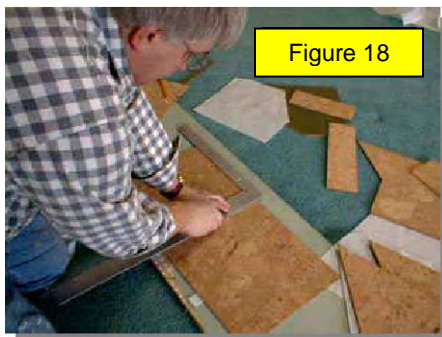
Step 11: How to lay tiles

Figure 16 shows more cork being installed. I prefer to **hold each tile up in the air and tilt it into position**, so two of the sides of the cork butt up against cork that has already been glued down.

Offset your rows of cork tile, just as brick is commonly laid. That is, make sure the center of each tile you lay down touches the butted ends of two other pieces in the row laid previous. However, there's no need to be a perfectionist about this – once the cork is urethaned, the seams between individual tiles tend to disappear.

Step 12: Lay "field" (uncut) tiles first

Field tiles are tiles that require no cuts. When laying a cork floor, you should first install all of the field tiles your layout requires. (**Figure 17** shows many of the field cork tiles in position.) After that, install all tiles around the perimeter of the room that must be cut to fit.



Step 13: How to cut tile

Figure 18 shows how I cut cork tiles. First, I lay the cork on a scrap piece of plywood. Then, I use a common framing square to guide the razor knife. The cork cuts easily with two or three strokes.

When I cut cork tile, I save all scrap pieces and mark the factory edge that remains. These scraps often can be used on the other side of the room.

Step 14: Roll the tile

After gluing down all of the tiles, you'll want to ensure that the cork is pressed firmly into the glue. The 75-lb floor roller shown in **Figure 19** is perfect for this job, and you can get it at any tool-rental store. Run the roller in two directions across the entire floor, at 90 degrees to each other. You can't roll your floor too much!



Step 15: Finish edges first

Chapter 8 gives an overview of the floor-finishing process. Be sure to read the instructions on your urethane cans and follow them exactly. In **Figure 20**, I'm starting to cut out the room with the urethane (water-based Diamond Coat Varathane). When I start to urethane the floor, I do the edges first with a brush. This is because once you apply urethane to the field (wide open area of the floor), you can't get to the edges.

Note that the urethane in the can looks milky. Don't fret about that – it dries crystal clear. The instant you apply urethane to dull cork, the flooring achieves the rich medium brown color you want. Urethane also brings out lots of detail within the cork that is not readily apparent in the unfinished tiles.

Step 16: How to Pour Urethane

It seems crazy, but to finish a wide-open area of your floor, just pour the urethane directly from the can onto the floor! (**Figure 21**) Don't pour too much at once.

You'll quickly get a feel for how much to pour. Once you start using the lamb's wool applicator, you'll see how much urethane you can easily spread at one time.



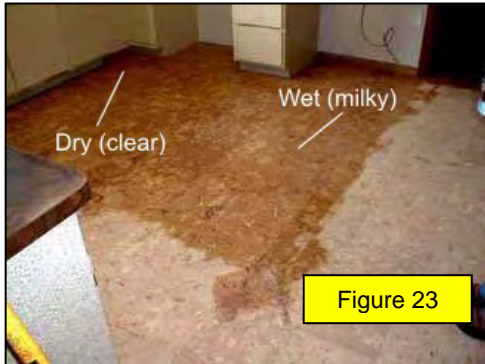
Step 17: Apply finish in wide-open areas

Here, the coating process is in full swing. (**Figure 22**) Note the deep, rich appearance of the cork that has been coated. Subsequent layers of urethane look even better.

I generally apply urethane in bands about three or four feet wide. That's my comfortable reach with the lamb's wool applicator on a pole. Your reach may differ – but keep in mind that you'll need to **maintain control**.

Here's what I mean by "control:" at the end of each stroke, you'll have to gently lift up the applicator. Think of how an airplane takes off from a runway – it's a smooth motion, not a sudden jerk.

Consequently, you won't want to have too much urethane in front of the applicator as you "take off" at the end of each stroke. If you do, then urethane will puddle at the place where the applicator lifts off. **Avoid puddles of urethane at all costs!**



Step 18: Allow each coat to dry

You'll want to apply **at least four coats** of urethane – or five, for colored floors ([Chapter 8, under Adding Color](#)) or splash-prone areas (such as bathrooms, kitchen, or laundry). Depending on temperature and humidity, each coat can dry in **as little as 60-90 minutes**. So in some cases you may be able to apply four coats of urethane in a single day!

In **Figure 23**, we see the difference between the milky appearance of fresh urethane and the clear appearance of urethane that has been on the cork for about 10 minutes or so. The urethane closest to the right of the photo is fresh and so still has a slight milky appearance. However, the urethane on the cork next to the cabinets (on the left) is crystal clear – even though it's still wet, too.

Step 19: Off-limits for 24 hours

After you finish applying your final coat of urethane finish, keep everyone and everything off that floor for 24 hours (or whatever the instructions say on the urethane cans).

After that first 24 hours, it's okay to walk gently on the floor. And after 48 hours, it's okay to allow normal traffic in that room and move furnishings into place.



Chapter Five: Plan a Balanced Layout

Take the time to design your floor's layout before you lay a single tile. In order to look "right," your floor's layout must be balanced (symmetrical).

Carefully calculate your layout so that all along the perimeter of the room, where the tile hits the wall, you end up applying pieces that are pretty much equal in size. What you want to avoid is laying down full-size tiles along one wall, but then having awkward little two-inch strips along the opposite wall.

Measure, don't guess. Don't begin your tiling job using full tiles along one wall, blindly hoping that by the time you get to the other wall you'll magically end up with a perfect fit at a full tile.

TIP: Look up for Symmetry

The next time you enter a doctor's office or any commercial building, **look up at the suspended ceiling.**

You'll notice that the ceiling tiles at either end of the room, and sometimes the side walls, are almost always equal in size.

TIP: Orienting Tiles

If both your room and your tiles are rectangular, orient your tiles so the long side of each tile parallels the long side of the room.

Follow the Most Visible Wall

Some rooms or hallways have an obvious most visible wall that's fairly long and open (that is, there won't be much furniture to break things up visually). Here, you'll easily see the floor coming up to the wall. Make sure that this contact looks very neat — sloppy mistakes will become painfully obvious.

The trick is to make your flooring layout as parallel/square as possible to the most visible wall. (Remember this when you draw your primary baseline!) Otherwise, it'll look like a mistake if you end up with a bunch of triangular pieces abutting your most visible wall.

Starting Point: Your Primary Base Line

After you've prepared your subfloor, measure and make pencil marks where the tile layout's first major longitudinal seam will be. Usually it will run down the center of the room, but if your room has an obvious "most visible wall" this line must run parallel to that wall. This seam is your **primary base line**, and it will guide your entire tiling process. (See [Chapter 4, Step 5](#))

How will it do that? Well, you'll either start laying tiles with an edge along that line, or you'll lay the center of your first row of tiles along that line — whichever enables you to end up at the perimeter (walls) using the largest and most uniform size of tile. (Recall that "balance" concept we just discussed.)

If you chalk your base line, be precise. The base line should be a **crisp, fine, ruled line**.

Take into account that you'll probably want to leave a small gap around the perimeter of the room to allow for expansion/contraction, and also to allow for the fact that most walls are not perfectly straight. This will eventually be covered by toe stripping or molding.

For my cork floor, I left a ¼-inch perimeter gap. Check the instructions from your cork manufacturer (or call them and ask), and do whatever they say regarding a perimeter gap.



TIP: When in Doubt, Lay It Out

If you have any doubts about your layout calculations, it might help to lay your cork tiles on the floor without adhesive, to really see how they will end up at each wall.

You don't have to lay out the entire floor – just butt pieces of cork next to one another in a line until you reach the walls. Start from the center point of the room and work towards each wall.

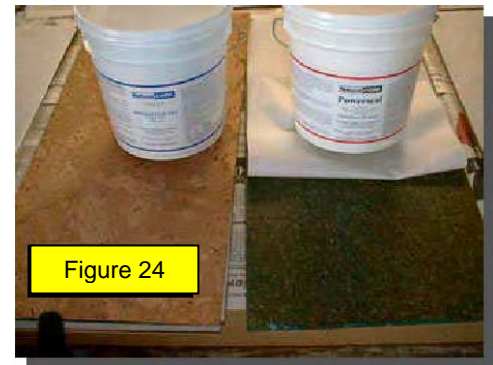
Chapter Six: Primer and Glue

Installing a glue-down floor actually involves applying both primer (sealer) and **glue** (adhesive) to the prepared subfloor.

Use only the primer and glue that the manufacturer supplies with the cork – to do otherwise would be insanity!

Figure 24 shows the containers of primer and glue needed to install a glue-down cork floor.

- The primer is on the right with the red label.
- The glue is on the left with the blue label.
- The primer is sitting on a piece of cork flooring that is upside-down.
- You can see how the folks at Natural Cork have already applied a coat of the blue adhesive at the factory. A piece of silicone-coated paper keeps the cork tiles from sticking to one another in the box during shipping and storage.



Primer (Sealer)

The primer seals the surface of the wood or concrete subfloor so the adhesive stays up at the top (on the surface) where it's needed. When you put cork flooring down on top of concrete or wood, those materials can absorb the glue (pull too much glue into the surface). That's bad, because then there won't be enough glue to hold your tiles firmly in place.

Primer is very easy to apply. (See [Chapter 4, Steps 6-7](#)) The primer I used is a white liquid, with a consistency like thinned-down paint. It just pours out onto the floor. Use a paint roller on a stick to spread it out thinly and evenly, just like paint. Make sure it's a uniform distribution, not too thick.

Primer dries in about 30-60 minutes.

Glue (Adhesive)

The glue that I used for my cork floors is a water-based product. It's the very same glue that's used at the factory – where they apply one coat of this same glue to the underside of the cork flooring tiles.

Once your primer is dry, apply the glue. Wait for the glue to dry fully according to the instructions in [Chapter 4, Steps 8-9](#). This should take about 30-60 minutes.

CAUTION CAUTION CAUTION CAUTION CAUTION

It's worth repeating: **If your glue is still baby blue anywhere at all – WAIT!** It's not completely dry yet! You must let all of the glue turn dark blue and very translucent before laying down tile. If you put cork on top of wet glue that glue will *never* dry.

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More Advice on Rolling Out Glue

When laying down tile, make sure that you're always working your way either into or out of a room. **Never, ever walk on the glue!**

Therefore, **work backwards** when you put down the glue. That is, start putting the glue down at the spot where you're going to put your last tile down. Remember, you're going to have to work your way out of that spot, without stepping on the glue.

For example, if you decide to start laying tile in the center of the room, you should first roll the glue out wherever you'll be putting down your last piece of tile. Then, work backward by rolling out the glue back toward your layout's base line (where you'll start laying down tile).

Don't be sloppy with the glue – it shouldn't spread more than $\frac{1}{4}$ or $\frac{1}{2}$ inch over your crisp chalk or pencil line, because then you might step in it. When you're done tiling one side of the room and it's time to apply glue on the rest of the floor, it is okay to apply fresh glue over that little bit of overlapping glue from before. That little strip of overlapping glue will not be the end of the world – it's a paper-thin layer, so you won't end up with a bump in the middle of the floor.

The important thing is that there must be **100% glue coverage** under every part of the tile floor. So it's better to have a slight overlap in your glue layer than any gaps in coverage.

If the room you're tiling has only one door or entrance, you may find yourself having to sit down and wait for up to one hour on the side of the room away from the door, while the glue dries on the side nearest the door. This is not really a big deal, especially since the fumes from the glue are virtually nil. But you may want to bring a chair and a magazine.



Chapter Seven: Advice for Laying Down Cork Tiles

In any cork flooring job, **the first tile installed controls everything!** For glue-down tile floors, take your time and be particularly careful to install your very first tile in absolutely perfect position. The position of that tile will dictate everything else that follows. In tiling projects, mistakes have an amazing capacity to accumulate.

I'll never forget a mistake I made in one tile job I did. I really drove myself nuts.

I was putting down the first piece of flooring and I was trying to physically hold the tile to the line I'd drawn. But I'd made a mistake – instead of drawing a crisp, fine pencil centerline or popping the chalk line to remove excess chalk, I created a slightly fuzzy chalk line. Those cork tiles were one foot wide by two feet long, and along the two-foot edge, because my line was fuzzy, I accidentally *stretched* an ever-so-slight curve into the tile!

This mistake haunted me for the rest of that job! My seams didn't meet quite right for any other piece of tile in the room. It just kept getting worse and worse. Instead of having a seamless installation, there was a slight gap on two sides of each cork tile.

This is why I advise you to lay your first tile down very carefully. Don't force it, just lay it down gently. Smooth it with your hand so you don't cause it to bend. Once you've got that first piece of tile in right (straight, square, and no bend in it), then your seams will be perfect as you butt subsequent pieces of tile against it. You won't even be able to slip a piece of paper between the tiles.

More tiling advice: In [Chapter 4, Steps 10-13](#), I explain the finer points of installing and cutting cork tile. [Step 14](#) explains how to roll your tile, to ensure that it's pressed firmly into the glue.

TIP: Fix Tiling Errors Immediately

Pay close attention while laying cork tiles. Look at the edges of each tile you lay, where they contact the tiles already in place. If the fit is good, proceed.

HOWEVER – if you happen to make a mistake when gluing down tiles, if things aren't fitting together quite right, then go back and redo everything since the mistake. Do this *as soon* as you realize your error. ([Chapter 9](#) tells how to fix some common tiling problems.)

Don't try to compensate for your error as you move forward, it will only get worse.



Chapter Eight: Finishing Your Floor

All you'll need to finish your cork floor is a **water-based urethane**. I love to use this stuff, it dries so quickly. I prefer to put down at least four coats of urethane. In [Chapter 4, Steps 15-18](#) demonstrate proper technique for applying urethane. Depending on temperature and humidity, each coat can dry in as little as 60-90 minutes. This means that in some cases you may be able to apply four coats of urethane in a single day.

Figure 25 shows the tools and materials needed to finish your cork floor:

- I recommend the **Varathane brand of water-based urethane**, which finished in first place in testing.
- Use a **lambs wool applicator** (attached to a pole, as shown) to apply urethane across wide-open parts of your floor.
- For tight spaces, use a two-inch (or larger) **paintbrush** to apply urethane.



Adding Color

As mentioned in [Chapter 1 \(under Unique Appearance\)](#), you can glaze, tint, or pickle your cork floor you during the finishing process, if you like. First apply two coats of clear, water-based urethane. Add the colorization pigment to the third coat – just mix the color right in with that third coat of urethane. (However, if you want a “pickled” effect by adding white pigment, add the white pigment to the second coat, not the third.)

TIP: Don't Shake the Urethane

NEVER shake a can of urethane before opening it!

To mix urethane, simply **stir it slowly**. Shaking introduces micro-bubbles into the urethane, which will mar your floor's finish.

After colorizing your floor, be sure to add at least two more coats of clear urethane to protect the colors or pigment.

I recommend that you take 4, 5, 6 or even 10 full pieces of tile, glue them to a sheet of 4x4 plywood, and then colorize all of them the same way. Don't try to colorize one small sample, because what looks good on one tile may appear too dark on a huge section of flooring. Remember: Once you apply color to your floor, it can't be undone.

CAUTION CAUTION CAUTION CAUTION CAUTION

If you plan to colorize your cork floor, you absolutely must **experiment first** on scrap pieces of tile! Do not apply color to your new floor until you're certain you know what you're doing.

Maintaining Your Finish

To keep your cork floor looking great, **every two years apply a fresh “maintenance coat” of urethane** – especially in high-traffic areas. Many people don't realize that you're not walking on the cork, you're walking on the urethane. If you wear through that urethane down to the cork, and then damage the cork, then you've got a problem.

Just a couple of weeks ago, I put down a maintenance coat of urethane here at [AsktheBuilder](#), and my cork floor looks brand new again.

We have cork flooring in the basement, where we package our [Stain Solver](#) product. That stuff is very gritty and people walk on it, so we started to wear through the finish on the floor. Well, in one hour, I completely cleaned up the floor in that room, and I touched up the heavy-traffic areas of that floor with a fresh coat of urethane. From start to finish, I applied about 200 square feet of urethane in an hour.



Chapter Nine: Common Problems & How to Fix Them

Glue-down cork flooring is not only incredibly easy to install – if you do happen to find a mistake while you're laying the tiles down, it's pretty easy to fix.

Gap from a tile defect: Occasionally you might find a slight defect in an individual tile, caused at the factory, so that particular tile is not perfectly square. When you lay that tile down, you'll see a tiny gap, maybe just 1/16 inch, in the cork. Don't panic – just leave it.

Once you've finished gluing down your floor and are ready to apply the urethane, just take a sharp razor knife and cut a tiny sliver of cork to fill that gap. Slip it into the gap for a test-fit. If it fits, then use the urethane to hold it in place. Urethane is actually great glue, perfect for this situation. It'll hold that sliver in place. Brush some urethane down into the groove and onto both sides of the sliver. Then just push that sliver down into the crack with your fingers.

Definitely do not use the glue that you used to install whole tiles for gluing that sliver in place. If you try to do that, you'll get glue everywhere and it won't work.

Chips: It's possible that you may chip a piece of cork off a tile as you put it in. Again, don't panic. You can actually glue little repair pieces in just before you urethane, just like I just described for how to fix a gap in the tile. Cut an appropriately-sized repair piece from another tile, and use the urethane for glue.



Resource List: Cork Flooring Manufacturers

This list of cork flooring manufacturers was current as of **March 2008**. However, this industry is evolving rapidly; company names and contact information may change.

Natural Cork, Ltd. Company

www.NaturalCork.com

1710 North Leg Court

Augusta GA, 30909

Tel: 800-404-2675 (CORK)

Fax: 706-733-8120 E-mail:

info@naturalcork.com

Dodge-Regupol, Inc.

(Ecore International)

www.Regupol.com

P.O. Box 989

Lancaster, Pennsylvania 17608-0989

Tel: 866-883-7780

Fax: 717-295-3414

E-mail: kef@regupol.com

DuroDesign Inc.

www.duro-design.com

4656 Louis B. Mayer St.

Laval, QC H7P 6E4, Canada

Tel: 888-528-8518

Fax: 450-978-2542

E-mail: info@duro-design.com

Expanko Cork Co., Inc.

www.expanko.com

1129 W. Lincoln Highway

Coatesville, PA 19320

Tel: 800-345-6202

Fax: 610-380-0302

E-mail: sales@expanko.com

Globus Cork

www.corkfloor.com

741 E. 136th Street

Bronx, NY 10454

Tel: 718-742-7264

Fax: 718-742-7265

E-mail: info@corkfloor.com

Jelinek Cork Group

www.Jelinek.com

Online store: www.CorkStore.com

2260 Speers Road

Oakville, Ontario L6L 2X8, Canada

Tel: 905-827-4666

Fax: 905-827-6707

E-mail: cork@jelinek.com

WE Cork, Inc.

www.WeCork.com

16 Kingston Road, Unit 6

Exeter, NH 03833

Tel: 800-666-2675 (CORK)

Fax: 603-778-7052

E-mail: info@wecork.com



AsktheBuilder Products

As you might imagine, I have all sorts of other products. Each of the items below in blue is a direct link to that product. Click them to learn more. Here is a quick list of some of my best selling items:

[Stain Solver](#)

This is fantastic color- and fabric-safe oxygen bleach. It is non-toxic. You may have seen similar products on TV, such as Oxi-Clean®, and others sold in grocery and membership club stores. But my [Stain Solver®](#) beats them all. The ingredients in [Stain Solver®](#) are made in the USA. Virtually all the other products, including Oxi-Clean®, have foreign-made ingredients. My stuff is more powerful and blended to achieve maximum performance. Don't be fooled by lower-priced substitutes. The low price means cheaper ingredients and more low-cost filler instead of oxygen bleach! [Click here to order Stain Solver online.](#)

[New Home Construction Checklist](#)

If you are going to be building a new home, or know of someone who is, you need to know how to compare bids; make sure ALL items have been quoted; and make sure you are hiring the best builder. My [New Home Checklist](#) does all of this and more!

[Walk Through Inspection Checklist](#)

Once the new home is built, how will you spot any major or minor defects? Without my checklist, you will surely miss something!

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