

INSTALLING LINOLEUM FLOORING

Congratulations on choosing to install linoleum flooring in your home or office. When it comes to installing linoleum, you have a variety of options. This guide is designed to help you plan, prepare and install your new linoleum.

✓ **TIP:** If reading online, click on any item in this contents list or any grey text in the document to jump to a specific section.

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INSTALLATION OPTIONS

When it comes to installing linoleum today, you have a number of different choices with regard to materials and installation methods. In this section, we'll discuss:

- **Linoleum vs. Vinyl Flooring**
- **Types of Linoleum**
- **Linoleum Composition**
- **Installation Areas**
- **Installation Methods**
- **Choosing Your Adhesive**
- **Radiant Heating Considerations**

Linoleum vs. Vinyl Flooring

Many people (flooring sales professionals included) often confuse linoleum and vinyl. While both floor coverings look and are installed similarly, the two materials are very different in their compositional make up. Linoleum is made from all natural materials while vinyl is a synthetic, petroleum-based product.

Types of Linoleum

The first step in your flooring project is deciding what type of linoleum to install.

- **Linoleum Sheets** – Linoleum sheets are sold in 6' 7" rolls. Most often linoleum sheets used in homes or offices are either 2.0 mm or 2.5 mm thick and are glued to the subfloor with a quality flooring adhesive. While more difficult to work with, sheet linoleum floors have a longer life expectancy than linoleum tiles or planks.
- **Linoleum Tiles and Planks** – Linoleum tiles and planks come in a variety of sizes depending on the manufacturer. Most often tiles and planks are 2.5 mm thick. While linoleum tiles can be easier to install than sheet linoleum, tiles and planks generally do not last as long and can warp or curl around the edges.

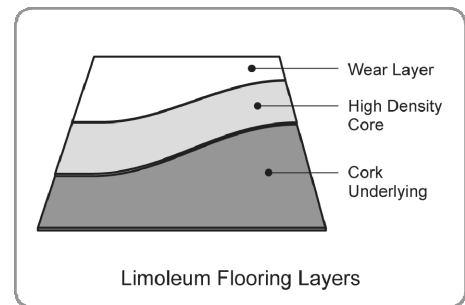
- **Floating Linoleum** – Floating click lock linoleum floors are the newest type of linoleum on the market. These floors are installed above existing flooring (much like laminate) and locked together. Floating linoleum panel sizes range from 1'x 1' squares to 1'x3' panels depending on manufacturer.



NOTE: Floating linoleum and linoleum tiles and planks can take more time to install but are easier to transport. Sheet linoleum can be difficult to transport and install because it is bulky and very heavy, but generally lasts longer than linoleum tiles.

Linoleum Composition

All linoleum is made from a variety of natural materials including linseed oil, rosin, cork dust, limestone, wood flour and pigments. These materials are heated, combined, laid on a backing foundation, rolled into sheets then hung to dry. Backing materials are most often jute, although fiberglass, burlap and canvas are also used for some products. Unlike vinyl, linoleum sheets and tiles do not have a protective wear layer on the face of the linoleum. Instead, linoleum must be polished or waxed to help protect the floor from wear and damage. Linoleum comes in a variety of thicknesses and typically thicker products are better at resisting tears and other damage.

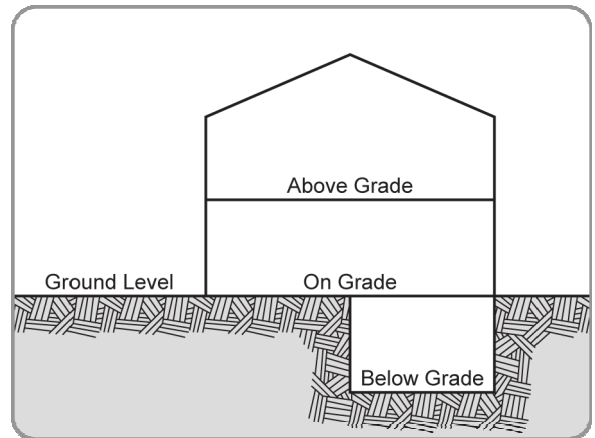


Floating linoleum goes through all the same manufacturing process as linoleum sheets and tiles. The linoleum is then mounted on HDF or other type of base board and covered with a thick wear layer on top. Additionally, some floating linoleum has pre-attached cork or foam underlayments.

Installation Areas

One of the reasons linoleum is gaining popularity again is because it can be installed in a number of different areas in your home or office. Linoleum is approved for On Grade and Above Grade installations and can be installed in some Below Grade areas provided a moisture barrier is installed under the linoleum.

Since linoleum is durable and does not generate static electricity, it is good choice for high traffic areas and offices or rooms with electronic equipment. Some linoleum is also a good choice for wet areas such as kitchens, bathrooms and laundry rooms; however, always check with your flooring manufacturer before beginning your installation. Some linoleum may not be suitable for wet areas or you may have to install an additional moisture barrier.



Linoleum can be installed over the following subfloors:

- **Wood** – Wood subfloors must be dry, clean, smooth, flat and level. Some wood subfloors require an additional plywood underlayment for stability.
- **Concrete** – Concrete subfloors must be dry, clean, smooth, level and flat. You must perform a Polyethylene, Calcium Chloride and pH Alkalinity test before installing your linoleum. Excessive moisture can interfere with the adhesive and cause the linoleum to break down over time
- **Existing Vinyl Flooring** – Existing vinyl must be in good condition and completely adhered to the subfloor. If your existing floor is not completely flat and level, you should consider installing a plywood underlayment to support the linoleum. You must remove all existing linoleum as well as any damaged or loose flooring prior to installation.

✓ **TIP:** Be aware of asbestos when removing existing flooring. Some older flooring products contain asbestos which can contaminate your home or office if removed. Do NOT remove the existing flooring if you find asbestos. Instead install a suitable plywood underlayment before installing your new linoleum floor.

Installation Methods

Now that you've chosen your linoleum and identified your subfloor, it's time to figure out how to install your flooring. Installation methods vary depending on the type of linoleum you are installing.

Linoleum sheets and linoleum tiles are installed with:

- **Full Spread Adhesive** – A quality flooring adhesive is applied to the whole floor beneath the linoleum. This is the way most linoleum is installed in homes, offices, and commercial buildings. When using this method, always follow the manufacturer's recommendations when choosing an adhesive. Try to use the same brand adhesive as your flooring to ensure compatibility between the two products.

Click lock linoleum is installed as a:

- **Floating Floor** – Precut, interlocking pieces are fit and locked together above the existing floor. No glue or special tools are required. This is the easiest and least messy way to install linoleum.

Choosing Your Adhesive

It's usually best to use the same brand adhesive as your linoleum flooring. This ensures that the adhesive will work properly with the flooring. If you want to use a different brand adhesive, ALWAYS check with your flooring manufacturer or retailer to ensure the flooring is compatible with that adhesive.

Radiant Heating Considerations

Many types of linoleum can be installed over radiant heating systems. Always check with your flooring manufacturer to ensure your linoleum is designed for use over a radiant heating system. Some linoleum products can become discolored, breakdown or detach from the subfloor as it heats. Always follow your manufacturer's specific guidelines for floor temperatures and care.

PLANNING YOUR INSTALLATION

Now that you've got the basics down, it's time to start planning your linoleum installation. In this section, you will:

- **Determine Your Layout**
- **Allow for Expansion**
- **Factor in Waste**
- **Estimate Installation Time**
- **Choose an Underlayment**
- **Install Safely**

Determine Your Layout

Linoleum comes in a wide range of vivid colors and styles to fit with any décor. You can mix and match linoleum types, sizes, colors and patterns to create any number of designs and layouts. If you are using different types of linoleum, draw out your design or pattern so that you can refer to it on installation day.

Allow for Expansion

Most linoleum goes through minor expansion and contraction once installed. Your flooring may expand slightly width-wise and shrink slightly length-wise. Manufacturers may suggest leaving a 1/8" expansion space around the perimeter of the room. Some manufacturers also suggest leaving 1/64" between seams for this expansion and contraction, while other manufacturers recommend fitting the linoleum together tightly. Always follow your specific manufacturer's recommendations for expansion and seam spacing.

In most cases, the linoleum floor should never fit flush with walls or over time it will start to bubble or fold. However, linoleum can be installed flush with bathtubs or showers as you will need to caulk these areas to prevent water from penetrating your subfloor.

✓ **TIP:** Some professionals install wall base to cover the edges of the linoleum near walls and cabinets. While other professionals install linoleum flush with cabinets, doorjamb, thresholds, bathtubs and other obstructions. They then use flexible silicone caulk to seal these edges. Always follow your flooring manufacturer's recommendations during your installation as some linoleum needs more expansion/contraction room.

Factor in Waste

Waste is a part of any flooring project. Waste can be due to:

- Type of linoleum installation (sheet vs. tiles vs. floating)
- Odd shapes in the installation area
- Installation mistakes

Non-professional installers should account for a waste factor of between 7%-10%. Plan to order a roll size to match the length of the room with as few seams as possible. You can also use the Advanced Estimator tool on FindAnyFloor.com to help you determine how much linoleum you'll need to complete your flooring project.

Be sure to factor waste into your original linoleum purchase. This is especially important when purchasing linoleum tiles. Retailers continually discontinue and add the types of flooring products they offer. There is no guarantee that your flooring retailer will carry your linoleum in the future. And remember, **you should always end up with extra linoleum at the end of your project.** Over the life of the floor you may need to replace sections that get damaged from use.



NOTE: It may not be practical to replace damaged sheet linoleum. Because linoleum is such a durable product, talk with a flooring professional about ways to fix any damage before you attempt to replace a section of sheet linoleum.

Estimate Installation Time

There is no hard and fast rule for installing or completing any linoleum flooring project. Generally, sheet linoleum or linoleum tiles should take one to two days to install.

Other factors that affect installation times vary widely and include:

- **Room complexity:** Simple patterns and small rooms, on average, take less time than large areas and complex linoleum designs.
- **Experience level:** If this is your first time installing sheet or linoleum tiles, it may take you longer than a non-professional who has already done more than one installations.
- **Amount of planning:** Planning helps you identify your room's problem areas. If you know how you'll handle these areas before you get to them, you'll save time in the long run.
- **Assistance available:** If you are working with sheet linoleum, you'll probably need at least one person to help you. However, having too much assistance can also be more of a hindrance than a help.

Choose an Underlayment

The Resilient Floor Covering Institute (RFCI) approves American Plywood Association (APA) underlayment grade plywood, hardboard or Type 1 lauan plywood as acceptable underlayments for linoleum flooring. If installing a click lock linoleum floor, you may also want to consider sound abatement underlayments. Always follow your flooring manufacturer's guidelines when choosing an underlayment. Some types of underlayments may void your warranty.

APA Plywood

APA plywood is used as an underlayment for subfloors that are not completely smooth, flat, level and dry. APA plywood underlayments are also recommended to help support the new linoleum above existing floors. APA plywood should be ¼", 3/8" or ½" and underlayment grade, meaning it has an exterior and/or exposure 1 classification and a fully sanded face.

✓ **TIP:** If you add a plywood underlayment, your linoleum floor may be higher than surrounding rooms.

Hardboard

Hardboard is a thinner, smoother version of plywood. If you want to use hardboard as an underlayment for your linoleum floor, it must be class 4, 0.215 inch, service-grade hardboard. All other hardboards are not dimensionally stable enough to support a linoleum floor over time. Additionally, not all manufacturers recommend installing linoleum over hardboard. Always follow your flooring manufacturer's guidelines when choosing an underlayment so you do not void your warranty.

Lauan and Other Types of Plywood

Plywood comes in a number of different grades. Many manufacturers approve Type 1 ¼" lauan plywood as an underlayment for linoleum floors. However, this type of lauan board is extremely difficult to find.

You should NOT use other types of lauan board, OSB board, particle board or lesser quality plywoods as underlayments for your linoleum floor as they are not dimensionally stable enough to support the linoleum floor over time. These products can have hollow spots between the exterior layers which will cause squishy or "soft" spots in your linoleum floor. Additionally, these products could delaminate which could cause large bubbles in your floor. If delamination occurs, you will have to replace both the underlayment and the linoleum. These product may contain water soluble chemicals, dyes or inks that can be transferred to and stain your linoleum floor.

Other Underlayments


Cork is the most common underlayment for floating linoleum. Many click lock linoleum products come with pre-attached cork backings. Cork provides cushioning and sound control and may be required in some multi-story buildings such as condos or apartments. Additionally, many homeowners choose cork because it is an all-natural, renewable material which complements the natural makeup of their linoleum.

In addition to cork, other name brand cushioning and sound abatement underlayments are available for installation under your floating linoleum floor. Always follow your manufacturer's recommendations when choosing an underlayment for your new linoleum floor.

Moisture Barriers

A moisture barrier is essential if installing linoleum on a concrete slab or in an installation area that is Below Grade. Moisture barriers for linoleum include:

- **Plastic Sheeting** – Sheeting should be 4mm-6mm thick. Follow all your manufacturer's recommendations for installation below your linoleum.

 **NOTE:** Plastic sheeting is required below all floating linoleum floors. Sheeting should extend up the walls at least 2 inches and should overlap at all seams at least 8 inches.

- **Paint-on Moisture Barriers or Waterproofers** – Refer to your flooring manufacturer for specific recommendations as some products may not be compatible with your linoleum floor.

Install Safely

Follow these guidelines to ensure a safe working environment.

- Read and follow all your manufacturer's guidelines when installing your linoleum.
- Wear OSHA approved safety goggles and hearing protection.
- Wear the proper clothing and shoes (tennis shoes or work boots).
- Wear other personal protective equipment such as respirators, shin guards, knee pads and/or gloves, when necessary.
- Keep your work area and subfloor clean. Clutter, debris, dirt and sawdust could damage your linoleum or pose tripping hazards.
- Make sure the room has adequate lighting and ventilation.
- Be sure the electrical power to the area you're working in can support any electric tools you're using.
- Have a first aid kit on hand or nearby.
- Do not work under the influence of drugs, alcohol or other medications (OTC or prescription) which can impair your decision making ability.
- Use all tools and machinery as intended by the manufacturer with safety guards in place.

PREPARING FOR INSTALLATION

Installation day is almost here. Before you begin your installation there are a few things you need to do first including:

- **Moisture Testing Your Concrete Subfloor**
- **Inspecting and Leveling Your Subfloor**
- **Acclimatizing Your Flooring**
- **Removing Molding and Doors**
- **Undercutting Door Casings**
- **Installing the Underlayment**

Moisture Testing Your Concrete Subfloor

Moisture testing is an extremely important part of the installation process if your linoleum will be installed directly on a concrete slab (especially new concrete slabs). Wet concrete slabs can cause issues with your adhesive as well as seep up and stain or damage your linoleum floor.

There are three types of moisture tests you must perform on your concrete slab before installing your linoleum: a Polyethylene Moisture test, a Calcium Chloride test and a pH Alkalinity test. While slabs should be at least 30 days old prior to installation, some manufacturers suggest only installing linoleum on concrete that is more than 4 months old to ensure the moisture content is within acceptable ranges. Additionally, ensure your linoleum is approved by the manufacturer for installations above a concrete slab on any grade level.

Polyethylene Moisture Test

The Polyethylene Moisture test is an easy way to perform a moisture test on a slab that is at least 30 days old. Duct tape a couple 12 inch by 12 inch pieces of polyethylene (plastic sheeting or a clear garbage bag works well) in various places to the concrete slab for 24-48 hours. When taping, be sure the squares are taped all the way around so no air can escape.

If after 24 to 48 hours the concrete darkens or any condensation forms on the plastic, you must perform a Calcium Chloride and pH Alkalinity test. These results indicate that your concrete subfloor may contain too much moisture to safely install your linoleum flooring. Even if you have a successful polyethylene test, you should still perform a Calcium Chloride and pH Alkalinity test on your concrete slab to ensure it is safe to install your new linoleum floor.

Calcium Chloride and pH Alkalinity Test

Calcium Chloride and pH Alkalinity tests are far more accurate than polyethylene tests at detecting moisture in a concrete slab. Supplies for these tests can be purchased online or at stores that specialize in flooring and/or concrete tools. These tests measure the moisture emissions and the alkalinity of the concrete slab. Always perform each test according to the manufacturer's instructions. Refer to your linoleum manufacturer's guidelines for acceptable ranges.

Your concrete slab moisture content should be **5.5%** or less with a pH of less than **10** unless otherwise recommended by your flooring manufacturer. For floating linoleum floors, vapor emissions should not exceed **3 pounds per 1000 sq ft in 24 hours**.

If either test exceeds the manufacturer's recommended limits, you should seal your concrete subfloor with an appropriate sealer. Check with the sealer manufacturer to be sure the concrete sealer will not interfere with the adhesive you'll be using during your linoleum installation. Sealers can be purchased at any home improvement store or from your local flooring retailer. Once the sealer has cured, re-test to ensure moisture levels are within acceptable limits.

If after sealing your concrete you are still having moisture issues, talk to a flooring professional for additional guidelines and testing procedures.



NOTE: Always follow your manufacturer's recommendations when choosing a floor sealer as some products may interfere with the adhesive used to install your linoleum floor.

Inspecting and Leveling Your Subfloor

Your subfloor must be completely smooth, level, flat and free from any bumps and dips, no matter how small. Any seams, dirt, bumps or raised nail heads will be visible under the linoleum. Whatever the cause, it's your job to fix or remove the imperfections so the floor is completely flat.

Before you begin finding your imperfections, make sure the floor is scraped and swept clean of all drywall mud, paint splatters and any other debris. Then fill all cracks and gaps with embossing leveler or other type of floor patch as recommended by your flooring manufacturer. Sink nails below the subfloor and patch all holes.



NOTE: Always follow your manufacturer's recommendations when choosing a floor patch as some materials may interfere with the adhesive used to install your linoleum floor.

Finding the Imperfections

First, you'll need to find your floor's imperfections. Many manufacturers recommend that your subfloor not have a variance of more than 3/16" over a 10' section of subfloor. An easy way to find imperfections in both concrete and wood subfloors is to use an 8-10' piece of straight lumber.

Start at one end of the room and lay the straightest side of the lumber down on the subfloor. From ground level, see if there are any gaps between the lumber and the subfloor. Mark those with a pencil on the subfloor.


Next touch each end of the lumber. Does it tip or rock to one side? If there is any movement, find the high spot and mark it. Make your way across the room, observing and marking the imperfections in the subfloor.

You can also use a flashlight to help you find imperfections. Lay your straight piece of lumber on the subfloor and move the flashlight from one end of the lumber to the other near the floor. If light filters either below or above the lumber, you've found a high or low spot in your subfloor.


Leveling Low Spots in Concrete Subfloors

If you found low spots in your concrete subfloor, use embossing leveler or a self-leveling compound (floor patch) to fix them. Embossing leveler is applied with a straight edge finishing trowel above the existing subfloor. It can be used to patch certain areas or across the whole floor as needed.

Self-leveling compounds and embossing leveler are like quick-set concrete. DO NOT use regular cement products as they do not set and cure fast enough. Only use self-leveling compounds that indicate they have quick drying times and are made specifically for leveling subfloors for linoleum installations. These can be purchased at many flooring or home improvement stores.

 **NOTE:** Using patching products that are not specifically recommended for linoleum may void the manufacturer's warranty. Play it safe and always choose a product that is recommended by your flooring manufacturer even if it is more expensive than other products.

1. Prepare the self-leveling compound/embossing leveler together in a bucket following the manufacturer's instructions. Make sure you are outside or in an area where it won't matter if some of the compound splashes out of the bucket. Always follow the manufacturer's instructions when mixing the leveler. Some manufacturer's recommend adding the water after the embossing leveler is added while others recommend adding water before.

 **NOTE:** Because these products set so quickly, do not prepare the leveling compound until you are ready to begin using the product on your floor.

 **TIP:** Mix only small batches of compound at a time so it does not dry in the bucket or on tools before it is all used up.

2. Mix the embossing leveler using a paddle-type drill attachment (available at most home improvement stores). You want the mixture to be similar in consistency to a thick milkshake.

3. Place your straight piece of lumber at the edge of the place you will be leveling. Pour some of the embossing leveler on the spot to be leveled. Use a trowel to fill in all the low areas. After you've spread the embossing leveler, quickly move the lumber across the area you just leveled to ensure it is flat. If it is not, add more embossing leveler. If the area is now too high, quickly scrape away any excess.

✓ **TIP:** This part of the process works best with two people – one person working with the leveling compound and one person working with the lumber.

4. Work quickly across the floor filling in all the low spots with leveling compound and ensuring they are flat with the lumber.

If you run out of embossing leveler, clean up the bucket and tools then mix another small batch.

5. Once all the low spots are filled, re-assess the areas you just leveled. If you still find low areas, mix another batch of embossing leveler and add more on top of the dried compound.
6. Wait for the compound to dry and cure completely before installing your linoleum.

Leveling High Spots in Concrete Subfloors

Use a grinder or sander to level any high spots your concrete subfloor. If you don't own one, these machines can be rented from most equipment rental stores. When grinding, always wear a respirator to limit the amount of dust you inhale. Wetting the slab before you begin sanding can also help control the dust. If you are working on an addition to a home, make sure everything is covered with plastic and taped shut. Cover and tape all AC intake vents so that concrete dust is not distributed throughout your home through the ventilation system.

✓ **TIP:** Concrete dust will get everywhere (including closed cupboards or drawers) because the particles are so fine. Be sure to tape up everything tightly! Placing a box fan in a window so that the air from inside the home is pulled outward can help disperse the concrete dust.

Leveling a Wood Subfloor

Before you begin any leveling, walk the floor and screw down any squeaky or loose spots with coarse-headed screws. You should also consider securing high-traffic areas to help reinforce the subfloor. Once everything is secured, you're ready to move onto leveling the subfloor.

Leveling a wood subfloor can prove to be more challenging than concrete, especially if the wood subfloor is not flat because of high spots over joists (also called crowned joists). If the high spot is relatively low, sand down the subfloor above the joist enough to make it flat. If the crowned joist is high and there are exceptionally low areas between joists, use a self-leveling compound to even out the floor. All preparation and application steps are the same as for concrete subfloors. If your floor has excess sagging, check below your subfloor. You may be able to fix some sagging by installing wood supports below the subfloor between the joists. Once your wood subfloor is level, you can install your underlayment (if necessary) then your linoleum.

Acclimatizing Your Flooring

Linoleum needs 1-2 days to acclimatize to your installation environment. Once all moisture testing and leveling is complete, place the linoleum (roll or tiles) in the area in which they will be installed. Keep the room temperature at normal living conditions during the acclimatization period and throughout the installation. If the room is too cold, the linoleum will become brittle and difficult to work with. Always store rolls upright and away from vents or direct sunlight.

Removing Molding and Doors

When installing linoleum, you have a couple of different options when it comes to working around molding:

- You can remove all molding and baseboards in your installation area with a crow or pull bar. If you are reusing the molding and baseboards, take care during removal. Small nicks can be filled, sanded and painted over; however, pieces that are broken or have major damage may need to be replaced.
- If your linoleum will fit below the molding and the subfloor, you can leave moldings in place and cut your linoleum to slip seamlessly under the molding. If you choose to leave the trim in place, take care to cut your linoleum long enough to fit completely under the molding, but not so long that it fits too tightly to the wall behind which will cause bubbles that are difficult to remove once the floor is glued.

- You can leave your existing molding in place and install linoleum right up to the molding. Once your installation is complete, you'll go back and caulk the seam between the edge of the flooring and the bottom of the molding to ensure the linoleum does not start to peel away from the subfloor. This method is only recommended if the molding is extremely difficult to remove. It can be difficult to trim linoleum neatly and accurately along the trim. Additionally, the caulking could fail in the future causing the linoleum to curl along the edges. Keep an eye on all caulked areas. Remove existing caulk and reapply as necessary throughout the life of the floor.

It's also a good idea to remove all doors and set aside especially if you are installing sheet linoleum. Plus, remove all furniture in installation area. If working in a bathroom, remove the toilet so the flooring can be installed under the fixture.

✓ **TIP:** Many professionals do not recommend caulking around the toilet after the linoleum is installed. If caulked, you are less likely to notice small leaks.

Undercutting Door Casings

Not all linoleum installations require you to undercut door casings.

- If you are installing your linoleum over a concrete subfloor without an underlayment AND you are installing your linoleum flush with your molding, you do not have to undercut door casings.
- If you are installing a plywood underlayment OR you are installing your linoleum under your molding, you should consider undercutting your door casings so that your floor has a consistent look.

It is a good idea to undercut door casings for all installations to help protect the subfloor from moisture. Linoleum that is cut short around door casings can allow moisture to penetrate the subfloor. You should undercut all door casings before you begin your linoleum installation. This ensures you do not have excess wood chips or saw dust in your installation area.

To undercut door casings, you'll need a scrap piece of linoleum, a pencil, a scrap piece of underlayment and your saw (a handsaw or special saw for cutting door jambs). Always use the finest blade possible when undercutting door casings so that the saw does not split or mar the wood. NEVER use a saws-all or skill saw as these saws may be difficult to control for these types of cuts.

1. Use the scrap piece of linoleum and your underlayment to bring your saw up to the right height of the door casing.
2. Use a pencil to draw a line at the top of the flooring/underlayment. This is how much you'll be cutting off the bottom of the casing so that the flooring will fit underneath.
3. Use the saw to cut the door casing along the line you drew. Keep your scrap piece of linoleum and underlayment in place to help ensure you make a straight cut.

Now when you reach a door casing, you can slide the linoleum under the casing and flush with the wall.

Installing the Underlayment

If you are installing linoleum over a wood subfloor or existing flooring, you should consider installing an underlayment. For more information, see the **Choose an Underlayment** section on page 8. When installing your underlayment, keep these things in mind:

- Stagger your underlayment sheets so seams are at least 12 inches from the seams in the subfloor. Stagger the underlayment joints a minimum of 12 inches.
- Start in one corner of the room and work your way across the whole floor.
- Leave an expansion perimeter along all walls as recommended by your flooring manufacturer.
- Leave between 1/16" and 1/32" expansion gap between each underlayment sheet. Fill with flexible caulk or a thin amount of leveling compound as recommended by your manufacturer. Once dry, sand all seams so they are flat and level.
- Place factory edges to factory edges whenever possible.
- Use 1 1/4" (3d) ring shank nails to secure the underlayment to the subfloor. Place nails every 6" throughout the floor and every 4" at all seams. Professional installers recommend using 1/4" crown, divergent, galvanized staples spaced 4" apart throughout the floor and 2" apart at all seams. Both types of fasteners should fully penetrate the subfloor but should not be visible from underneath.
- Let the installed underlayment acclimatize for 24 hours before installing your linoleum, if recommended by your flooring manufacturer.

✓ **TIP:** This acclimatization process is especially important in colder climates.

INSTALLING SHEET LINOLEUM

Sheet linoleum is installed by applying an adhesive to the whole floor beneath the linoleum. Always follow all the adhesive manufacturer's recommendations during installation.

Depending on your floor size, you may be:

- **Installing a Linoleum Floor without Seams**
- **Installing a Linoleum Floor with Seams**



NOTE: Working with sheet linoleum can be difficult because it is bulky and very heavy. Have someone help you during the installation and be sure to measure and make all cuts carefully.

Tools and Materials

You will need the following tools and materials:

- | | |
|---|---|
| <input type="checkbox"/> 100lb roller and/or rolling pin | <input type="checkbox"/> Measuring tape and/or ruler |
| <input type="checkbox"/> Carpenter's square | <input type="checkbox"/> Notched trowel |
| <input type="checkbox"/> Edge trimmer and trimming knives
(under, over and straight) | <input type="checkbox"/> Pencil and/or felt-tipped pen |
| <input type="checkbox"/> Floor pattern or Kraft paper | <input type="checkbox"/> Respirator or mask |
| <input type="checkbox"/> Full-spread adhesive | <input type="checkbox"/> Scissors |
| <input type="checkbox"/> Gloves | <input type="checkbox"/> Scribers |
| <input type="checkbox"/> Half moon knife and guide plate | <input type="checkbox"/> Seam sealer kit or seam welder |
| <input type="checkbox"/> Hand groover | <input type="checkbox"/> Straight edge |
| <input type="checkbox"/> Masking tape | <input type="checkbox"/> Utility knife |

*This is not an all inclusive list. Your tools and materials may vary based on your specific installation needs.

Installation Tips and Tricks

Use these tips and tricks to ensure you have a successful sheet linoleum installation:

- Install sheets parallel to the incoming light sources in square rooms. For long or narrow rooms, install sheets along the length of the room.
- Try to keep the relative humidity at 70% or below during your installation.
- Make all cuts carefully with a sharp knife or other cutting tool.
- Join seams carefully so that they are completely closed and cannot be seen unless otherwise instructed by the manufacturer.
- Always use the proper type of trowel and the recommended amount of adhesive. Jute backed linoleum is very porous and will absorb a significant amount of adhesive. On large jobs, change your trowel blade often so that you have a consistent spread rate across the whole floor.
- Take care when working with linoleum from the middle of a roll where the linoleum was hung to dry. If not installed correctly, these areas will bubble. During installation, use the flat side of a trowel to back butter a 2 foot wide section across the width of the roll. The area that needs to be buttered is usually plainly visible.
- Wear gloves and a respirator during your installation. The adhesive will stick to everything (skin, clothes, hair, etc.) and may take a few days to wear off. Additionally, the adhesive has a strong odor. Open windows or vent the area with fans, if needed.
- Do not lay your linoleum in direct sunlight as it may warp or discolor the flooring.
- For trimming linoleum in place, purchase a few specialty “hook blades” for your utility knife. These blades fit in all standard utility knives and can greatly increase your speed and accuracy. (Always practice on a scrap piece of linoleum before using on your floor.) Blades are available at most home improvement stores and flooring retailers.

Pre-Installation Steps

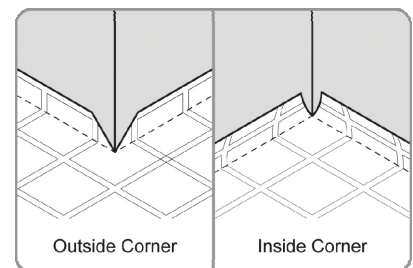
Prior to installation, follow all the information in the **Preparing for Installation** section beginning on page 11. This includes:

- **Moisture Testing Your Concrete Subfloor (page 11)**
- **Inspecting and Leveling Your Subfloor (page 13)**
- **Acclimatizing Your Flooring (page 16)**
- **Removing Molding and Doors (page 16)**
- **Undercutting Door Casings (page 17)**
- **Installing the Underlayment (page 18)**

Installing a Linoleum Floor without Seams

If you are installing linoleum in a small room with no seams and few obstacles (such as a closet or hallway), you do not have to make a pattern.

1. Measure your room taking into account any odd shapes or obstacles you must work around.
2. Add 3 inches to each side of your room measurement.
3. Find a clean, dry place to unroll your linoleum. Large rooms or garages work best. If working in the house on other flooring, ALWAYS place some sort of protective barrier between the linoleum and your existing flooring.
4. Use a sharp utility knife or trimmers to cut out the rough dimensions of your room.
5. Roll up your cut linoleum and take back into your installation area.
6. Vacuum or sweep the subfloor then lay out the linoleum in the installation area.
7. Use your utility knife to cut away any excess linoleum around obstacles or along walls. Take care and make these cuts exact.
 - Use a scrap piece of wood to press the linoleum up against straight walls to slightly crease it. Use a straight edge to cut along the crease. Be sure to leave an expansion gap if recommended by your flooring manufacturer.
 - Cut around obstacles (such as islands or vents) carefully so that all cuts are exact.
 - To trim outside corners, cut vertically from top to bottom through the sheet at the corner. Then cut away the excess.
 - To trim inside corners, cut a "V" shape in the corner where the linoleum folds or overlaps. The bottom tip of the "V" should be at the floor level. Start with small "V's" until you cut away enough so that the linoleum lays flat in each corner. Cut away the excess along each wall.
8. You are now ready to glue the linoleum to the subfloor.



Adhering the Seamless Linoleum to the Subfloor

Now that your linoleum is laid out and cut, it's time to begin securing it to your subfloor.

1. Roll back half the floor and tape in place.

✓ **TIP:** Place a heavy object such as your bucket of glue, a tool box or a few full paint cans on the other half of the floor to keep it from shifting while rolling back your linoleum. If it does shift, make sure to reposition the sheet as necessary prior to putting any weight on the glued section of the floor. Once the linoleum is laid into the adhesive, it can be nearly impossible to move it without damaging the floor.

2. Apply the adhesive according to the manufacturer's recommendations. Read the instructions on the adhesive bucket carefully as some adhesives require "open time." This refers to the amount of time the glue should be left exposed prior to the linoleum being laid into it. If you install your linoleum too soon, you will get bubbles in your floor due to the adhesive "off-gassing" during the curing process. Back butter the middle of the roll where necessary (for more information, see **Installation Tips and Tricks** on page 20).
3. Carefully unroll the linoleum and press firmly in place. Apply pressure starting from the middle and working your way to the edge.
4. Roll the newly installed linoleum floor with a roller as recommended by your flooring manufacturer. For more information on rolling, see **Rolling the Floor** on page 29.
5. Repeat steps 1 through 4 for the other half of the floor.
6. Re-roll the entire floor as recommended by the adhesive manufacturer.
7. Let the floor cure completely. For more information, see **Letting the Floor Cure** on page 30.

Installing a Linoleum Floor with Seams

Anytime you install sheet linoleum in a large room with multiple obstacles and seams, you should create a pattern of your floor. This will help you cut your linoleum to the correct size for your installation area.

Creating a Pattern

Pattern kits can be purchased at any home improvement store. Or you can make your own with Kraft paper, masking tape, scissors, a straight edge and a utility knife.

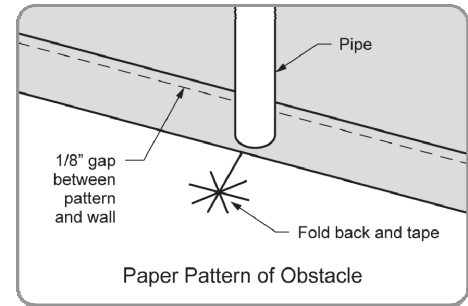


NOTE: Some pattern kits come with a roller disk to help you create the pattern along walls. These disks create a pattern that is 1 inch less than your floor. Before you cut your linoleum, be sure to add 1 inch back along each wall so that your linoleum is the correct size for your area.

1. Lay the paper down along the longest wall (hopefully with the fewest obstructions). Tape sheets together with masking tape so that the entire floor along the wall is covered. Leave an expansion gap if necessary between the paper and the wall.
2. Work your way across the room adding paper to your initial pattern. Keep the pattern as smooth as you can and add generous amounts of masking tape along each seam to hold the pattern together.

✓ **TIP:** Cut small diamond shapes every 2 to 4 feet in each direction. Place a piece of masking tape over these cutouts to help hold the pattern to the subfloor.

3. As you reach obstacles (kitchen islands, pipes, etc.), cut and/or fold the paper to fit around the obstacle. Take more time in these areas to ensure the pattern is accurate. Leave expansion spacing, if necessary. When you get to doorways, press the paper pattern under the door casings and cut to fit.



- ✓ **TIP:** If you mistakenly cut too much away from the pattern for a certain area, add more paper and tape in place. If you need to remove paper in a certain area, cut or fold the paper back and tape in place.

If you are not removing the wall molding, press the edge of the paper into the crease along the molding. Do short lengths of wall each time to ensure the pattern is accurate. Cut out the pattern for each wall and tape to your overall pattern. This helps to ensure your pattern matches the contours of the wall and molding exactly.

4. Once you've created a pattern for the whole floor, look at the pattern before you remove it from the subfloor. Make sure:
 - The pattern is smooth and flat on the floor.
 - The entire floor has an expansion perimeter if required by your manufacturer.
 - All obstacles have been identified and accounted for in the pattern.
5. Use a felt tipped marker to write "TOP" on the pattern. Carefully roll up your pattern.

- ✓ **TIP:** While this might seem like an unnecessary step, distractions can abound during installation. Doing this one simple step can save you from having to re-purchase and cut your linoleum because you used the wrong side of the pattern.

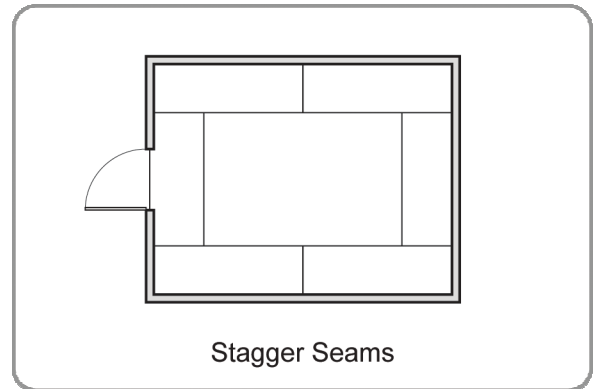
6. Find a clean, dry place to unroll your linoleum. Large rooms or garages work best. If working on other flooring, ALWAYS place some sort of protective barrier between the linoleum and your existing flooring.

Unroll the linoleum as it will be installed on your floor (TOP side up). You can use small tools, bricks, or books to hold edges down.

7. Take your paper pattern to the area with your unrolled linoleum. You are now ready to create your seams (if needed) and cut your flooring.

Creating Seams

If you are installing linoleum in a large area, you may have to account for seams. Always try to install your linoleum so there are as few seams as possible. When creating a seam, use the pattern or color variations on your linoleum to your advantage to hide the seam. Create seams at natural breaks in the pattern. If your linoleum has a repeating pattern, make sure to keep with the overall design. The goal is to hide your seams to make the floor look like one continuous sheet of linoleum.



When identifying where to put seams, use these guidelines:

- Arrange seams perpendicular to entrances and doorways.
 - Run seams parallel to high traffic areas.
 - Avoid placing seams at high traffic areas or pivot points.
 - If you are working around an obstacle (such as a kitchen island), place the seam on the low traffic side of the obstacle, if possible.
 - Account for a 1/64" gap between the two pieces of linoleum at a seam, if needed. This gap will accommodate the natural expansion or contraction linoleum goes through once installed. You'll cover this gap when you seal each seam.
1. Lay your pattern out on top of your unrolled linoleum. The vinyl and your paper pattern should be facing up as it will be installed on the floor.

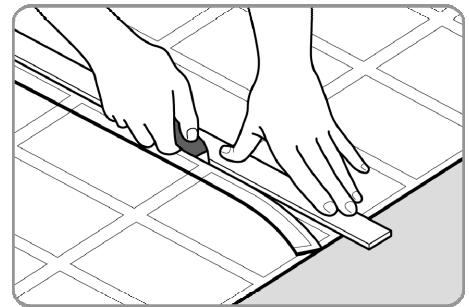
✓ **TIP:** Remove the tape covering your diamond cutouts and replace with new tape. Press securely to the linoleum to help keep the pattern in place while you're cutting.

2. At a seam, align the second piece of linoleum so that it overlaps the first piece by at least 1 inch. **Make sure the patterns on both pieces match.** Remember, you want your seam to blend in with the pattern. Use masking tape to tape the two pieces of linoleum securely together.

✓ **TIP:** It's OK if the overlap is more than 1 inch so the patterns match. You will be cutting off the excess. Always match the patterns in the same direction as they were on the roll.
Additionally, make small cutouts a few places along the seam on the edge of the grout line that will be cut off. Use these areas as "windows" to match the pattern on the top piece to the pattern on the piece below.

1. Use a utility knife to cut through BOTH pieces of linoleum. Lay the newly cut seams together so that they are flush with each other and the patterns match and/or repeat naturally.

If your manufacturer recommends a slight gap at the seam, carefully cut each side with a straight edge and butt seams together leaving the necessary expansion gap. Cut each side before trimming the linoleum in place so that you have enough material left to re-cut one or both seam edges, if necessary.



✓ **TIP:** It takes some practice to get straight cuts even with a straight edge. Use a new, sharp blade and practice cutting through two pieces of scrap linoleum before you make your first seam cut. Always make sure that your knife is cutting straight up and down unless your manufacturer specifically recommends cutting a bevel.

2. Tape the newly cut seam securely together with masking tape. Discard the excess cut linoleum.
3. Repeat these steps for other seams throughout your installation area.

Cutting the Linoleum to Fit the Pattern

Once your pattern is created and you've cut all the seams, it's time to cut your linoleum. You have two options when it comes to cutting your linoleum. You can:

- Use a utility knife and a straight edge to cut the linoleum along your pattern. (This method is recommended by most flooring professionals.)
- Use a felt tipped marker to trace your pattern on the linoleum then cut with heavy-duty shears or cutters. (This method should be used sparingly as it is difficult to get straight and even cuts with shears.)

1. If it is not already, lay your pattern out on top of your unrolled linoleum. The linoleum and your paper pattern should be facing up as it will be installed on the floor. Both the linoleum and the pattern should be flat and smooth.

✓ **TIP:** Remove the tape covering your diamond cutouts and replace with new tape. Press securely to the linoleum to help keep the pattern in place while you're cutting.

2. Trace your pattern out on the linoleum with a felt tipped pen then remove the pattern, if desired.
3. Carefully cut your linoleum along the pattern. Cut out or around any obstacles indicated on your pattern.

📄 **NOTE:** Some professionals leave 3" on either side of their pattern along all walls. They will then cut off the excess once the linoleum is laid out in the installation area to ensure the linoleum fits flush with the walls.

4. Once the linoleum is cut, roll up and remove the pattern.
5. Carefully, roll up the linoleum and take it into the installation area.

✓ **TIP:** Roll up the linoleum so that it can be unrolled in the direction you want to install it. Always have someone help you carry the linoleum into the installation area. Sheet linoleum is very heavy and bulky.

Adhering the Linoleum to the Subfloor

Now that your linoleum is cut, it's time to begin securing it to your subfloor. You should always install larger linoleum sections first and work your way down to the smaller sections. Follow all the manufacturer's recommendations during installation.


1. After you've swept and vacuumed the subfloor, unroll and align your linoleum in the installation area. Position all seams as they will be installed on the floor.
2. Evaluate your cutting job. Remove any excess linoleum where needed.
3. Starting with the largest piece of linoleum, roll back half the sheet (opposite the seam) and tape in place with masking tape. Some professionals recommend starting at the edge of the room with the least amount of obstacles.

Place heavy objects such as buckets of glue, a tool box or a few full paint cans on the other half of the linoleum to keep it from shifting while you are rolling. If it does shift, make sure to reposition the sheet as necessary prior to putting any weight on the glued section of the floor. Once the linoleum is laid into the adhesive, it is very difficult to move without damaging the floor.

4. Apply the adhesive according to the manufacturer's recommendations.
5. Carefully unroll the linoleum and press firmly into the adhesive. Apply pressure starting from the middle and working your way to the edge.
6. Roll back the edge near the seam and tape in place.
7. Use a pencil to trace a line next to the seam on the subfloor.
8. Roll the other piece of linoleum back slightly and tape in place.
9. Spread your adhesive under both rolled back pieces of linoleum along the seam line you just made. Back butter the middle of the roll where necessary (for more information, see **Installation Tips and Tricks** on page 20).

Follow all the manufacturer's recommendations for spread rate and the type of trowel. When installing near obstructions, spread the adhesive as close to the obstruction as possible. (If the adhesive is even a half an inch from the wall, the linoleum will eventually curl and allow moisture and debris to get under the flooring which could damage your subfloor.)

10. Un-tape and lay the largest piece of linoleum down into the adhesive then the smaller piece. Press together leaving a 1/64" gap between the two pieces for expansion, if necessary. Make sure both pieces are flat on the floor. Wipe away any excess adhesive that is squeezed up through the seam.

 **NOTE:** Make sure all seams are cleaned free of adhesive. The flooring adhesive may interfere with the seam sealer. Eventually, the seam will fail and the linoleum will curl and allow moisture or debris below the flooring.

11. Use a roller or rolling pin to roll the whole seam as recommended by the manufacturer.
12. Roll the newly installed linoleum floor with a roller as recommended by your flooring manufacturer. For more information on rolling, see **Rolling the Floor** on page 29.
13. Roll back the second half of the second sheet of linoleum and repeat the installation procedures. Work your way across the room until all pieces are installed.
14. Roll the entire floor, if recommended by the adhesive manufacturer.

Rolling the Floor


Many adhesive manufacturers recommend rolling the floor with a 75 to 100-lb roller during and after the linoleum is installed. Rolling works out any air bubble and glue pockets as well as ensures the whole floor is in contact with the adhesive. If you do not own a roller, you can rent one at an equipment rental shop. For smaller areas, you can use a 3 section laminate roller. For very small areas or seams, use a rolling pin. Different products require different methods, so always consult your manufacturer's guidelines when choosing a roller.

When rolling, always start in the center of the floor and work your way toward the edges (much like rolling out pie dough). Roll both the width and the length of the floor. Pay close attention to all seams. Make sure during rolling you are not separating seams from each other. If any adhesive seeps out from under the floor, wipe it up immediately with a damp rag.


Sealing Linoleum Seams

Once your floor is installed, you should seal all seams to prevent moisture from penetrating the subfloor. There are two options for sealing seams in your linoleum floor:

- **Seam Sealer** – You'll use a special seam sealer kit to bond the edges of the linoleum together. Kits can be purchased at most flooring and home improvement stores. Be sure to follow all the directions for your specific kit. Always check with your flooring manufacturer before using a seam sealer kit. Some linoleum may not be compatible with the adhesive in these kits.

 **NOTE:** When using a seam sealer kit, do not leave large pools of sealer along the seam as it will dry and be visible on your floor. Wipe up excess sealer with a rag or paper towel. When using solvents, always follow the manufacturer's recommendation as some solvents may damage the linoleum's wear layer.

- **Heat Weld** – You'll use a specialized welding tool to melt a colored linoleum rod along the seam. The rod seals the seam from moisture and debris as well as becomes part of the design of the floor. This is the way most professionals seal seams and special tools are required.

 **NOTE:** Consider seeking help from a flooring professional before attempting to heat weld seams in your linoleum floor. While this process is not difficult, it takes a great deal of skill and concentration as you must groove, heat and weld your linoleum together. Mistakes can be costly to repair and in some cases you may have to replace your entire linoleum floor. Additionally, if you do not own heat welding equipment, it is often difficult to find a shop willing to rent this specialty equipment and can be costly to purchase for a one-time linoleum installation.

Letting the Floor Cure

Most floors need between 24 and 72 hours to bond and cure. Always follow your adhesive manufacturer's recommendations as times may vary between products. This curing time is critical for the linoleum floor as well as the seams. During this time, you should not move any furniture back into the installation area and limit foot traffic on the newly installed floor.

Once cured, use care when moving appliances or heavy pieces of furniture back into the room. Place these items on plywood or another type of padding and "walk" into place. Try not to slide anything heavy across the linoleum as you may scuff or damage your new floor.

INSTALLING LINOLEUM TILES

Linoleum tiles or planks are installed by applying an adhesive to the whole floor beneath the linoleum. Always follow all the manufacturer's recommendations during installation.

Tools and Materials

You will need the following tools and materials:

- Carpenter's square and/or straight edge
- Measuring tape and/or ruler
- Chalk line
- Notched trowel
- Felt-tipped pen and/or pencil
- Shears or snips
- Full-spread adhesive
- Utility knife
- Masking tape

*This is not an all inclusive list. Your tools and materials may vary based on your specific installation needs.

Installation Tips and Tricks

Use these tips and tricks to help ensure you have a successful linoleum tile installation:

- Leave an expansion perimeter if recommended by your linoleum manufacturer. Linoleum tiles should never touch all walls or over time the tiles will start to fold or bubble. However, linoleum tiles can be installed flush with bathtubs as you may need to caulk these areas to prevent water from penetrating your subfloor.

Pre-Installation Steps

Prior to installation, follow all the information in the **Preparing for Installation** section beginning on page 11. This includes:

- **Moisture Testing Your Concrete Subfloor** (page 11)
- **Inspecting and Leveling Your Subfloor** (page 13)
- **Acclimatizing Your Flooring** (page 16)
- **Removing Molding and Doors** (page 16)
- **Undercutting Door Casings** (page 17)
- **Installing the Underlayment** (page 18)

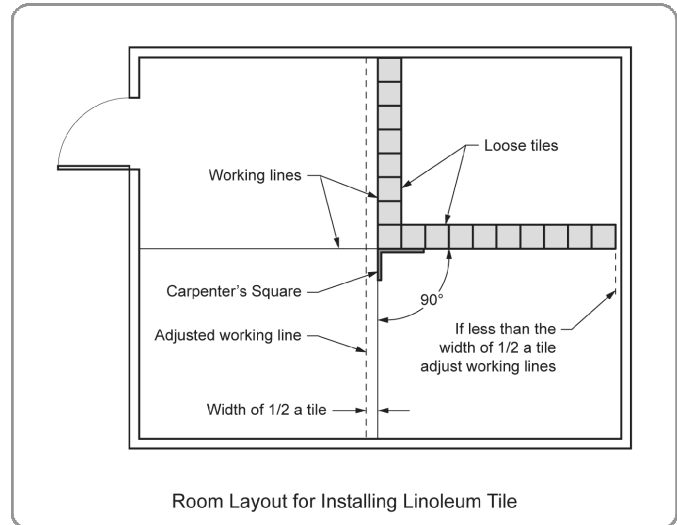
Installing Linoleum Tiles

Installing linoleum tile is much like installing stone, ceramic or porcelain tiles in the way the flooring is laid out.

1. Snap a chalk line between the center points of each opposite wall. The place where the chalk lines intersect is (roughly) the center of the room.

Make sure the quadrants are nearly perfect squares.

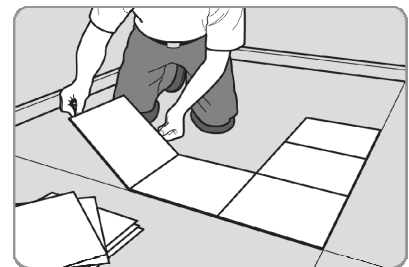
2. Layout a row of loose linoleum tile in all directions at the center intersection point.



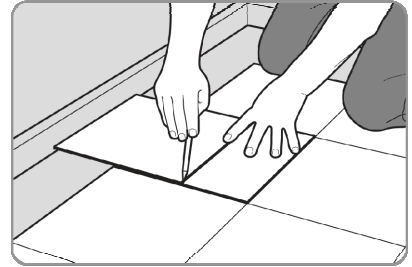
3. Evaluate whether the center intersection point is a good starting place.

If you end up with small cuts along each wall (less than $\frac{1}{2}$ "), move your starting point down by one full linoleum tile width for each wall (if necessary). Re-snap your chalk line and lay out your loose linoleum tiles to re-evaluate the placement.

4. Once you're satisfied with your center point and how your linoleum tiles will look in the room, divide the main four quadrants into smaller sections (if you're working in a large room). Doing this makes it easier to install straight linoleum tile section by section. Snap chalk lines to outline each quadrant section.
5. Sweep and vacuum the floor so it is completely clean.
6. Beginning at the center point, install the first linoleum tile so it aligns with the two main chalk lines in the center of the room. Apply the adhesive to the floor as directed by the manufacturer. Firmly stick the tiles to the adhesive on the subfloor.
7. Place another linoleum tile next to the first one in one direction of the room then along the other direction. Tiles should be snug but not overlapping. Follow all manufacturer recommendations for adhesive spread rates and spacing between linoleum tiles.



8. When you reach a wall, scribe fit the linoleum tile.
 - Place a full linoleum tile directly on top of the one you just installed near the wall.
 - Place a second linoleum tile on top of the other two butted up against the wall. Be careful not to get adhesive on this tile. (Factor in any expansion spacing, if necessary.)
 - Use a pencil to mark the inner edge of the top tile on the middle one.
 - Remove the middle one and cut along the line. The cut linoleum tile should now be the exact width you need for your installation area.
9. Continue installing linoleum tile in each section and quadrant until the floor is completed.
10. Roll the newly installed linoleum floor with a roller as recommended by your flooring manufacturer. For more information on rolling, see **Rolling the Floor** on page 29.



Letting the Floor Cure

Most floors need between 24 and 72 hours to bond and cure. Always follow your adhesive manufacturer's recommendations as times may vary between products. This drying time is critical for the linoleum floor. During this time, do not walk on the floor or move any furniture back into the room.

Once cured, use care when moving heavy appliances or furniture back into the room. Place these things on plywood or other type of padding and "walk" into place. Do not slide anything heavy across the floor or you may damage or scuff your new linoleum.

INSTALLING FLOATING LINOLEUM

Floating linoleum is installed much like floating glueless laminate. Linoleum panels are laid out and clicked together across the floor.

Tools and Materials

You will need the following tools and materials:

- | | |
|--|--|
| <input type="checkbox"/> Carpenter's square | <input type="checkbox"/> Measuring tape and/or ruler |
| <input type="checkbox"/> Felt-tipped pen or pencil | <input type="checkbox"/> Tapping block |
| <input type="checkbox"/> Hammer | <input type="checkbox"/> Tension iron or pry bar |
| <input type="checkbox"/> Hand saw | <input type="checkbox"/> Utility knife |
| <input type="checkbox"/> Keyhole, jig or power saw | <input type="checkbox"/> Wedges |

*This is not an all inclusive list. Your tools and materials may vary based on your specific installation needs.

Installation Tips and Tricks

Use these tips and tricks to help ensure you have a successful floating linoleum installation:

- Allow unopened boxes of linoleum to acclimatize for 2-3 days prior to the installation. (Double the acclimatization period if installing during winter months.) Boxes should be stored in the center of the room and away from all vents and direct sunlight.
- Keep the installation area at normal living conditions during the acclimatization period. The room should be at least 68 degrees with a relative humidity of between 50%-60%.
- Leave the correct expansion perimeter (3/8" to 1/4") as indicated by your flooring manufacturer. If your linoleum is being installed in wet areas (such as bathrooms) you may need to seal the expansion perimeter after installation.
- Stagger all end joints by at least 12".
- Use linoleum from multiple boxes to vary colors throughout your floor.
- When cutting by hand, saw into the face of the linoleum panel to help avoid chipping the finish. If you are using a power saw, cut into the side of the linoleum panel.
- If installing floating linoleum on a floor wider than 26 feet, you must leave 3/8" expansion joints at the proper intervals (as recommended by your flooring manufacturer). Cover all expansion joints with T-molding.
- Do not install floating linoleum on floors in wet areas with floor drains or sump pumps.
- Follow your flooring manufacturer's recommendations during installation.

Pre-Installation Steps

Prior to installation, follow all the information in the **Preparing for Installation** section beginning on page 11. This includes:

- **Moisture Testing Your Concrete Subfloor** (page 11)
- **Inspecting and Leveling Your Subfloor** (page 13)
- **Acclimatizing Your Flooring** (page 16)
- **Removing Molding and Doors** (page 16)
- **Undercutting Door Casings** (page 17)
- **Installing the Underlayment** (page 18)

Installing the First Row of Floating Linoleum

When installing floating linoleum, you'll start at one end of the room and work your way to the other.

1. Starting on the longest wall, measure out from the wall in at least two places to allow for your expansion/contraction space. Mark each spot. Snap a chalk line across the marks to form a straight line.



NOTE: Many professionals recommend starting your first row on the most visible wall. This way if the room is not perfectly square, the cut edge of the linoleum can be hidden by furniture, appliances or cabinets.

2. Lay out the first row of linoleum panels end to end with the tongue toward the wall but DO NOT click together yet. Remember that not all walls are straight and square. Use a chalk line, level and blocks or wedges to help you get this first row completely straight. Cut off all the tongues that face the wall. Then cut the linoleum where needed to ensure the floor is straight even if the walls are not.



TIP: In some cases, you may need to "scribe fit" the first row of linoleum to fit imperfections along the starting wall. To do this, place a spacer, wedge, or a small block of wood between a pencil and the wall above your linoleum. Slide the spacer along keeping the pencil tight to the spacer and the spacer tight to the wall. The pencil will leave a line on the panels matching the contours of the wall. Use a circular saw or jigsaw to cut along this line so that your first row matches the wall contours. Remember to factor in your expansion spacing, and be careful not to cut too much off of the first row as it may upset your predetermined layout.

3. Once you are satisfied with the fit of the first row, begin clicking and locking the linoleum panels into place. Panels should fit tightly together once locked.
4. Continue working your way across the floor installing the first row. Place wedges along walls to ensure your expansion spacing is even.
5. When you get to the last linoleum panel in the first row, measure and cut the size panel you need. Click and lock the last panel in starter row. Place a wedge between the wall and the last linoleum panel that was installed.

If the remainder of the panel you cut is 24" or longer, use it to start the second row.

✓ **TIP:** When starting subsequent rows, cut panels so that joints are staged at least 12 inches.

6. Use a tape measure and level to re-measure your starter row and expansion spacing. If you're satisfied with the fit, you're ready to continue installing your linoleum.

If you're not satisfied with the fit, remove and re-install the panels where necessary.

Installing the Rest of the Floating Linoleum Floor

Once your starter row is done, the rest of your floating linoleum floor will begin taking shape.

1. Use a short or partial linoleum panel to begin the top of your second row. (Always stagger joints 12" or more for maximum stability and a more professional look.)

Click and lock the panel to the first row.

2. Continue working across the floor, fitting and locking the linoleum panels together along each row.

Remember to:

- Use linoleum from multiple boxes to vary colors throughout your floor.
- Install spacers along all walls at the recommended intervals.
- Stagger joints a minimum of 12".
- Stop and measure to ensure the floor is going down straight and level.

Installing the Last Row Floating Linoleum

Your floating linoleum floor is almost complete and ready for the last row.

1. Measure in at least two places the space you have left between the wall and the edge of the new floor. Mark each spot. Subtract your expansion/contraction space. Snap a chalk line across the marks to form a straight line.
2. Roughly lay out the linoleum panels (with the groove towards the wall) to identify how many you will need to complete the last row. Scribe fit the panels so that they match the contours in the wall.
3. Once you are satisfied with the fit of the last row, begin clicking and locking the linoleum panels into place. Place a wedge between the wall and the last row of flooring.
4. Continue working your way across the floor installing the last row. Ensure your expansion/contraction spacing is even along the whole last row.
5. Once all panels are installed, use a tape measure and level to re-measure your last row and expansion spacing. If you're satisfied with the fit, your floor is complete!

If you're not satisfied with the fit, remove and re-install the panels where necessary.

Letting the Floor Set

Floating linoleum floors do not need any time to set or cure. You can begin using your floor as soon as you've locked your last linoleum panel into place.

SPECIAL CIRCUMSTANCE INSTALLATIONS

Installing linoleum flooring around obstacles and handing transitions is part of every flooring project. In this section, we'll discuss:

- **Linoleum Transitions and Moldings**
- **Working around Pipes**
- **Working around Heat Registers**
- **Working around Fireplaces and Brickwork**
- **Installing Linoleum on Stairs**

Linoleum Transitions and Moldings

There are a variety of transition pieces and trim you can use when working around doorways or between different types of flooring. These items come in a variety of colors, materials and styles to match your linoleum floor and surrounding décor. Transitions come in a variety of profiles to match the thicknesses of your linoleum. Generally, linoleum transitions vary according to the type of flooring you are transitioning to.

Carpet Transitions

When transitioning to carpet, there are a variety of generic transitions available:

- **Metal Transitions** – The most common type of transition; available in silver or gold.
- **Vinyl and Rubber Transitions** – These come in a variety of colors to coordinate with the surrounding décor.

Carpet to Linoleum Transition Installation Methods

Carpet to linoleum transitions are installed via four different methods:

- **Metal Transitions (for Wood Subfloors)** – A pre-drilled flat metal bar is fastened with a matching screw to the subfloor to cover the area where the linoleum and carpet meet.
- **Metal Transitions (for Concrete Subfloors)** – A piece of nap-lock or clampdown metal is nailed or glued on top of the exposed edge of the linoleum. The carpet is then tucked into the other side of the metal and the metal is partially flattened with a rubber mallet to hold the carpet firmly in place.
- **Insert (Cap and Track)** – Available in vinyl and rubber. A “U” shaped track is nailed or glued to the subfloor at the edge of the linoleum. A T-shaped length of rubber or vinyl is snapped down into the groove. Since the bottom of the “T” is shaped like an arrow, the molding cannot work loose on its own. Use a construction adhesive or the adhesive recommended by the molding manufacturer.

- **Edgewise** – A brand name L-shaped transition which is used exclusively above wood subfloors with plywood or hardboard underlayments that are adjacent to carpet. The L-shape is fastened with nails or staples to the exposed edge of the underlayment. The top part of the molding sits flat on top of the linoleum to provide a clean, low profile transition. The nails or staples are hidden by the carpet.

Hardwood, Tile or Laminate Transitions

When transitioning to hardwood, tile or laminate, the transition should match or accent the other type of flooring. Most often these transition pieces will already be in place. However, if you need to install them, transition pieces include:

- **Reducer Strip:** This transition piece is used to join linoleum floors to flooring that is a higher. This is the most common molding when transitioning from hardwood, tile or laminate to linoleum.
- **End Molding:** This type of transition pieces is used to separate and transition to flooring that is lower than your linoleum such as hardwood, tile or laminate. It can also be used as a transition around fireplaces, sliding doors or any other outside door threshold.

Most often your linoleum will be lower than other flooring surfaces in your home or office. However, if you installed a plywood or hardboard underlayment, your linoleum floor may be higher than a hardwood or tile floor. End molding is also called: Baby threshold, square nose, universal edge or end cap.

- **T-Molding:** This molding is used between floors that are the same height. Most often your linoleum floor will be lower than other flooring surfaces in your home or office. However, if you installed a plywood or hardboard underlayment, your linoleum floor may be the same height as a hardwood or tile floor.

When installing molding, follow all the manufacturer's recommendations. If you need additional information, see one of the other **FindAnyFlooring.com** installation guides for the type of flooring you are transitioning to (such as tile or laminate). Each installation guide contains specific information for installing transitions for that flooring type. Installation procedures may differ depending on the subfloor type, type of flooring and how the other flooring was installed.

Trim Options

You'll install trim along all walls and around obstacles to hide the expansion spacing and give the room a finished look. The most common types of trim include:

- **Wall Base:** This molding is placed along the bottom of the wall. Wall base can also be used under cabinets.
- **Quarter Round:** This molding is placed along wall base above the flooring. It can also be used under cabinets if wall base is too large or at the bottom of stairs for aesthetics.

Working around Pipes

Working around pipes can be tricky for any linoleum installation. Making a template of the pipe and the distance from the wall can help you install your linoleum flush with the pipe.

1. Measure the distance from the center of the pipe to the wall. Subtract your contraction spacing, if necessary.
2. Using a piece of Kraft paper, align a carpenter's square or straight edge so it touches the edge of your paper (the wall) and extends the length of your measurement (the center of the pipe). Draw a straight line on the paper.
3. Draw a circle matching the pipe's diameter around the center point.
4. Cut out the circle and line on your Kraft paper. Leave about a ½" or so on either side of the line. The line is only there to help you measure the distance from the wall to the pipe.
5. Slide the template around your pipe. If necessary, cut through one edge of your circle template and position around the pipe.
6. Evaluate the fit and make adjustments as needed.
7. Once you are satisfied, tape it to the rest of your pattern for sheet linoleum installations or use it to help you cut a suitable linoleum tile or panel to fit around the pipe. Always seal any seams made around pipes according to the manufacturer's recommendations.

Working around Heat Registers

If you are installing sheet linoleum, account for floor heat registers in your pattern. Be sure to remove the decorative grill and install the linoleum flush with the floor duct.

For linoleum tiles and floating linoleum, try to make a precise cutout of the register in one or more tiles/panels. Use a pattern to help you, if necessary.

Working around Fireplaces and Brickwork

Install your linoleum up to fireplaces or brickwork as you would a wall. Once installed, caulk the entire edge of linoleum around the fireplace to keep the edge from rolling up. You do not need to undercut the brickwork or add any additional molding.

Installing Linoleum on Stairs

Linoleum should NOT be installed on full staircases for safety reasons. Linoleum is designed for flat, level surfaces. Rubber or linoleum stair treads can be used; however, these are quite expensive and should only be installed by an experienced professional.

Linoleum can be installed over one or two steps in certain areas (such as those leading into a sunken living room or garage). Take care if installing in one of these applications as linoleum is slippery even when dry. Consider adding metal stair nose to help reduce the possibility of slipping.

COMPLETING THE JOB

Your new linoleum floor is installed and now you're ready to put the finishing touches on your room. In this section, you'll be:

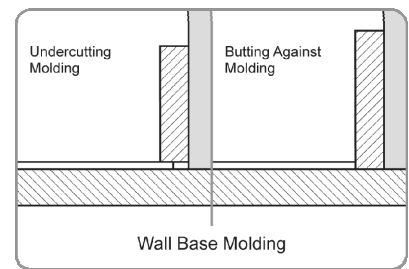
- Installing Wall Base and Quarter Round Trim
- Caulking Your Floor
- Caring for Your Linoleum

Installing Wall Base and Quarter Round Trim

Installing the wall base and quarter round trim hides the edges of the linoleum as well as puts the finishing touches on your room. Base shoe molding can be used instead of wall base in areas where wall base will not fit (such as under cabinets).

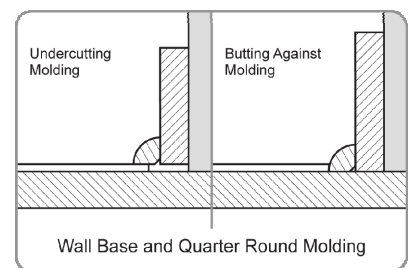
1. Measure and cut the wall base and quarter round trim for your installation area.
2. Using a construction adhesive, apply a wavy, thin line down the length of the wall base.
3. Gently press the wall base against the wall. Nail the molding to the wall at an angle every 16". Do not nail or glue to the linoleum.

✓ **TIP:** Always nail the wall base to the wall at an angle. If you nail straight into the wall, the nails may not hold well into the drywall.



4. Apply a wavy, thin line down the length of the quarter round molding.
5. Gently press the quarter round to the bottom of the wall base molding so it fits snugly against the flooring. Nail the molding to the wall at an angle every 16". Do not nail or glue to the linoleum.

✓ **TIP:** Always nail the wall base to the wall at an angle. If you nail straight into the wall, the nails may not hold well into the drywall.



Caulking Your Floor

Caulking the perimeter of your linoleum is a good way to help protect your subfloor from moisture. Use mildew-resistant, flexible silicone caulk to seal around bathtubs, toilets or other wet areas. If you did not remove base boards, caulk the perimeter of the room to ensure the linoleum does not peel up around the edges. Areas that will be covered by transition pieces or molding do not need to be caulked unless you are concerned about moisture in these areas.

Caring for Your Linoleum

Follow all your manufacturer's recommendations for caring for and waxing your linoleum floor. Additionally, avoid using latex-backed or rubber mats as these types of backings become brittle over time and can permanently stain your linoleum floor.

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