## LAMINATE FLOORING

Laminate may be the "new kid on the block" when it comes to flooring options, but it has quickly become one of the most popular. It resists scratching, staining, fading, and denting, and is reasonably easy to install on a do-self basis. Laminate flooring is sometimes called a "floating" floor, because it is all connected to itself, but not to the house. It can be installed over most hard surfaces - concrete, sheet vinyl, vinyl floor tile, and ceramic tile - so long as that surface is flat.

## Choosing Laminate Flooring:

Laminate flooring has three layers, which are fused together to form boards 6 " to 10 " wide, 36 " or 48 " long, and about $5 / 16$ " to $1 / 2 "$ thick. The top layer is cellulose paper finished with a design, usually a high-resolution photographic image of natural wood flooring, but sometimes a print or photograph of other materials (like ceramic tile); it is this design layer that determines the appearance of the flooring. It is covered by a low-sheen finish, made up of thin layers of clear melamine plastic resins, that protects the surface from scratches and general wear. Below this top layer is a moisture-resistant core of high-density fiberboard, a man-made material composed of small pieces of wood compressed and bonded together. Pay attention to this middle layer; how it is made can affect durability. A thicker core is more stable and less vulnerable - and will sound more like a real hardwood floor when you walk on it - and a quality core is treated with water-repellent chemicals. The bottom layer is a thin ply of balancing material that helps the flooring conform to the surface it is being placed upon; in some higher-priced laminates, it may have some noise-deadening properties.

It's also important that you choose flooring that is designed to hold up under the use it will be getting. Like many materials, laminate flooring comes in various grades, called AC hardness ratings. For an area without much traffic, like a bedroom, you can probably use AC1 flooring, where a high-traffic area in a home would require AC3 material. (The highest grade, AC5 flooring, is designed for heavy-traffic commercial areas.) Consider, too, how much water the flooring will be exposed to. Check out the locking system on the flooring you are considering, as that is key to preventing water from getting underneath your floor and ruining it. Many professionals do not recommend using laminate flooring in a bathroom or other water-prone area; if you decide to install it in such a setting, you'll have to utilize special installation techniques to prevent the core of the laminate from swelling and warping. In kitchens and other rooms where water may occasionally fall on the floor, choose a laminate material with joints and edges that have been factory-treated to help prevent water from penetrating to the core.

Finally, check the warranty provided by the manufacturer. They can range from ten years to a lifetime, but some warranties can be affected by putting the flooring in a wet area or installing the flooring yourself. Be sure to ask your retailer.

## Preparation:

Laminate flooring is sold by the square foot, so the first step is to measure the area you want to cover. Then, multiply the overall length by the overall width, to get your approximate square footage. Measure stairs, landings, closets, and other areas separately, and add to the total. Add at least $10 \%$ for waste, wrong cuts, etc. $-20 \%$ is safer. Each box of flooring is labeled with
the number of square feet it will cover. If the floor will be in a room where the length or width is greater than 66 feet, you'll also need to buy a $T$ molding to provide added expansion space.

Bring your flooring into the house two to three days before you install it, to allow it to adjust to the temperature and humidity levels (Note: the room temperature should be at least $65^{\circ}$ ). That way, the boards won't move after they are installed. Take time to check each piece for defects.

Unless the flooring you buy has an attached foam underlayment, you will also need to purchase rolls of rubber or foam underlayment, a backing material that provide cushioning for the flooring boards and helps reduce noise. If you will be installing your flooring over concrete, or over an unfinished basement or crawl space, you must also have a moisture barrier to keep moisture from entering the underside of the new flooring and damaging it. You can purchase a foam underlayment that's also labeled as a vapor barrier, or put regular foam underlayment on top of six-mil plastic sheeting.

For a modest cost, you can also purchase an installation kit for laminate floors, with some specialized tools you will probably find helpful and some spacers to keep the laminate the proper distance from the wall.

Next, take a look at the surface you'll be installing the laminate flooring on. The important thing is that, whatever the surface, it is solid and flat. Get rid of old carpeting, scrape off any residue left on the surface, and pull out all the nails or tacks. Fasten down any lose or squeaking floorboards, and fill in any depressions with floor leveling compound. If you are covering over vinyl or ceramic tile, you don't have to worry about an embossed pattern on the old flooring, but fill in any dips or gaps (i.e., missing tiles, areas where the old flooring has chipped off) with floor leveling compound, and sand it smooth.

If you are covering over concrete, it's especially important that the concrete be flat. If there are dips and bumps in the slab, your laminate flooring will "creak." Use a long level or straight edge to check for depressions greater than $1 / 8$ " and fill them with floor leveling compound. (Make sure the floor leveler has dried completely before installing the new flooring, to prevent moisture from being absorbed by the laminate.) Grind off any high spots.

Carefully remove and set aside all baseboards. Lay a piece of the new underlayment and flooring next to each doorjamb. Draw a line at that height, and undercut the jamb with a coping saw or flush-cut saw to let the new flooring slide underneath. If the doors also come down too far to clear the new flooring, remove them and use a circular saw or belt sander to trim them to size. (Don't forget to seal the wood on the raw edge with paint or varnish.)

Finally, sweep the floor carefully before you start your installation.

## Installation:

Before you start, read the instructions supplied by the manufacturer of the flooring you have chosen. There are subtle differences between the way different products are installed, and it is important to follow the appropriate procedures so you don't void the warranty. Some types simply snap together, while others involve use of a tapping block and mallet. The most common design has tongues running along two sides of each piece, and grooves along the other two sides. Use glue in the joints only if specified by the manufacturer.

Before you start installing the flooring, you'll need to decide how you want to orient the boards. Laminate is usually installed running the length of the room, but some people like to run it parallel to the light entering the room.

Start your installation by putting down the underlayment. It you are installing over concrete and using an underlayment with a vapor barrier, make sure the vapor barrier side is up. If you are using plastic sheeting as your vapor barrier, put down the sheeting first, butting the ends
together and sealing the seams with duct tape. Next, roll out the foam underlayment in the same direction as the flooring will go, again butting the ends together and joining the pieces with wide clear plastic tape. Over a concrete floor, run the underlayment 2 " up the wall; over other surfaces, you don't have to extend the underlayment up the wall. To avoid damaging the underlayment, put down only as much underlayment at a time as will be needed for you to install a few rows of the laminate flooring.

Measure the length of the room (in inches), and then divide that dimension by the length of the floorboards (usually 36 " or 48 "). See how much of a remainder you'll have once the full boards are installed. To look visually pleasing, the first and last boards in a row should be at least 8 " long, so if your remainder is shorter than that, trim the amount of your remainder from the first board.

Similarly, measure the width of the room and divide by the width of the floorboards to be installed. If you don't end up with an even number, you'll have to trim the first and last row, to keep the pattern centered; divide the remainder by 2 to determine how wide the first and last plank should be. If you need to rip the first row of boards to width, cut off the groove side.

Cut laminate flooring with a circular saw or a jig saw, using a fine tooth "hollow ground" or "laminate" blade. Make sure to cut the laminate with the good side down, to reduce damage along the cut.

Lay out your first piece, groove side toward the wall, keeping a $1 / 4$ " space between the laminate and all vertical surfaces (walls, pipes, toilets, cabinets, etc.) You can use 1/4" spacers (included in the installation kit) to keep the space uniform. Join the next piece by inserting the tongue into the groove at a slight angle (about $45^{\circ}$ ), and then lower the boards gently, keeping them engaged until they are in place. On long runs, it can be helpful to have enough people so that the whole row can be lowered and snapped in place at once. If instructed by the manufacturer, use the tapping block (one of the specialty tools you get in the installation kit) and mallet to tap the new board into the previous one for tight fit, or use a pull bar (also in the installation kit) to snug up the pieces. Never use a hammer directly on the laminate; it can damage the edge so badly that you will never get it to fit! You don't need to nail through the planks or glue them down, as this is a floating floor.


As you continue, alternate boards from several boxes to make any color variation less noticeable. Be sure to stagger the seams in adjacent rows. One way is to use the excess from a row you just completed to start the next row. Another way is to cut the first piece in the second row $2 / 3$ the length of a board, and the first piece in the third row $1 / 3$ of a board. Regardless of the method you use for the first piece, fill the row with full boards and cut the last piece to fit the remaining space.

Move across the floor, adding underlayment as needed and continuing to stagger the joints in the floorboards (keep them at least 8 " from each other). If you find it difficult to fit the boards together as you install your flooring through a doorway, the best solution may be to cut off the snapping connections in the adjoining planks with a utility knife, slide the boards together, and use a few drops of wood glue to keep them joined.

Should you need to drill a hole for a pipe or other round obtrusion, make the hole about $3 / 8$ " wider than the pipe. Cover the pipes with sleeves, and use expansive joint sealant to fill the space around the penetration.

When you get to the last row, you'll probably have to rip the floorboard so it will be the right width. Be sure to measure each piece, as rooms in old houses are seldom square. Remember to allow for the $1 / 4$ " expansion gap at the edge of the room. You'll need to use the pull bar to ensure that the last plank fits tightly.

## Finishing Up:

When you have completed the installation, you can remove the spacers and reinstall the baseboards. Don't nail them to the flooring; fasten them to the walls with glue, construction adhesive, or finish nails. If there is still a gap between the baseboard and the edge of the floor, add quarter-round molding at the floor line. Also, install any transition pieces or thresholds between rooms where the type of floor covering changes, between floors at different heights, or between rooms with laminate flooring oriented in different directions. There are numerous styles designed to handle various situations, so talk to your supplier.

Be sure to find out about post-installation instructions - either check the manufacturer's instructions or ask the retailer. Depending on the brand, you may not be able to mop the floor for 48 hours. In most cases, you should allow the floor to settle for at least 24 hours before you walk on it, especially if you used glue. Then, sweep up any debris and check all the joints to make sure they are even.

Don't throw away the leftover flooring pieced - save them in case you need to repair the floor at a later date.

## Caring for your laminate floor:

One of the most important things you can do to protect your laminate floor is to prevent people from bringing in debris on their shoes that can scratch the floor's finish. Large pieces of sand or small pebbles can cause visible marks, so put floor mats at all doorways that lead outside or to an attached garage. However, dirt may get by the mats and cause invisible scratches, dulling the finish, so be sure to vacuum and mop frequently to keep grit off the floor. Use a damp towel or microfiber pad for spot cleaning.

You can damp clean laminate flooring using a solution of vinegar or ammonia with water (i.e., $1 / 4$ cup vinegar with 4 cups of water in a spray bottle). Spray it on the floor as you go and mop up immediately with a damp terry mop or Swiffer. For stubborn stains, use only the products suggested by the manufacturer (typically, acetone for nail polish or cigarette burns; mineral spirits for grease and tar; warm water for blood, fruit juice, wine, beer, soda pop, and pasta sauce; and a neutral cleaner on a clean, light-colored cloth for oil, paint, permanent marker, rubber heel marks, etc.)

Now, the "don'ts." Don't let water sit on your floor - clean up spills immediately. Never clean with steel wood, abrasives, or scouring powder. Don't wet mop laminate floors, lest water seep behind the baseboards and under the floorboards, causing the core to swell and warp. Don't apply wax or acrylic floor finishes.

Don't walk on the floor with stiletto heels, and put felt pads or easy-glide buttons on the feet of furniture to avoid scratches or dents in the surface. If you have to move heavy furniture or appliances, put down a piece of plywood and/or use a dolly (and check the tires for any small pebbles that could scratch the flooring).

To avoid damaging the floor if you accidentally drop a sharp or heavy object, take some preventive measures when doing projects like using power tools or installing a ceiling fan. A carpet scrap or heavy tarp in the work area can cushion the impact in case of a mishap.

And, if the worse happens, touch-up sticks to repair scratches can be purchased from some manufacturers. If you have to replace a plank, the new plank (hopefully, one of the scraps you saved from the original installation) should be virtually indistinguishable from the others.

