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Installing a Vinyl Fence



Easy as building with LEGO toys

If you're thinking about a new fence, consider this: Vinyl fences last practically forever with no maintenance whatsoever. They won't fade or rot or need paint. In fact, the only care they could use is an occasional wash-down, and even that's optional.

This article will show you how to plan and build a vinyl fence. We'll show you how professional installers set the posts in a straight line, perfectly spaced, sturdy and plumb. That is the real key to goof-proof construction. We'll also include some tips on avoiding serious planning missteps that can cause major headaches down the road.

But use our instructions only as a general guide; your fence may have some different assembly techniques. You'll need standard tools like a circular saw, a drill and an accurate 2-ft. level. With basic carpentry skills and a couple of helpers, you can install 100 ft. of fencing in a weekend. And best of all, you'll save \$10 to \$20 per running foot doing it yourself.

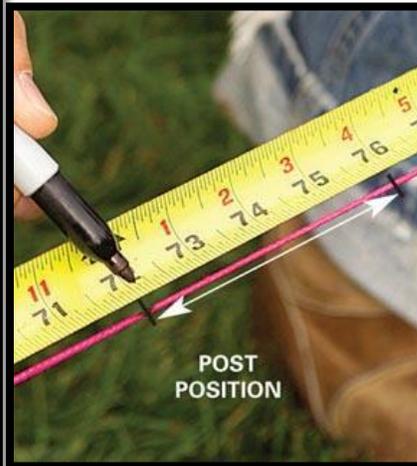
If you properly space and set your fence posts, assembling the fence panels is much like snapping together LEGO blocks. Rails snap into the post slots and are held in place with locking tabs. Boards interlock with each other and are held in place with plastic U-channels.

Vinyl fences come in two varieties: "panelized" and board-and-rail systems. A panelized system has panels that hang between posts. A board-and-rail system have individual boards and rails much like a wooden fence. In this story, we'll cover the installation of a board-and-rail fence. But many of the layout and post-setting tips apply to both, so read on even if you choose a panelized system.

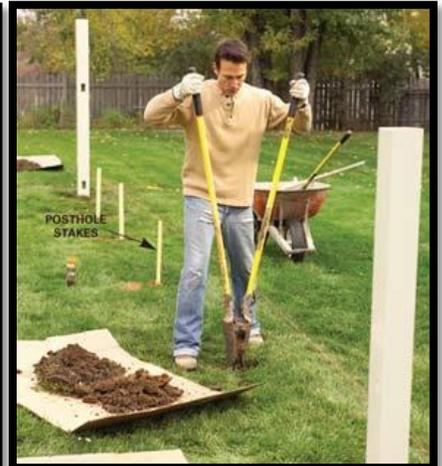
Set the corner and end posts first



Locate Post- Mark the post location on the line and then march each posthole with a stake.



Marking Post- Make the line taut, then pull the tape measure from the corner and mark the string.



Dig Hole- Dig 3ft.- deep holes about 8 inches in diameter at each stake. Drop a post into each and adjust the depth to position the bottom rail 4 inches above grade.

With any fence style, set end and/or corner posts first and then fill in between them with the “line” posts. Corner posts have rail holes on adjoining sides, and end posts have holes on only one side. Line posts have rail holes on opposite sides to support fence panels on both sides.

Start by driving stakes beyond the end or corner positions, and then string a taut line between them even with the outside of the post locations. Then dig and set the end posts (Photo 1). (Read the next section for details on setting posts.) Use the rail holes on the posts to determine how deep the holes should be. (Read your fence instructions. The rail holes are usually about 4 in. above grade; see Photo 4.) You’ll drive all of the posts down to the proper depth later (Photo 6), so starting a bit on the high side is best. Never try to lift posts after the concrete is added, because they’ll just settle later. If you need to lift a post, add soil and pack it well before setting the post.

Hold each post flush against the string and plumb in both directions as a helper fills around the post with concrete. It’ll take about two 60-lb. bags of premixed concrete for each 4-in. post. Mix a fairly sloppy batch so the concrete can ooze into the large holes in the post sides to help lock the post into place. If you want to keep grass from growing around the posts, trowel mounded concrete slightly above grade so water will drain. Otherwise, stop filling the holes with concrete about 4 in. below grade and pack in soil on top of the wet concrete.

Plan your fence (and follow the rules)



Layout the Fence – Stretch a string line tightly along the proposed fence run, locate the corner posts and dig 3-ft. deep postholes. Plumb the post and fill the holes with concrete.

Start by picking up a fence permit application from the local building inspections department, along with local fence regulations. They will include setback requirements from your property lines to the fence and maximum heights. These details will likely vary for front and backyard fences and can even be different for houses on corners or busy streets.

If you live in a “planned” community or subdivision, you may also have to submit information to a planning committee. Follow all regulations to the letter. Otherwise you may wind up tearing out and moving your fence.

Draw a dimensioned sketch of your yard that clearly shows your property lines. Then add your proposed fence outline, heights, distances from property lines and gate locations. If you’re not sure of your property lines, hire a surveyor to have them marked.

Take photos of each side of your yard, focusing especially on sloped areas and anything that will interrupt your fence, like buildings, trees or retaining walls (and mark their locations on your sketch too). The photos will also help you and the supplier plan and choose a fence that’ll meet local ordinances, so have them with you. With the fence style chosen and the dimensions and layout in hand, apply for and receive your permit before ordering the materials.

Plan an accessible spot for a removable section of fence so you can get large equipment or a pickup truck into the yard if it’s needed in the future. The fence supplier can provide special hardware just for this.

Important: As with any other project involving digging, call before you dig (call 811 or visit call811.com) to have underground utilities marked. As a courtesy, discuss your plan with neighbors who may be affected by your fence.

Set the line posts



Plumb Post- Drop a post into place and snap in the bottom rail. Then position it against the string line, Plumb it and add concrete.

Cut Rail- Set the remaining line post. Cut rail to fit as necessary to fill in short spaces.

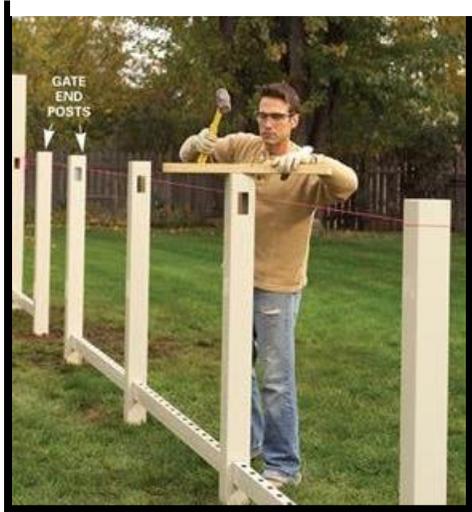
Tie the string to the end posts flush with the outside edges. Hook a tape measure on one of the end posts and mark the string following the manufacturer's post-spacing instructions (Photo 2). Then drive stakes to mark the center of each hole (Photo 3). Dig holes and set the line posts. Mark, dig postholes and set no more than six posts at a time. Then begin using the last post in line to mark and set another group of posts. Otherwise, small errors will accumulate and postholes farther down the line may be misplaced. Drop a post into the hole, fit in the bottom rail and then use the layout mark on the string to exactly space the post. Hold the post plumb in both directions while a helper fills around the post with concrete (Photo 1). If there are high areas between the posts, you may have to hold the posts up a little more. Use the rail to make sure it'll clear those spots before setting the posts.

If you have a big crew and expect to get a big fence installed in a day or two, it's worth renting a cement mixer and a power auger to save on time and labor. Otherwise, just hand-mix the concrete in a wheelbarrow and dig the holes by hand.

Some manufacturers require that posts for fences 6 ft. or higher be filled to some specified point with concrete. If that's required, cap the ends of bottom rails with duct tape before sliding them in. Then pour the concrete in through the post top. A cheap traffic cone works great as a funnel; just cut the tip shorter for a larger hole.

Frequently check previously set posts with a level as you continue building the fence. You'll be able to straighten posts that get a little out of line just by pushing them around up to a couple of hours after the concrete is added. If you're putting your fence up in especially windy conditions, brace the posts with 2x4s in both directions while the concrete sets. Clamp the 2x4s to the posts and stake them to the ground.

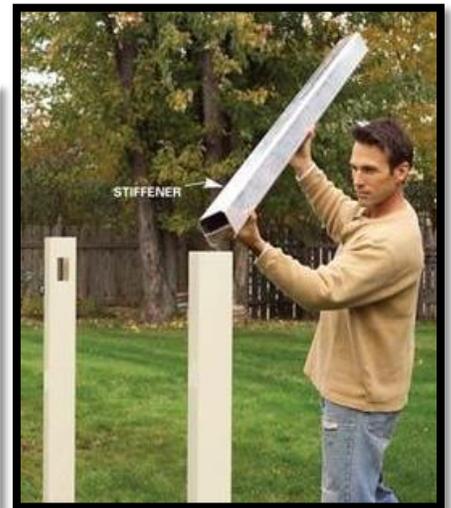
Fine-tune the final post heights



Align Post- Stretch the string even with the top of the rail holes on the end posts. Drive each line post down to align the rail holes.



Lock Rail- After aligning the post, lock the rails in place.



Add Stiffeners- into post at gates, end and other locations where for extra strength.

Within two hours of setting the line posts, fine-tune their height by stretching a string between the end posts. Stay on top of this step. Wait too long and the concrete will set up and you won't be able to drive down the posts. Make the string taut and sight it from one end to see how much it sags. Small sags won't be noticeable, but if the string sags more than 1/2 in. or so on long runs, clamp it to a post near the center to keep it straighter. Drive the posts down with a block and maul (Photo 6) until the tops are even with the line. If your yard isn't flat, you'll have to follow the contours. Think in terms of sections. String the line between posts at the ends of slopes for those sections and then use the posts at the ends of level areas for them.

If you have hard clay soil or soil that's riddled with rocks, you may not be able to drive down the fence posts to a consistent height later (Photo 6). If that's the case, dig the holes a few inches deeper, then add sand on the bottom and set the posts. Now you'll be able to drive down the posts as needed.

Install posts that flank gates with extra care. Make sure the posts are perfectly plumb and spaced. Since the gate is a one-piece unit, there's not much room for fudging. Even though gate hinges are somewhat adjustable (Photo 13), the gate won't look good if the posts are out of plumb.

Drop metal stiffeners into posts wherever they're called for (Photo 7). They're usually required on end posts (especially ones that might continually get bumped) and on posts that flank gates.

Cutting sections to fit

It's rare to end up with full-width sections of fence for an entire yard. Since the fencing sections are modular and designed for a certain span, each straight run will have at least one odd-size section. Gates, property line limitations and obstructions almost always require you to custom-cut shorter sections. Just cut the rails shorter with a circular saw. Be sure to allow about 2 in. extra on each end to insert into the posts. Since you'll be cutting off the locking tab, secure the rail with a screw (Photo 6, detail). You may have to trim a vertical fence board in a solid fence as well. That means cutting off one end of the rails (Photo 5) and usually ripping narrower boards for the ends. That's easy with a circular saw and a crosscut blade. But be careful if you're building a picket fence like ours. You may have to cut a little from both ends of the rails to avoid having a picket right next to the post. That looks bad.

Assemble the panels



Add Pickets- Slip pickets into the bottom rail. Snap the top rail into one post, slip it over the picket tops and snap it into the other post.



Fasten U-channels- Center and screw U-channels with three evenly spaced screws into fence post for privacy panels.



Position Boards- Slide the interlocking vinyl boards into the channel in the bottom rail. Screw to the U-channel.



Slide the top rail over the boards, locking the end into the rail hole, and then into the rail hole at the opposite end.



Cement Caps- Add a small dollop of PVC cement or silicone caulk to the tabs at the top of each cap and push the caps over each post.



Hang the gate- Screw the hinges and latch to the gate. Then center the gate in the opening and screw a catch to the other post.

system we used required U-channels for the solid panels, which we screwed to the posts at each panel end (Photo 9). Then we slid the interlocking vinyl "boards" into place (Photo 10).

Place a couple of dabs of PVC cement or clear silicone on the glue tabs inside the caps where the tabs will rest on the top edge of the post (Photo 12). Next mount the gates and hardware (Photo 13) following the manufacturer's instructions.

Building on Steep Slopes:

Vinyl fences have a few limitations on steeper slopes. The top and bottom rails have to follow the slope, but the panels have to remain vertical. How much you can angle the rails and still assemble the panels varies with the fence system. Roughly measure the steepest slope that your fence must span (measure the rise for each horizontal foot) and ask R&S Fence for advice. Sometimes you can slightly modify a system so it can handle steeper slopes that it was designed for.

Mark the holes (Photo 1) and cut them with a jigsaw and then slip in the bottom rail. Elongate the rail holes 1/4 inch on slopes, at the top on the downhill post and the bottom on the uphill post. Then scribe (Photo 2) and cut the boards to match the slope. Be careful to cut just enough of an angle so the whole board end will nest in the slot 1/2 inch or so. It's ok if there is a small flat area left, as we show. If you cut off the whole angle, the board it may be too short. Test the angle and then cut the board maybe too short. Test the angle and then cut the top angle to match at the right length. Check the fit. When you're satisfied, use that board as a template to mark and then cut the other boards. It's safest to order longer boards for that section so that after the angles are cut, they'll still be long enough.



Have the necessary tools for this DIY project lined up before you start—you'll save time and frustration.

- Circular saw
- Clamps
- Cordless drill
- Drill bit set
- Framing square
- Hammer
- Jigsaw
- Level
- Line level
- Miter saw
- Posthole digger
- Safety glasses
- Spade
- Tape measure
- Wheelbarrow

Required Materials for this Project

Avoid last-minute shopping trips by having all your materials ready ahead of time. Here's a list.

- Concrete
- Gate hardware
- Mason's string
- PVC cement
- Vinyl fence