

## Required Tools and Materials

---

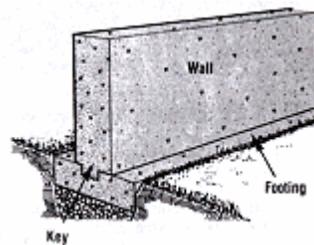
- QUIKRETE® 5000 High Early Strength Concrete Mix or QUIKRETE® Concrete Mix
- QUIKRETE® Sand Mix
- QUIKRETE® Concrete Bonding Adhesive
- Power mixer
- Square-faced shovel
- Wheelbarrow
- Tamper
- Internal vibrator
- Screed
- Level
- Hand float
- Drill hammer
- Saw
- Reinforcing rebar
- Forming lumber stakes
- #8 or #9 steel tie wire

The clean, smooth lines of a poured concrete wall adapt to any landscape or setting. Easily formed in curves, straight lines, or irregular shapes, walls of concrete are strong and durable with most applications requiring no more than 8" widths. Concrete walls are widely used as foundations for many type of structures. Concrete walls can also be used in garden or patio areas as decorative screens, borders, planter walls, tree wells, or retaining walls to control erosion or landscape an area.

## Step-by-Step

---

The most important step in constructing a strong, attractive wall is building strong, accurate forms. Wall forms must be strong enough to withstand the great pressure exerted by the wet concrete; any failure in the forms will be disastrous. Keep in mind that building and aligning the forms for a poured concrete wall usually takes much longer than pouring and finishing the concrete. A straight wall form is constructed of  $\frac{1}{2}$ ",  $\frac{5}{8}$ ", or  $\frac{3}{4}$ " exterior grade plywood sheathing, studs, spacers, ties and (for larger heavier walls) walls. Sheathing forms the mold, while studs back up and support the sheathing. Spacers set and maintain spacing and support the form prior to the pour. Wire ties snug the form and resist the pressure of the wet concrete. Wales align the form and brace the studs in forms more than 4' or 5' high. Two horizontal walls are sufficient for most forms, but they should not be spaced greater than 30" on center. For lower, lighter walls, it is possible to cast the wall at the same time you cast the footer. Larger walls always require separate pours for the footer and wall, with the wall keyed to the footer as shown in the illustration.

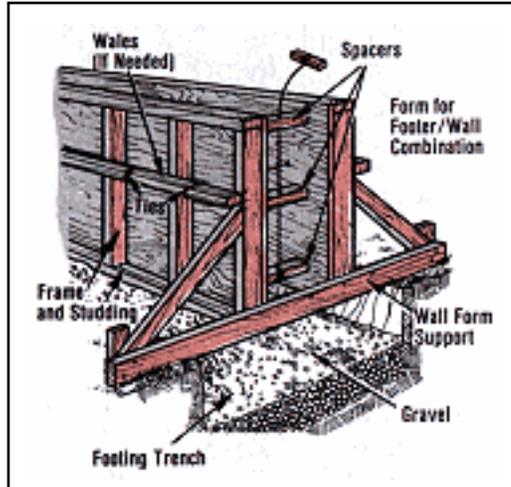


### To construct the forms:

1. Build the form in sections, using 2 x 4's laid on edge to construct frames that measure the height of the wall and not more than 8' in length. Nail 2 x 4 studs into each frame, spacing them on 16" centers.

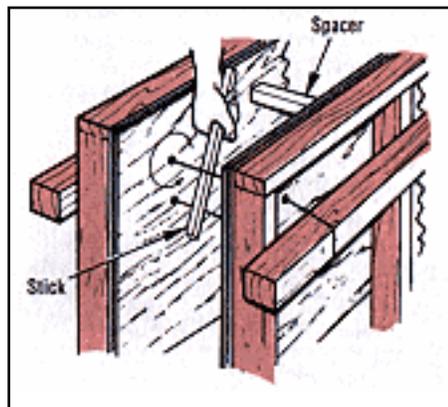
2. Nail plywood sheathing to the frames. If needed, mark off the position of the walls and toenail them to the studs.

3. To install wire ties, drill 1/8" holes on either side of the walls or studs. Tilt to sections upright, face to face, spacing them at the desired wall thickness. Run a piece of wire through opposite holes in the form and around walls or studs. Twist the ends together to form a loop. Insert a properly sized spacer near the tie, and tighten down the tie by using a stick to twist the tie snug as shown. Remember to attach pull wires around spacers so they can be removed as the pour is made.



4. Add on additional sections by nailing frames together through adjacent studding. The running length of the form should be slightly longer than the finished wall so that a stop board can be installed as shown.

5. Center the completed form over the footer, making certain it is plumb. Stake, brace and nail the form firmly in place.



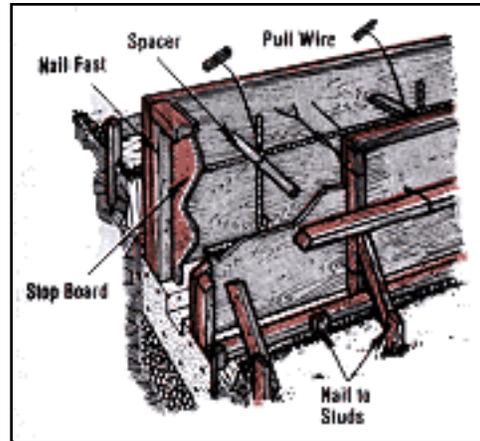
### Pouring the Wall

1. With the form properly mounted on the cured concrete footer, tie the wall rebar into the existing footer rebar. Coat the insides of the forms with clean oil or release agent.

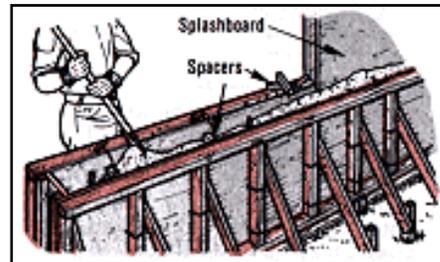
2. Prepare the QUIKRETE® Concrete, QUIKRETE® 5000 or Fiber-Reinforced Concrete Mix to be used for the wall. Avoid using too much water and creating a soupy consistency - aggregates will settle toward the bottom and a weak wall will result.

3. Pour the wall in horizontal layers of not more than 20", beginning at the ends and moving toward the center. Use a ramp to wheel the concrete into position and a splashboard to direct the pour and control spillage. Remove the spacers as you go.

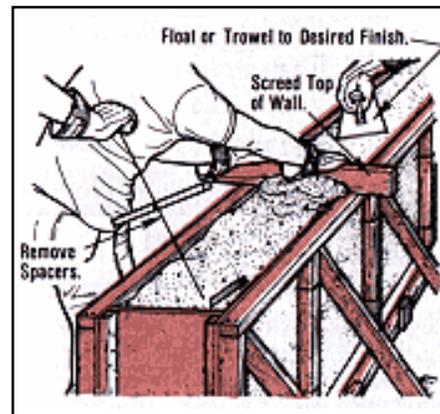
4. Work the concrete against the sides of the form and around the reinforcement as each layer is poured. Use an internal vibrator or strike the sides of the form with a hammer or mallet. Pour layers as soon after the previous one as possible to avoid cold (nonbonded) joints, which cause leaks. If a cold joint cannot be avoided, coat the surface of the previous pour with QUIKRETE® Concrete Bonding Adhesive before pouring the next layer of concrete.



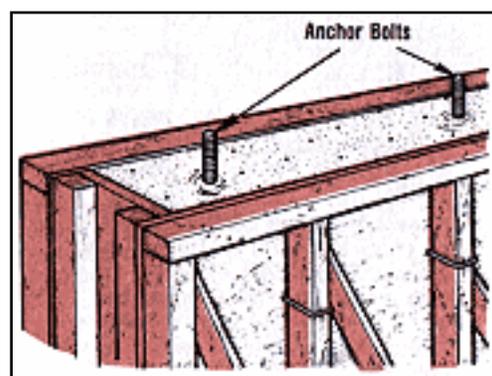
5. Strike off the concrete flush with the top of the form. Float and trowel it to the desired finish. Insert anchor bolts for mud sills and wooden caps once the concrete has set sufficiently to hold them.



6. Remove the forms after the concrete has cured for at least 3 to 4 days. The wire ties will eventually rust and stain the concrete if left in, so cut them out beneath the surface of the concrete. Patch the holes after wetting them down; apply QUIKRETE® Sand Mix or Vinyl Concrete Patcher flush with the surrounding surface.



7. Depending on the amount of concrete to be poured and the people available to do the job, it might be necessary to construct the wall in sections by using a movable stop board. Drill holes through the stop board so that it can be moved along the wall without cutting the rebar.



8. As each section is poured, allow it to set (12 to 24 hours) before removing the stop board. Before pouring the new section, coat the exposed end with QUIKRETE® Concrete Bonding Adhesive to avoid leaks caused by the cold joint. For Best Results: Make curved forms by nailing multiple strips of saw-kerfed plywood or semiflexible hardboard to the form studding.

