

A patio is most often placed adjacent to a rear or side door, but it can also be freestanding or connected to the home by a separate walkway. In its most simple form, a patio is no more than a strategically placed concrete slab. But with a little imagination, it offers a great opportunity for combining unique design and surface treatments with the practicality of concrete construction. Don't feel limited to plain square or rectangular

designs; curved and other free-form patios are visually striking additions to a home's exterior.

Location

An important design consideration is to place the patio in relation to the sun. Take the time to examine the proposed site, noting the position and intensity of the sun during different times of the day. Also keep in mind factors such as the direction from which the prevailing winds blow, whether the area lends itself to landscaping with protective trees or screen walls, and the view. The following briefly summarized the various exposures to help in the placement of a patio.

East. A patio facing east will cool down after high noon because it is shaded by the house. An eastern exposure is ideal for hot summer climates, but some form of side screening might be needed to combat the chill of fall.

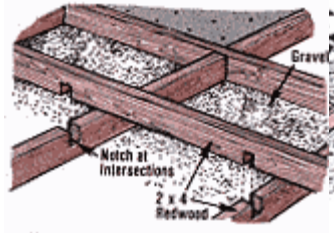
West. A patio facing west provides plenty of sun year-round. However, excessive summer heat can be a problem in the late afternoon and evening - precisely when the patio is used most. Well-placed trees and shrubs not only provide cooling relief, but also add to the patio's natural setting.

North. Unless the patio is enclosed, a northern exposure is the least desirable setup. The patio receives minimal sunshine, thus keeping it cool and damp in all seasons but summer.

South. A patio facing south receives varying degrees of sunlight throughout the year. While southern exposures can get very warm during the height of summer, glare from the setting sun isn't the problem it is with a western exposure.

Design Factors

The distance from the top of a finished patio surface to the doorway of



the house should be no more than 8" (20cm). If your patio will be more than 8" (20cm) below the doorway, build it up with a thicker crushed stone subgrade. Another option is to build a wide concrete step on the patio, adjacent to the doorway.

A patio should slope away from the house at the rate of 1/8" (3mm) per running foot. Generally, a 4" (100mm) thick slab set 2" (50mm) above ground level is suitable. To ensure that the height and slope are correct, begin the excavation, layout and form construction where the patio meets the house.

Openings in the patio for tree wells, flower beds, and the like can be made by building forms of the proper size and leveling them with the perimeter forms. Stake the forms on the inside and cut the stakes flush with the top edge for easy screeding. When the concrete is poured the forms will act as a dam to keep the concrete from flowing into the opening.

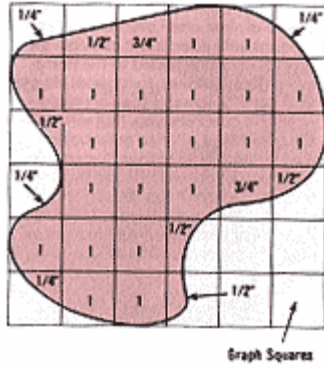
Construction

An attractive and durable patio can be made by combining wooden strips with concrete slab construction methods. Redwood is an excellent choice because of its high resistance to rot and decay. Tools and materials are the same as those for concrete slabs.

1. Construct the exterior form. Use the same type of wood that you will use for the strips because the exterior form is not removed after the concrete is placed.
2. Divide the area into boxes, using 2 x 4 lengths of the wood. Notch each piece at the intersections. The patio dimensions should be in multiples of the desired box sizes.
3. Place the cross members on edge and nail them securely into the exterior form frame.
4. Apply a wood sealer/stain before placing the concrete.
5. Mix and place the concrete as described in the section on concrete slabs. Take care in placing the concrete to avoid having bits of it dry over the strips.
6. When the concrete begins to set, scrub the wood surfaces thoroughly.

Free-Form Designs

Free-form or irregularly shaped patios can be circular, oval, or most any shape imaginable. The formwork is made of thin plywood or kerfed 1" (25mm) thick lumber. The major drawback with free-form



designs is that the amount of usable patio space is reduced. For example, a square patio measuring 20' (6m) on a side provides 400 square feet ($37m^2$) of surface area, while a circular patio with a diameter of 20' (6m) provides only about 315 square feet ($29m^2$) of surface area.

The best way to estimate how much concrete will be needed is to draw a proportional outline of the patio. Do the drawing on a piece of graph paper, with each square representing 1 square foot

($0.1m^2$). Just add up the number of full, $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ squares to get the total area to be covered. The placement of the concrete is similar to a large driveway job.