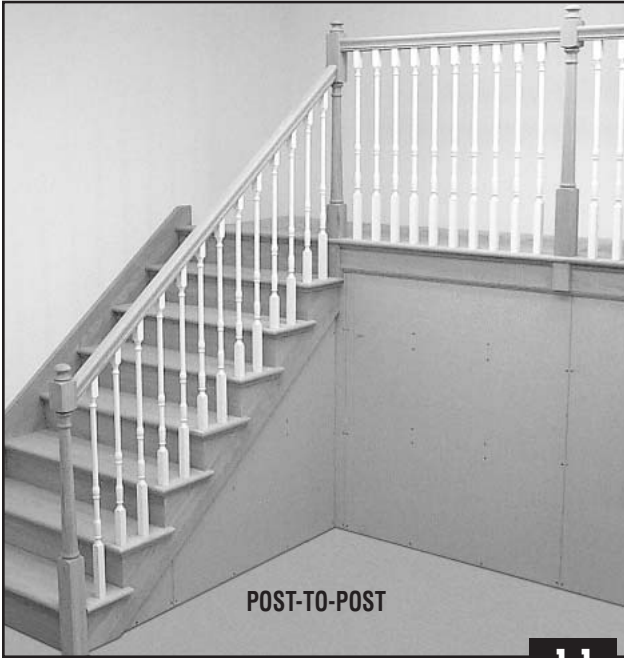


CHAPTER 1

Stair Basics



1-1

POST-TO-POST VS. OVER-THE-POST

Basic concepts crucial to any discussion of stairs and stair part installation begin with the concept of Post-to-Post vs. Over-the-Post.

POST-TO-POST

Post-to-Post stairs (PTP), by definition, have the rail system installed between newel posts that extend above the rail. In Post-to-Post systems, the rail will be attached directly to the upper square blocks of the Post-to-Post newels. **PHOTO 1-1.**



1-2

OVER-THE-POST

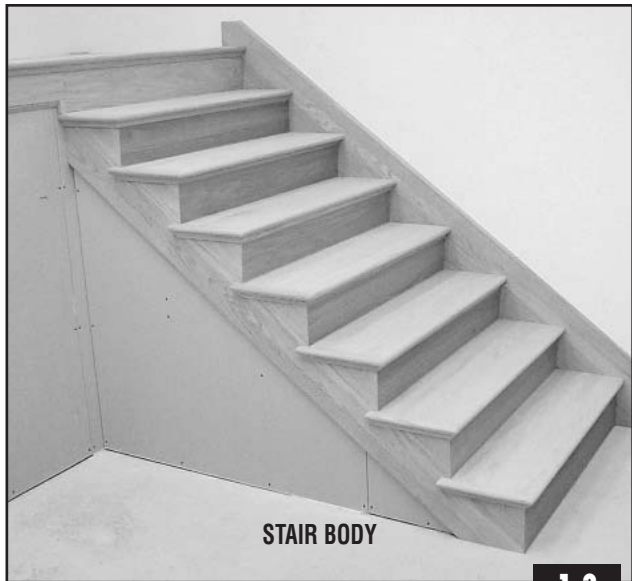
In Over-the-Post (OTP) applications fittings must be used with the handrail to carry the uninterrupted rail system on top of the newel posts. More simply, Over-the-Post applications will allow you to place your hand on the rail at the bottom of the stair and continue to the end of the system without ever having to remove your hand from the rail. **PHOTO 1-2.**

STAIR BODY VS. BALUSTRADE

STAIR BODY

The Stair Body is most easily described as all parts that are below the walking surface of the stair. It consists of treads, risers, skirtboard, landing tread, cove moulding and shoe moulding, as well as optional decorative tread brackets and starting steps.

PHOTO 1-3.

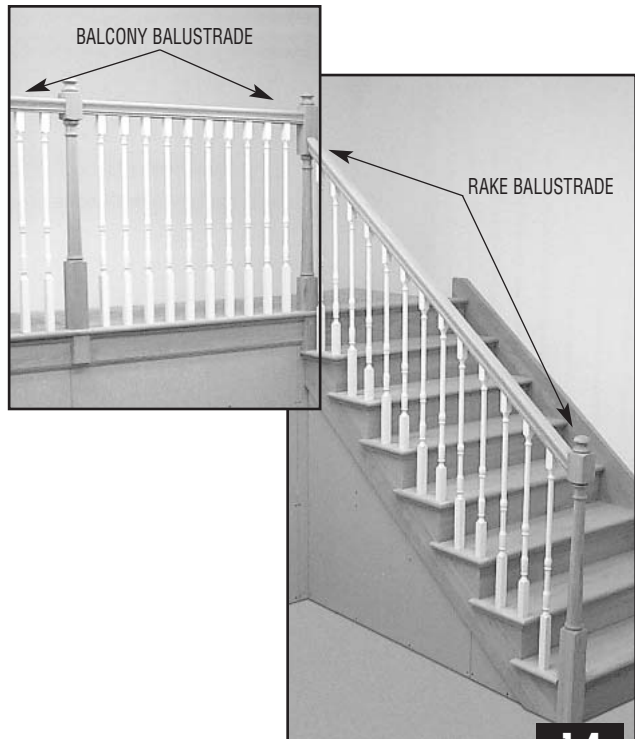


1-3

BALUSTRADE

The Balustrade System is the vertical portion of the stairway that consists of newels, balusters, and rail. It supplies the structural safety of the stair while offering a multitude of design possibilities that can be tailored to the style of your home. **PHOTO 1-4.**

The balustrade can further be broken down into the rake, or angled portion of the stair and the balcony, or level portion.



1-4



1-5

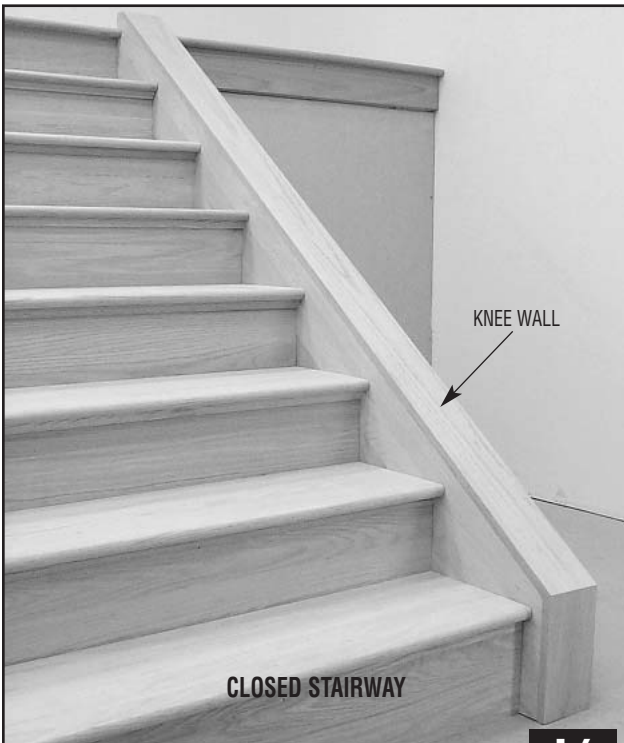
OPEN STAIR BODY VS. CLOSED STAIR BODY

The stair body also offers two basic choices of design and can be incorporated into either PTP or OTP stairways.

OPEN STAIRWAY

Open stairways have the treads and risers exposed from the side view of the stair. Balusters in an open stair will be installed directly into the treads of the stair.

PHOTO 1-5.



1-6

CLOSED STAIRWAY

Closed stairways use knee walls (*sometimes referred to as curb walls*) or full walls to enclose the stair body. Treads and risers are hidden from the side view.

Balusters used in a knee wall system will be installed onto the cap of the knee wall or into shoe rail that is installed on top of the knee wall (*See Photo 8-30*).

PHOTO 1-6.

FULL OPEN BALUSTRADE VS. PARTIAL OPEN BALUSTRADE VS. CLOSED BALUSTRADE

Full Open vs. Partial Open vs. Closed refers to the length of the balustrade on a particular side, or sides, of a stair.

CLOSED STAIRS

Closed stairs, commonly referred to as wall-to-wall stairs, have treads and risers enclosed between two walls that extend the full length of the stair. **PHOTO 1-7.**



FULL OPEN STAIRS

Full open stairs have a balustrade portion that extends the entire side of the stair from one floor to the next. This design can be full open one side or two sides (*double open*).

PHOTO 1-8.



PARTIAL OPEN STAIRS

Partial open stairs have an open balustrade that extends only a portion of the way up the stair before running into a structural wall. This wall will effectively create a wall-to-wall system on the upper portion of the partial open stair and can be single sided or double sided. **PHOTO 1-9.**



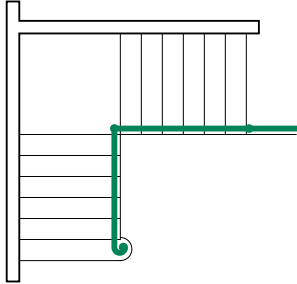
TYPE OF STAIRWAY: STRAIGHT, L-SHAPED, U-SHAPED, T-SHAPED, WINDER, CURVED



1-10

STRAIGHT STAIRS

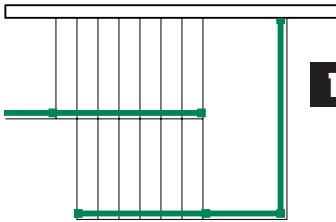
Straight stairs are probably the most common stair type because of their ease to design and install. With no intermediate landings, the parts and labor requirements are usually decreased. However, straight stairs require a long hallway, which can be a disadvantage in some floor plans. **DRAWING 1-10.**



1-11

L-SHAPE

The L-shape stair affords the homeowner a more elegant, comfortable, and functional stairway. The design possibilities are increased and a landing is provided at some point in the run of the stair at which to pause or rest. Standard turns are 90°, but variations, especially 45°, are not uncommon. **DRAWING 1-11.**



1-12

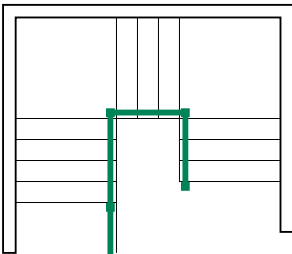
U-SHAPE

U-shape stairs are used when the design area is more square than rectangular. Two variations are the “Narrow U” and “Wide U”.

NARROW U

A stair of this design introduces a single landing at least twice the width of the stairway at which point the stair will return on itself 180°.

DRAWING 1-12.



1-13

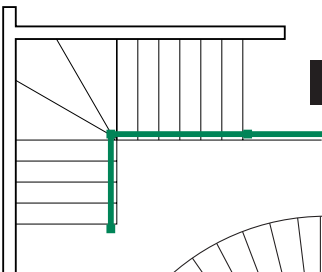
WIDE U

This stair design incorporates two landings with a short flight of steps in between to make the 180° turn. **DRAWING 1-13.**

WINDER

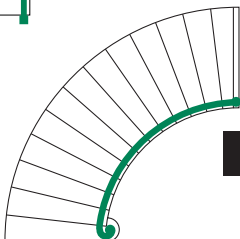
A winder stair is one that makes a directional change without the use of a flat platform. Winder treads, nonrectangular treads used in combination, will make the necessary directional change to the stair.

DRAWING 1-14.



1-14

NOTE: Various codes for winder stairs (*i.e. minimum depth of tread on the short side of the winder*) are becoming more stringent. Check local building codes closely before designing a stair of this type.



1-15

CURVED

A curved stair, as its name suggests, flows in a smooth radius from one floor to the next. Curved stairs can contain balustrades on the inside radius, the outside radius, or be open both sides.

DRAWING 1-15.

SITE-BUILT VS. BOX

These designations refer to the location of the construction of the stair body and affect the type of construction techniques used.

SITE-BUILT STAIRS

Site-Built stairs are assembled, start to finish, with component parts trimmed and fitted at the job site. **PHOTO 1-16.**

BOX STAIRS

Box stairs are preassembled body portions of the staircases that are built off-site and delivered to the job site as one “boxed” unit. **PHOTO 1-17.** Box stairs normally make use of routed stringers to combine the other stair body components and to provide the structural support for the stair. **PHOTO 1-18.**

Box stairs are installed at the job site by sliding the boxed unit into position and permanently attaching it to the rough framing. The most common use of box stairs is between two walls in a closed application, but they are also used in open and double open designs.

