

Selecting Exterior Doors / THE PROS AND CONS

Some people think of a front door as simply providing access, however a front door also gives the first impression of the home and family. The front door helps determine where people walk, allows for privacy and security, can help with ventilation and energy control, and can add to or detract from the exterior appearance of the house. When considering the selection of a door, look at: style (function and appearance), materials and cost, trim or accessories (hardware), and the energy efficiency of the door.

Door Construction

Doors may be constructed from solid wood (plank), veneer over solid wood, veneer over a hollow core, aluminum-clad wood, steel-clad wood, and either steel or aluminum over a rigid foam core. For an exterior door, select either solid wood or insulated steel. Avoid the use of hollow-core doors for entries, because they are too easily broken through, and they allow too much air penetration, thus raising energy bills.

Wood has long been the choice of homeowners for front doors. Wood has a warm, solid appearance, is energy efficient, and is very durable. The term "solid wood" is often misleading, however. Rarely do you find a truly solid one-piece wooden door.

Wood doors are made from many types of hardwoods or softwoods. Factory-made doors may be treated with a chemical preservative or primer, which gives

long-lasting protection against wind or rain. Some woods are impregnated with polymers (plastics), which adds strength and durability.

Steel doors have become more popular as the need for energy conservation has increased. They are warp free, fire resistant, provide good sound insulation and are considered good security against break-ins. Steel doors aren't solid metal; they have an inner core of solid compressed foam, wood, or wood and foam. Because steel doors are good insulators (some brands boast that they are 2 1/2 times better than wood) an additional storm door is not necessary (unless it is desired for ventilation). Steel doors are usually primed at the factory and are easy to paint on site. Wood grain or antique finishes can also be applied to make the doors look like wood.

Sliding aluminum doors are often used for patio-type openings. While glass and aluminum are not good insulators and these doors often fail to move easily in their tracks, sliding glass doors are a popular choice as they offer access to outside living areas. One alternative for the sliding aluminum and glass door is a wood-framed, double- or triple-glazed glass door. Often one side will be stationary or fixed, while the other is hinged or swinging. Sometimes called "French doors" or "patio doors," these types are generally more expensive than the traditional aluminum sliding door. However, the increased convenience and

lower heating and cooling bills that will result from using insulated glass, and the better weatherstripping and caulking can make up for the difference in price.

Types of Exterior Doors

There are five basic types of exterior doors: batten, flush solid core, sliding glass, stile and rail, and storm. The choice of door used depends on appearance or style desired, need for safety, energy considerations, and cost.

Batten Door

The batten door is an early door style used in America. It consists of boards that are nailed together in various ways, as shown here.

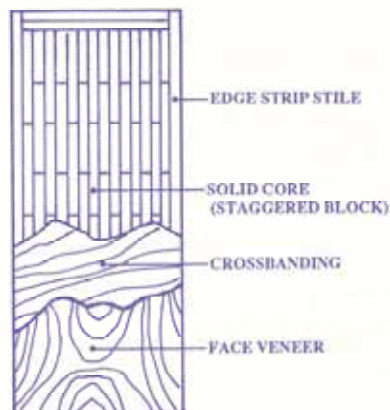


Batten doors are most often used where formal appearance is not as important, where a rustic effect is wanted, or if a handcrafted door is desired.

Flush Solid Core Door

Since very few doors are made from a single slab of wood or steel, flush solid core doors are good

options. A flush solid core door consists of a surface material or covering (smooth face panels) over a solid core of wood (hardwood or particle-board) or cellular material (cardboard or most often foam), as shown below.



The style or appearance is usually kept simple, and it can work with many architectural styles, especially contemporary. Moldings and other trim can be added to achieve a more traditional look.

Sliding Glass or Patio Doors

While classified as a type of flush door, these doors are less energy efficient and vary in operation. Generally one panel is stationary while the other slides (by-pass) or swings open (patio), as shown here.

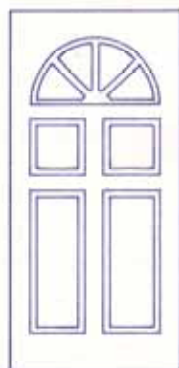
Since these doors are usually large, they should always be made with double-glazed glass to help conserve energy. The frames may be wood, vinyl- or metal-clad



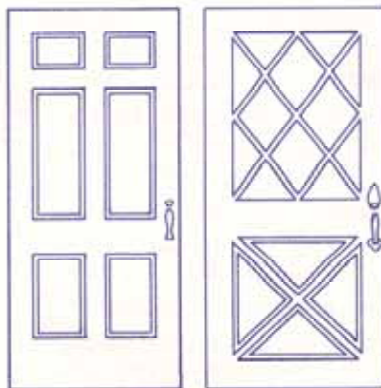
wood, or aluminum. The patio type (one side fixed, the other swinging open) is considered the better energy saver.

Stile and Rail Doors

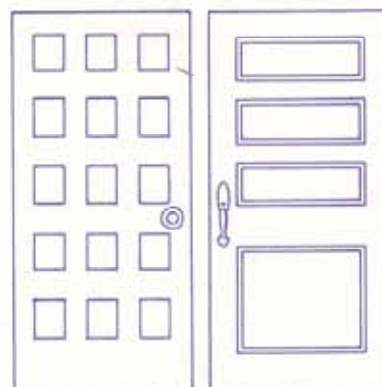
These types of doors are often called **panel doors** since they are formed by a framework of vertical boards (stiles), horizontal boards (rails) and panels (wood or glass), as shown here.



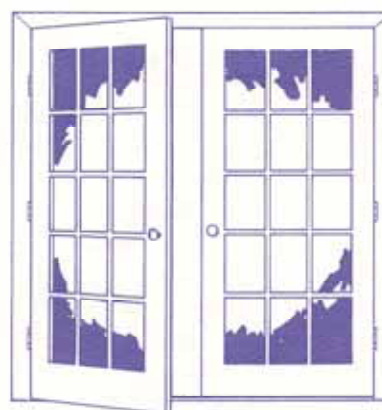
The number of panels and the placement of these panels determines the name of the stile and rail door, such as Colonial Cross-and-Bible, St. Andrew's Cross, Floren-



tine, Tudor, Contemporary or Mediterranean. The panels may be horizontal, vertical, square or some combination of these, as shown here.



When all the spaces are glass filled, the door is called a French door. Rim-type French doors have only one pane of glass, whereas a divided-light French door has smaller, multiple panes of glass.



Stock panel doors can be purchased from builder suppliers with two to 32 panels. The panels may be glass for light and visibility, or solid for privacy.

Storm Doors

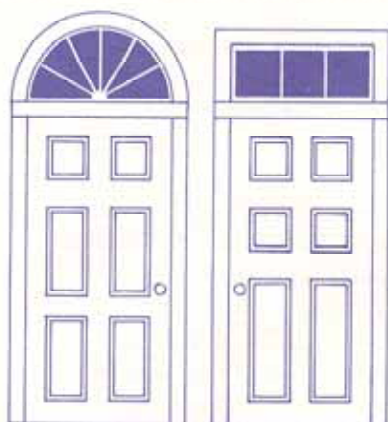
A combination storm and screen door is often hung outside the regular door to provide additional insulation in the winter and ventilation in the summer. The glass and screens may be removable or they may slide up so they can be changed with the season and easily

cleaned. The door frame is usually aluminum or lightweight wood.

Accessories

The appearance of a very simple door (solid core flush or panel) can be changed dramatically and easily by the addition of sidelights, fanlights, transoms, pediments and/or pilasters.

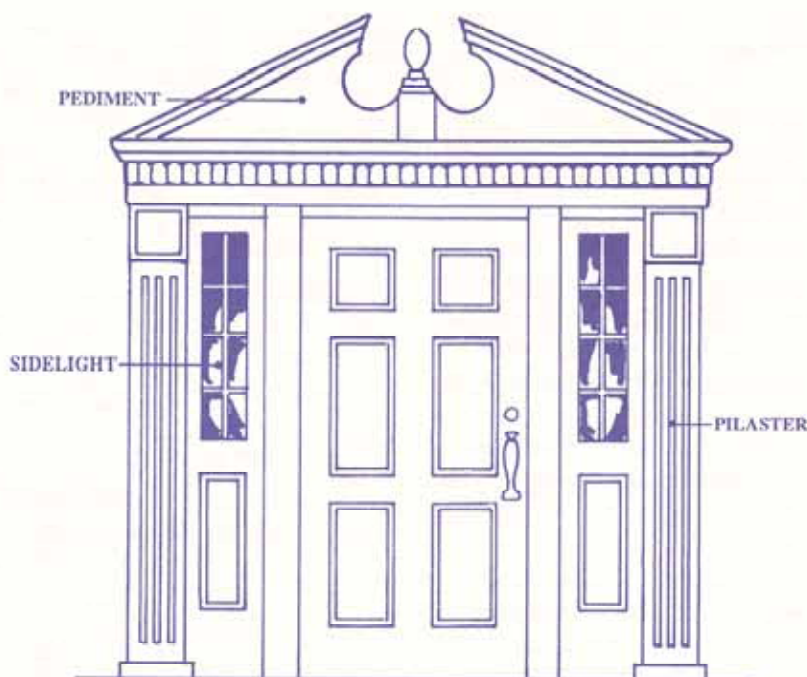
Sidelights are narrow vertical windows which flank a door (one or both sides). **Fanlights** are semi-circular ribbed windows placed over the door, and **transoms** are horizontal windows placed above the door. These window types allow light into the house and help change the style or appearance of the door, as shown here.



Fanlights, sidelights, and transoms should be planned from the start, or expensive construction work will be required to install them.

Pediments and pilasters add to the decorative appearance of the doorway. They are usually made of wood or plastic. A pediment, a triangular motif from classical Greek architecture, is placed above the door. The style of the pediment can vary from very simple to more formal, traditional styles, as shown here.

A pilaster is a column-like accessory used to flank an entry. Usually used with a pediment, a pair of



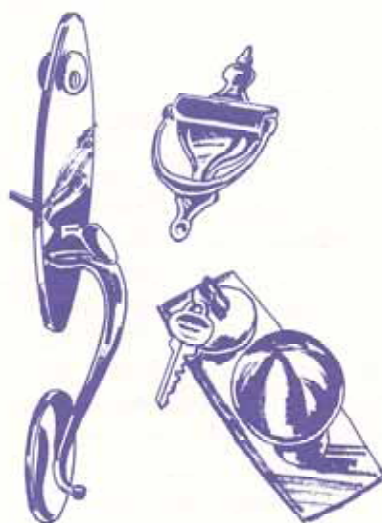
pilasters can add dignity to a traditional doorway. Either a pediment or pilaster can be added easily to an existing doorway since no structural work is necessary.

Hardware

Hardware for a door ranges from knobs or handles to ornamental escutcheon plates, wrought-iron hinges and knockers to kick plates, mail slots, house numbers, door bells, locks, and entry lights. None of the above (with the possible exception of locksets) are automatically available or part of the door type selected. Hardware is purchased separately or in kits. There are many styles of hardware in various materials, and the hardware should be matched to the door style to give a uniform appearance or finish to the doorway. Often a doorway's look can be changed dramatically by simply replacing some or all of the hardware.

Replacement Doors

When should a door be replaced? As noted above, it is not



necessary to replace a door just to change its appearance. A change of accessories, hardware or a good paint job may do the job. However, there are times when a total exterior change is required and the old door simply cannot be made to fit the look desired. Also, doors, while very sturdy, can become warped, may not close properly, cannot be effectively weatherstripped, or may have cracked or broken panels or stiles.

The easiest replacement door is a pre-hung system. The best types

of systems include the door, steel or wood frame, capability for hinge and height adjustments, have a pre-drilled entry lockset, and are fully weatherstripped. With the pre-hung systems on the market today, a do-it-yourselfer with some skill and knowledge of repair work may be able to replace the door without the help of a handyman or carpenter. However, be sure of your basic carpentry skills and know that you have the necessary tools before attempting this job or the replacement could end up costing you a lot of time and frustration as well as money.

To combat air-leak problems, always select a good quality door, check on its fit, weatherstrip around the door, and install a door sweep at the bottom of the door or threshold.

Energy Considerations

Research has shown that one exterior door that does not fit properly and is not weatherstripped can be responsible for substantial air leakage and heat loss. While only about 1 percent of the measurable heat loss occurs through the door itself, air leaks around the door can be a major problem. Thus weatherstripping and caulking are very important as is the tight fit of the door into the frame.

The combination of a solid wood door and a good storm door has about the same R-value as a steel-insulated door, and the cost is

about the same. If you already have a solid wood door, adding a good storm door will cost less than changing to a steel door.

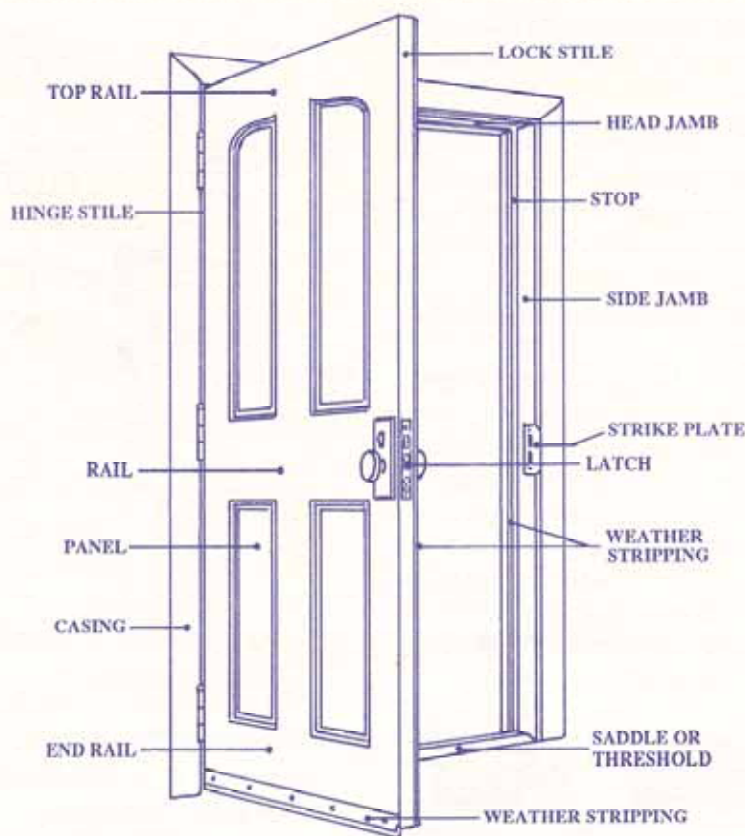
Another way to reduce heat loss through a door is to add an airlock, entry or vestibule. If your house doesn't already have this feature, enclosing a porch or building an entry can serve the same purpose.

Summary

Your front door may give visitors their first impression of the family. What does your front door

say to friends and strangers? Does it welcome them, or is it drab and forbidding looking? Doors can be changed by painting, adding accessories and hardware, made more energy efficient, or improved in the security they provide. Doors can also be changed to give a totally new appearance as part of a total exterior facelift.

If you are planning to update the exterior of your home, you may want to see the other publications in this series, which cover planning for the exterior changes, windows, siding, and roofs.



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