

Senses and Sensibility

Consider all the factors when placing your windows and doors

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Windows and doors are two of the primary distinguishing architectural elements in a home. Not only do they fulfill the crucial function of defining spaces by bringing in natural light, they are also strong visual features. During the day, dark windows stand out against a lighter building facade and at night, lit windows stand out against a darker facade, contributing significantly to the overall appearance of your home. In addition, their placement, configuration, and quality type of construction will say a lot about the look and feel of your home, as well as influencing the heating and cooling of your home and maintenance requirements.

Wood windows and doors have long been the standard for log homes for obvious reasons. Their natural appearance complements logs and, because they can easily be built as custom shapes and configurations, they can help you achieve the effect you want in your overall design. They can also be stained or painted any color. Wood windows and doors generally contribute to better energy savings and require less energy to produce than those made from other materials. On the downside, they require more maintenance than other types. And the type of wood used and quality of construction can influence cost and performance.

Aluminum windows have seen great advances with the advent of thermal breaks, reducing the flow of heat from the inside to the outside of the window. However, aluminum is almost used exclusively in the log home industry for cladding wood windows. Wood windows can be clad with baked aluminum so that your home's interior benefits from the appearance of wood, yet exterior maintenance is reduced significantly. Other types of claddings include rigid polyvinyl chloride (PVC), other polymers, and fiberglass. The reduced maintenance has to be balanced with not having a natural appearance or a wide range of colors to choose from. In addition, to clad windows, full vinyl or fiberglass windows are now an alternative to wood windows. They often have better construction profiles than aluminum; though suffer from many of the same disadvantages. Whatever type you choose, there is a range of quality from the base material to the construction profile and joinery, to the quality of weather-stripping and hardware.

The style and configuration of windows and doors can vary depending on their use and the architectural effect you are trying to achieve. For example, casements swing open to let nature in and catch the prevailing breezes. Picture windows allow large unbroken views. Start your window and door design by examining what you are looking for in both the interior and exterior of your home.

Placing windows on two sides of any room increases visual perception, giving a far greater aliveness to a room. Although corner windows are sometimes difficult to achieve in a log home, they have the dramatic effect of increasing the depth of a room and enhancing the perception of the outdoors. Window seats create a cozy nook and

bring you right to the window itself and the outdoors. Lower sill heights soften the separation of exterior and interior though they may affect privacy and furniture placement. Carefully placed windows can add to the energy efficiency of your home. Make sure windows are protected by large overhangs.

Once you have placed your windows, look to style and configuration. You may have to balance the function of the windows against the overall unity of appearance. Combining several types of windows may appear incoherent. Here are a few of the more common window types:

Awning: Opening window hinged at the top

Bay: A combination of windows that project out from the wall

Bow: A curved bay window

Casement: Opening window hinged on the side (French casements swing in; English casements swing out)

Circle Top: Half round or oval window usually placed over other windows or doors (sometimes called circle head or round top)

Clerestory: Window in the upper part of a vaulted room

Double-hung: A window with two vertically moving parts (sashes), each closing a different part of the window

Garden: A complete boxed window unit, including top

Glass Block: Acrylic or glass modular units installed similarly to concrete blocks

Picture: A window that doesn't open (sometimes called a fixed light)

Rake: Any type of window in which the top of the window is sloped

Usually following the line of a sloped ceiling

Single-hung: A window with one vertically moving part (sash) and one fixed light

Skylights: A window placed within the roof structure

Sliders: Windows in which one or both units can be moved horizontally.

Turn-tilt: Opening windows that both turn or tilt, facilitating cleaning and ventilation options

You also have to decide how you want the glass (or lights) broken up. Do you want large expanses of glass or do you want them broken into smaller lights. Dividing bars, called muntins, can be part of the window structure (true-divided lights) or with some manufacturers, can be removable to facilitate cleaning of the glass (false grilles). It is even possible to have the muntin bars located between two panes of glass. Do you want the fixed lights to have the same general appearance as the opening windows? This is called balancing sashes. Do you want transoms; windows that are above the primary windows and doors?

In addition to the quality of construction of the window sashes, the number of panes of glass used, and the size of air space between the panes, there are two primary technologies that can be employed to improve the energy efficiency of windows. The addition of argon gas between the windowpanes is one. The other is the application of a transparent film coating to one of the glass surfaces (often called Low E). Both of these

help to reduce heat transfer between the exterior and interior of the window. Low emissive coatings also reduce the penetration of the sun's ultraviolet rays, helping to reduce fading of furniture fabrics and carpet. To reduce costs, I sometimes use this feature only for windows with high exposure. Electrochromic windows are a new advancement in window technology. They can change from transparent to opaque or shaded when triggered by an electric current.

Finally there are a number of other questions to be answered in window planning. Do you need insect screens on opening units? What type of opening mechanisms do you wish to have?

When it comes to doors, there are not quite as many options. Nevertheless there are a number of different door styles and sizes available. Again, wood doors are the standard for log homes. While some people prefer a larger than normal feature entry, doors are very susceptible to changes in humidity and to differential humidity between the indoors and outdoors. The wider the door; the more susceptible. Make sure the stability of the door isn't compromised by the method of construction. Instead, consider adding a sidelight. Etched or acid-washed glass can have a stunning effect. You can still use a taller door or add a transom that will match the top height of the door to that of the windows (typically higher than in a conventional home).

Clients often ask me whether they should use sliding patio doors or French doors. It's always a matter of personal preference. While sliders allow greater views, they only open for a half to a third of third width and have a larger threshold to step over. French doors can be opened to their full width, though offer less visibility.

Like windows, doors can be made from a variety of materials other than wood. Steel and fiberglass insulated doors are becoming more common for exterior doors. Balance their performance against appearance. Here are a few of the more common exterior door types:

French: Panel doors with full glazing that function equally as a window

Flush: Door of solid construction, whether wood or composite materials, covered by one or more thin sheets of facing material

Panel: Door constructed of a framework of rails (horizontal members) and stiles (vertical members) with infill panels or glazing

Patio: Doors built with tempered glass in which one or more units slide horizontally

Sash: Panel doors with one or more glazed panels

Log homes bring additional considerations. It is necessary to decide where in your log wall to locate the tops (heads) of the windows and doors and the bottoms (sills) of your windows. I aim to have the rough opening cut at the widest possible part of the log. Not only is this more visually appealing, it has structural advantages as well. I even use narrower windows so more of the rich heartwood grain of the log is exposed. This can be dependent on the particular method of log construction used in your home. If possible, I recommend a window buck (the frame to which a window is attached) as narrow as possible rather than have the window extend to the outside and inside faces of the log walls. This allows the option of bevel cuts on the log faces and eliminates an area for dust and insects to accumulate. In most log construction, trim pieces have to be put

over the windows to accommodate the settling of the log walls. I prefer details that reduce the size of the trim so that more of the opening can actually be glass.