

Ski Homes With Walls of Glass, Thanks to New Technology

Engineering advances have made glassy, contemporary architecture possible, if pricey, even in blustery ski destinations.

By

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The temperature outside was 23-degrees below zero the day Michael and Shelia Alessandro bought their modern mountain home for \$3.4 million in Wyoming's Jackson Hole.

The frigid weather briefly gave them pause, since the five-bedroom, 6,800-square-foot home had walls of glass—a design that can be less energy-efficient than insulated walls. Still, the [Wilson, Wyo.](#) house, designed by Jackson-based Dynia Architects, offered sweeping views of the Teton Range. After the sale closed, the Alessandros installed even more glass in the living room to further enlarge the view.

Mr. Alessandro says the home is still warm and cozy, with monthly heating bills averaging \$538 in the 12 months through September. “You couldn’t have done this 100 years ago,” says Mr. Alessandro, 74, a retired managing director of Hambrecht & Quist, a San Francisco-based investment bank now part of J.P. Morgan Chase & Co. “[Glass technology has evolved](#) so that people can have a house like this. It’s amazing that people still want to build those old-style log cabins.”

Many affluent buyers say that the best ski homes are ones where you can see the snow and slopes while staying snug inside. Recent advances in glassmaking and engineering mean homes can have larger panes of architectural glass with higher levels of insulation. Two or three panes, with sophisticated coatings and argon gas between layers to displace cold air, allow homeowners to manage extreme climates without inflated utility bills. Extra-clear glass, low in iron, eliminates the green tint that thick glass had in the past. For safety, glass is laminated like car windshields. To manage sunlight, it comes in versions that darken like sunglasses, either automatically or at the flick of a switch. In contemporary mountain homes, windows have narrow steel, aluminum or fiberglass frames.

“The goal is for the window frame to go away,” says Alan Pickett, resident architect at Pella Corp., a window and door manufacturer in Pella, Iowa. “Clients want more glass, less frame, less wall.”

Such transparency can be costly. At Agnora, a company in Collingwood, Ontario, that makes large architectural glass, prices rise with the size of the panel and level of insulation. Double-pane, high-performance glass with low emissivity and argon gas costs three times as much as single-pane glass. Triple-pane, triple-coated glass with argon costs more than five times as much.

“In mountain areas, almost all houses have double-pane glass, some have triple-pane,” says Richard Wilson, Agnora’s founder and president. Some homeowners reduce building costs by using premium glass on the main panoramic windows and less-expensive varieties in less-prominent spaces. Others opt for smaller, more affordable window panes with a grid of muntins, even though it interferes with the view.

Architect Tom Kundig designed a nearly translucent retreat in Washington’s remote Methow Valley. The communal area of the 3,200-square-foot, four-bedroom compound near Winthrop, Wash., has glass on three sides. Walls open up, further blurring the boundaries between inside and outside.

“We have 360-degree views,” says homeowner Tasha Atchison, a 44-year-old mother of two and retired transportation engineer. “Why ruin that with walls?”

Ms. Atchison and her husband, Shane, a 44-year-old chief marketing officer of Utah-based software firm Domo, completed the house in 2012 and now spend weekends and vacations there with their children, Keegan, 13, and Frances, 11.

Sitting on 20 acres, the property is composed of four separate buildings that are placed to frame views of the valley, Pearrygin Lake and the Studhorse Ridge. The separate structures, built like pioneer wagons circling a campfire, give those inside a closer connection to the landscape than one larger house would, says Mr. Kundig, owner and design principal at Seattle-based architectural firm Olson Kundig. Public spaces, such as the living, dining and kitchen areas, are

in one building; private spaces, including the master bedroom, children's room and den are a short walk away in another.

One challenge homeowners face with contemporary mountain homes: making them look cozy. To offset the stark look of glass, steel and straight lines, they ask for earthy, textured materials for non-glass walls, as well as soft fabrics and warm colors for furnishings. At the Atchisons' house, Olson Kundig designed a small kitchen area with a low ceiling made of reclaimed barnwood. Living-room armchairs are upholstered in homey tartan. Red dining chairs provide a pop of color to the industrial black, brown and gray. Floors are made of brushed concrete that "really grounds you," says Ms. Atchison.

At John Thompson's contemporary home in Big Sky, Mont., the living room walls are full-height sliding doors that completely open up to the outside deck. Glass walls on the sides make the view even larger. Floor-to-ceiling windows in the master bedroom create a sense of immersion in the outdoors.

"When you're in the house, it feels like you are in nature," says Mr. Thompson, who sells real estate at Big Sky's Yellowstone Club and completed his house at Spanish Peaks, a nearby ski and golf community, in 2015. "You just get lost in the view."

The home uses highly insulated, triple-pane performance glass that keeps out both cold and heat from the sun and fends off ultraviolet rays. And it is clear enough to make Mr. Thompson and his fiancée, Cody Goettle, feel one with the landscape.

Ms. Goettle, a kinesiologist and recent graduate of Montana State University, and Mr. Thompson, who has traveled extensively in Australia, say the house was inspired by that country's contemporary coastal architecture, with clean lines, natural materials and emphasis on views.

"Glass technology is changing quickly," says Reid Smith, a Bozeman, Mont., architect who designed the \$3.5 million house. "There is a world of innovation out there that is making it easier to use those large sheets of glass."

At Steve Brint and Mark Brown's 4,100-square-foot house on the Roaring Fork River in Aspen, Colo., visitors are greeted by a shimmering, two-story glass wall exposing a floating staircase. Next to it is a glass front door that opens a view through a corridor, to pine trees behind.

The living room has sliding glass doors that open to a 900-square-foot deck with a glass railing. The master suite also has floor-to-ceiling windows. For Mr. Brint, 71, the main goal in building the modern-mountain house was a seamless transition to the outdoors. At the same time, Mr. Brint and his husband, 65-year-old Mr. Brown, wanted the four-bedroom home to feel warm and welcoming.

To create that sense of sense of comfort, Aspen-based architect Charles Cunniffe matched the glass with textured sandstone walls. The roof has wide eaves that shade outdoor living space. And he designed a lighting system that creates a warm atmosphere and prevents the glass panes from becoming large mirrors at night. The glass itself is highly insulated, preserving the heat in Colorado's cold winters.

"We can enjoy the view of the snow without feeling the cold of the snow," says Mr. Brint, a retired ophthalmologist.

With Mr. Brown, a retired accountant, Mr. Brint is in Aspen six weeks in the winter and four months in the summer, which the pair spends hiking, biking and horseback riding. They spent around \$600 per square foot building the house—around \$3 million, including outdoor space and garage—and moved in 2015. Mr. Cunniffe, the architect, says the more glass there is on a house, the more expensive it is—and modern mountain architecture needs a lot of it.

"The clients that contact us are usually looking for a maximum amount of nature and minimal separation between them and nature," he says. "As much glass as possible—that's our No. 1 request."









