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The Beauty of Nothing

With technology derived from watchmaking, Vitrocsa's structural glass systems help architects inch closer to the Modernist vision of invisible walls.

By Janelle Zara

Swiss entrepreneur Eric Joray had never seen Pierre Koenig's Stahl House in person, but its image was firmly planted in his imagination. With its transparent floor-to-ceiling walls, it represented the paradigm of lightness that Southern California's airy Modernism seemed to embody—although not without its drawbacks. “Don't build a glass house if you're worried about saving money on heating,” Philip Johnson, creator of perhaps the most iconic glass house of all, famously said.

In 1993, wanting to re-create California Modernism in the vastly different climate of his native Switzerland, Joray launched Vitrocsa, a glass curtain wall system that has become a favorite among high-profile architects for luxury residential projects, including forthcoming Manhattan high-rises by David Chipperfield, Isay Weinfeld, and Richard Meier. His goal had been both to realize the Modernist ideals of dissolving barriers between interior and exterior, and to provide thorough protection against the elements.

“Those single-glazed sliding doors—there's no way they could do that in Switzerland,” says Vitrocsa USA CEO James Tschortner, who cofounded the company's American headquarters in Los Angeles in 2009 (and took Joray to finally see the Stahl House in 2013). Midcentury glass houses were notoriously fragile, unsafe, and ill suited for climate control. But as a former maker of luxury Swiss watch components as well as an avid orchid cultivator, Joray combined his expertise in both high-precision manufacturing and greenhouses to create

Vitrocsa's sliding glass walls can be configured vertically, as in a London townhouse by Paul + O Architects (opposite), or horizontally, as used by Fran Silvestre Architects in its Atrium House in Valencia, Spain (right). Because high-insulating glass takes up 95 percent of the surface (up to 15 percent more than conventional glass wall systems), and the system uses polyamide thermal breaks, it is also extremely energy efficient.







a new dual-glazing method that would surmount these obstacles. Floating the glass to cool on a bath of molten tin, for example, relieves it of its internal tensions and gives it greater resilience.

Vitrocsa glass is so strong, in fact, that the load-bearing support is in the glazing, not the frames, allowing unprecedented expanses of uninterrupted glass. A new pool house at Norman Foster's recently acquired Martha's Vineyard estate, for example, features Vitrocsa panes 10 feet tall and 20 feet wide, Tschortner says in his light-filled Culver City office (where the walls, of course, are made of glass). While 15 to 20 percent of the surface area of a traditional window is devoted to the frame, the number is just 5 percent with Vitrocsa. "The frames," he says, "are usually no bigger than the width of my pen."

For the first few years, Joray stuck to building greenhouses, until he drew the attention of Swiss architect Andrea Bassi, who designed the Vitrocsa 3001 window in 1996, which led to its first use in residential projects. Gradually, Vitrocsa's popularity grew to an international level, with its website boasting "over 30,000 Vitrocsa units," "over 1 million square feet of glazing, installed in over 30 countries—without a single failure."

"We don't have salespeople," says Tschortner, who oversees projects in Canada, the United States, and Mexico. "Architects are our salespeople," he adds, with not a hint of boastfulness in his voice. One of Vitrocsa USA's very first projects was in fact for a Philip Johnson

property: Roger Ferris + Partners' 2009 pool house and gallery addition to Johnson's 1953 Wiley House in New Canaan, Connecticut. The brand was an ideal fit for obvious reasons, including both its resonance with Johnson's aesthetic purity and its deference to it. "Vitrocsa is one supplier that really recedes into the background," says Justin Towart, an architect at the firm, "so that the focus can really be on the Wiley House"—a sentiment Johnson would have surely appreciated.

Vitrocsa is, paradoxically, frequently photographed and yet barely seen, thanks to this aesthetic of invisibility that strikes a chord with minimalist architecture (as well as the occasional farmhouse renovation or faux-Italian villa). It was the ideal choice for one exceedingly minimalist Valencia home by Spanish architect Fran Silvestre, where all distractions, including electrical outlets, kitchen appliances, and the water source for an outdoor shower, have been hidden from view. Architects Peter Marino, Richard Meier, and Eduardo Souto de Moura are all repeat clients.

The inevitable drawback to popularity, however, is imitation. "We recommend Vitrocsa products are only purchased from approved dealers," the company's website warns, fearing association with lower-quality products. "We can't stop anyone from using the idea of glazing as a structural system," says Tschortner, although Vitrocsa now holds a total of 29 patents on its other products, including the invisible sill and the ball-bearing 4x4 track system, both of which glide seam-

lessly with the behind-the-scenes precision of the parts of a Swiss watch.

Today, Vitrocsa systems come in a variety of forms that slide, rise and fall, pivot, and turn (although the last option is not yet available in the United States, according to Tschortner, who says he receives phone calls requesting it daily). While their core technologies have not changed much over the years, the milestones have been many, measurable in the types of environments they have been able to go. After originally demonstrating the potential for a glass wall in the unlikely setting of the icy Swiss Alps, Vitrocsa has proved itself suitable for hurricane-prone Miami as well. Since 2014, Vitrocsa has been not only Dade County Hurricane Impact rated, but is also the world-record holder for the largest pane of hurricane-resistant glass.

The ongoing building boom in New York City has opened up what Tschortner calls a "new era" for the company, which he attributes to "the economy on the one hand, and then this whole new orientation toward contemporary architecture." Vitrocsa glass will soon appear in David Chipperfield's The Bryant, Isay Weinfeld's Jardim, and Richard Meier's as-yet-unnamed high-rise on the East River—all of which use sweeping views through the barely-there windows as major selling points for extremely expensive units.

"When you look at a Vitrocsa door, you're not looking at the door, but beyond it," says Tschortner, who insists that he's not selling windows and doors. "What we really sell is nothing." ■

For the Los Angeles flagship store of The Row (opposite), Montalba Architects used the Vitrocsa Invisible Wall system to frame the atria and bring natural light into the space. Thousands of exclusive Swiss-made components and precision assembly in the United States (right) allow architects to install the frames flush with the floor and ceiling. Because all the components—including locking systems—are concealed, the walls offer additional security.

