

THIS SPREAD REHAU offers window solutions that are quiet and energy-efficient.



THE PERILS OF NOISE

When you're inside a building with **high-performance windows**, you won't be troubled by the sounds of the world outside. But many people around the world aren't so lucky—and they may be paying a price. Researchers have found that children exposed to loud environmental noise, such as airports or roadways, over time suffer from cognitive difficulties.

They report poorer memory, reading ability, and academic performance on standardized tests. In adults, chronic noise exposure has been linked to everything from sleep disturbance to cardiovascular disease. One study found that adults living in an area with high traffic noise were 25% more likely to report symptoms of depression. As this growing body of research makes clear, noise pollution is a real threat to health and well-being.

Seamless Comfort

High-performance windows block sound and keep interiors just the right temperature

By Margaret Poe

Trends ebb and flow.

The hot new buzzword on everyone's lips? It'll be replaced with a new one tomorrow.

The same goes for this season's "it" color or look. But one thing that won't go out of style?

Comfort.

"In this day and age, it's the number-one word," says **Bruce Brecht**, an account manager for **REHAU Window Solutions**, who has nearly four decades of experience in the building industry.

More than anything else, a demand for comfort is driving decisions in both the residential and commercial window

markets, he says. Because the ultimate respite from a loud, fast-moving world is to come inside to a serene environment that's exactly the right temperature—neither too hot nor too cold.

The secret to achieving that level of comfort? A window in which every element, from the frame to the fusion-welded corners to the seal, works together to create a superior performance.

Thanks to decades of experience crafting fenestration solutions, REHAU has access to the latest developments in polymer technology. As a result, the company is constantly improving upon



its products in search of the next great solution to build a more comfortable environment.

ONLY THE BEST

REHAU's RAU-FIPRO™ material can be found in the GENEО® tilt-turn system, for example, and utilizes a proprietary glass-fiber reinforced formulation that substantially reduces the need for steel reinforcement. Multi-chambered window design optimizes the thermal performance, and high-performance compression-seal gaskets create a performance seal, says **Randy Hoover**, design and engineering manager at REHAU.

While tilt-turn windows have long been popular in Europe, U.S. architects are increasingly turning to them as they search for greater thermal performance, Hoover says. Compared with a tilt-turn window's compression seal, the sliding system in a single- or double-hung window "doesn't come close" to the same performance, he says. Thanks to these developments, the air infiltration



WHAT'S INSIDE?

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with a REHAU window is “crazy low,” as Hoover puts it.

The multi-point hardware offers a 360-degree seal around the window, Hoover says. And the systems are designed to incorporate high-performance insulated glass, which further enhances comfort. “We’ve gotten to the point where the sky is the limit, with glazing technology and GENE0 combined,” Hoover says.

Out of the box, a GENE0 window offers a seal like that of an airline window, Brecht adds. That compression seal also keeps out unwanted sound. That’s essential in projects built in chaotic urban environments or adjacent to airports, rail lines, or highways, he says. High-performance windows completely block out those sounds so occupants can concentrate—or sleep—in comfort.

And a strategy to combat sound intrusion isn’t one size fits all, Hoover notes. He says in many cases, architects will choose tilt-turn windows on the side of the building facing the largest source of noise, like a runway. They could then use a double-hung window on the other sides, where there’s less need for sound reduction.

The passive house movement is driving a lot of interest in these high-performance windows, Hoover says. But without a tight building envelope, even the best windows won’t help you meet those standards, he notes.

“If every facet of that envelope build is not up to the same standards, you’re doing yourself a disservice,” he says. “The ultimate thing is to make the occupants comfortable. That’s really what it comes down to.” **gb&d**

REHAU BY THE NUMBERS

0.15

U-value achievable with triple-pane GENE0 tilt-turn window

0.36

U-value achievable with triple-pane aluminum window

UP TO 50%

Increase in energy performance with a REHAU GENE0 window, vs. comparable aluminum window

UP TO 55%

Reduction in installation time with GENE0 window, vs. comparable aluminum window

UP TO 25%

Reduction in noise with GENE0 window, vs. comparable aluminum window