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Door hardware: An architect's perspective

We recently sat down with Marceli Botticelli, an architect with Payette, to get her perspective on the issues architects face when specifying door hardware—and what can be done to ease those frustrations.

The issues Botticelli experiences really come down to one struggle: the constant balancing act of aesthetics, security and safety needs, code requirements and product integration. At times, particularly on large commercial projects, it can be difficult to find a product that looks good AND functions like it's supposed to AND adheres to the necessary building codes AND integrates with the other products. Let's face it—it's a frustrating game of give-and-take.

Invisible is best

It's no surprise that aesthetics are a primary consideration.

"Architects like thin profiles and abstract designs, so door hardware by nature can be in conflict with that," she shares.

Even more, Botticelli says, many architects don't view hardware as a design element, so from their perspective, less—a lot less—is more appealing.

"We know hardware serves a purpose," she says, "but we really want it to disappear from the look of an opening as much as possible."

Some hardware components, such as door closers, have accomplished that. Door closers have become more sophisticated in design in recent years, with a number of concealed options now available. But there are other components—panic hardware, for example—that don't really lend themselves to a concealed design. And they can be a point of contention for architects.

"Panic bars are important and necessary because of life safety, but they are clunky and obtrusive," Botticelli says.

Some manufacturers have tried to make panic hardware with a more minimalist look, she says, but those have not fared as well on functionality and durability—which highlights the difficult balancing act that manufacturers, along with architects, strive to achieve.

Safety, security and codes

The level of security needed on an opening greatly impacts what type of hardware is used. How you secure a main perimeter door varies greatly from an interior one. And the type of interior space—storage, classroom or highly sensitive areas, such as a lab or data center—also dictates the hardware used. Codes must also be factored in. Is it an area of assembly? Is the opening fire-rated? Does it meet the accessibility requirements? All of these considerations directly influence the type of hardware that can be used on a door.

"This is where it can get sticky," says Allegion Hardware Consultant Greg Thomson. "We want to help architects keep the flow of their desired aesthetics, but we also have to make decisions based on the way a door needs to operate and the required level of security."

As a result, the hardware solutions for multiple openings may be different depending on the space, security needs and required code implications.

"I had a project in an academic setting with hundreds of different doors. There were so many different functions that needed to be accomplished, but hardware that fulfilled all the needs didn't exist so we had a mix of solutions and weren't able to get the seamless integration we desired," says Botticelli.

Botticelli is quick to point out that the balancing act of aesthetics, security, codes and integration is anything but easy.

"The issues really go beyond door hardware," she says. "It affects the opening as a whole. It would be useful to have architects collaborate with manufacturers of door hardware, doors, frames, etc. so we could come up with more comprehensive solutions."

Thomson agrees that some cross-industry collaboration would be useful.

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"With hardware for glass doors, for example, there are big gaps in product functionality because of changes in code," he says. "This is a huge issue in both construction and design."

The perfect collaboration

The key to navigating this balancing act is collaboration with a knowledgeable architectural hardware consultant. This certainly was a benefit to Botticelli, who worked closely with Thomson.

"Greg was very knowledgeable," Botticelli says. "He thought outside the box and stuck with me to come up with solutions that would help us achieve our goals as best we could."

Key to their successful partnership was the starting point.

"It's always ideal if an architect brings in the spec writer early in the process, such as when schematics are being done," Thomson says. "This is when security and door design decisions are being made. While products may not be specified at this point, we can still provide guidance on whether or not something can be done or what options are available to accomplish an objective."

Thomson says there are a series of selections an architect makes before door hardware that directly affect the hardware that can be used. These selections include door material, profile, thickness, style dimensions and frame material.

"These decisions can have a domino effect," he explains. "The sooner we're involved, the more likely we can achieve the architect's exact vision."

Thomson says good collaboration involves open communication, lots of questioning and even drawing.

"Sometimes, I'll ask the architect to sketch their vision for an opening," he shares. "When I can see what they want it to look like, I'm better able to recommend the products that will help us accomplish that goal."

Marceli Botticelli joined Payette in 2006, and has impacted several projects, particularly in the Construction Documentation and Construction Administration phases. Botticelli received her B.S. in Architecture from the Federal University of Rio de Janeiro, Brazil in 1995. Given the opportunity, she would redesign the mango and the avocado; both to have smaller seeds and more flesh. An avid listener of podcasts, Botticelli tunes in to The Moth, Craftlit, QN and Cast-on.

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