

Jack of All Trades

by Ellen Rogers

"Designers are not interested in settling when it comes to fire-rated glass and framing. In the past they may have been willing to accept aesthetic limitations, but not anymore."

**—Tim Nass,
Safti First**

Over the past decade a lot has changed with fire-rated glass. Once thought of primarily because the codes mandated its use, the market has evolved to include a range of product types that can fit into a host of applications, including interior, exterior, impact-rated—even decorative. Thanks to industry growth and technological advances, architects are finding more and more opportunities when it comes to designing with fire-rated glazing. And this product segment is becoming one capable of more than just resisting or restricting fire and heat—it can even add to the overall aesthetic, design and performance of a building.

Product Evolution

Those in the fire-rated field point out that technological advances have allowed architects to incorporate fire-rated glass more and more into their designs.

"Designers are not interested in settling when it comes to fire-rated glass and framing," points out Tim Nass, vice president of national sales with Safti First in San Francisco. "In the past they may have been willing to accept aesthetic limitations, but not anymore. Like conventional glass we are held to the same high standards and we are being asked to provide empirical data to support our product's ability to be fire rated, but also incorporate sound attenuation, high thermal performance, hurricane impact and in some cases even blast loads. Fire-rated manufacturers need to have multi-faceted systems that meet an array of aesthetic and physical demands."

And as Kristi Davis, Midwest regional sales manager for Vetrotech Saint-Gobain, notes,

"There has been a shift from fire-rated glass as a component to as a complete system solution of fire-rated glass combined with optimal framing systems to meet the code requirements of the application,"

Mitch Fine, a partner with WRNS Studio in San Francisco, has worked with fire-rated products and says he has seen how the products are changing.

"We have the impression that fire-rated glazing



is becoming slightly less cost-prohibitive than it was in the past," says Fine. "It also seems there are more options regarding frame detailing, glass transparency and sound-proofing."

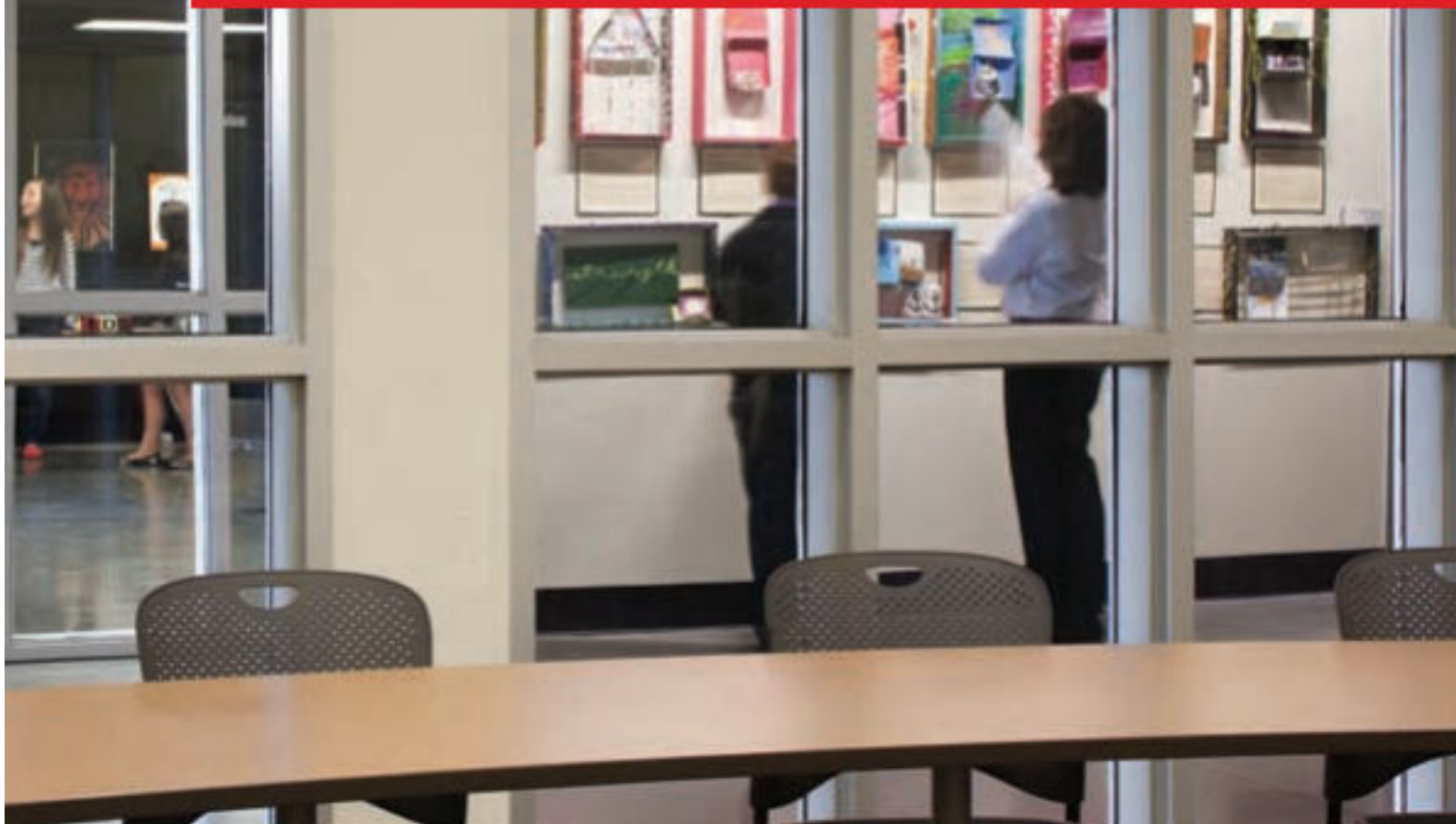
What Architects Want

When it comes to specifying fire-rated glass, architects are often looking for materials that will add to the aesthetics of their design. Innovations and changes in fire-rated glass allow them to incorporate the requirements of fire-rated materials, while still creating a visually appealing design.

According to Nass, transparency is at the top of architects' lists.

"They are looking for more clear views and they want the products to be as transparent as possible. The architects are becoming more and more code savvy because they want to incorporate products that open their spaces up more and more," he says. "The architects are beginning to grasp the difference between the protective and

From Aesthetics to Performance, Fire-Rated Glazing Tackles Multiple Demands



resistive product categories and are looking for the appropriate product for the application."

He adds that at his company they are starting to see more specifications calling for resistive products. "In the past specs were really dominated by laminated ceramic. Now, there is a greater demand for products that can prevent the transfer of radiant heat."

Diana San Diego, director of marketing with Safti First, says it's also common for architects to ask them to match the look of other non-rated glass and framing systems to keep a unified, consistent look.

"Fire protection that is hidden in plain sight, so to speak," she says. "Having large, transparent, clear view areas and framing systems available in virtually any finish always helps in terms of giving architects the maximum fire safety and design freedom."

Daniel Poling, account manager for Schott North America Inc., says some of the most signifi-

cant changes he's seen relate to the aesthetics of fire-rated openings.

"Architects are demanding products that fit into the natural design of a project," he says. "This includes unobtrusive window and framing solutions and glazing products that appear more natural."

He adds, "We don't see a lot of requests for new functions as much as we see requests for new forms. Architects are trying to push the design envelope by going bigger or having the fire-rated opening blend in with the rest of the glazing on a project."

However, from the architectural perspective, Fine admits that at his firm there are still deterrents that keep them from specifying fire-rated glass, specifically, the high cost historically associated with it.

"In fact, we aim to not have to use fire-rated glass, and generally modify our designs to make that possible," he says. "There are times when we need to use it; and at that point we are mainly

SuperLite II-XL 45 in SAFTI Fire HM framing was used to add transparency and light to exit corridors at High Tech Middle School in Chula Vista, Calif., while still meeting the fire-rated requirements of the application. The project was designed by Studio E Architects and Vision Systems was the contract glazier.

continued on page 24



Jack of All Trades

continued from page 23

Aside from achieving fire ratings, this University of Michigan Law School building needed its glass to help preserve the historic design.

looking for less bulky frame details, good transparency, and reasonable cost."

Hot Trends

In addition to the growing move toward transparency, there are also a number of other fire-rated glazing trends. For example, while most commonly used in indoor settings, fire-rated glass is also moving more into exterior applications.

"Some common scenarios include buildings in close proximity to property lines, areas leading into parking garages and wild fire areas," says San Diego.

But not all trends are aesthetic-related. She says as part of an overall trend in building products, her company has seen an increased demand for American-made (or locally manufactured) products.

"Glass is no exception, and now fire-rated glass and framing can contribute to this, whether it's meeting Buy American or LEED MR 5.1 or 5.2 for locally produced materials."

For some, though, trends aren't always positive. According to Poling, some current ones have also been cause for concern.

"Over the last [few] months we [have been] hearing stories of non-certified companies applying films and/or laminations to products such as wired glass. I think it is important to consider where you are sourcing all of your life safety materials. Will those sources be there if and when you need support? We strongly believe, if it doesn't have the proper stamp on it then don't recommend using it."

And for Fine, while low costs top the list of must haves when fire-rated glazing is necessary, he says they also like to see a seamless aesthetic with glazing systems that may be directly adjacent to

the fire-rated installation.

"We see a trend with the framing systems with thinner and thinner profiles, which is very important to us. In the past, the framing systems tended to have profiles that were very wide but that seems to be improving," he says. "We've also noticed that the fire-rated glazing products are becoming clearer, as opposed to the amber or yellowish tint that they used to have. And obviously it's important to be able to get custom colors so the framing systems match existing installations."

Code Matters

While products may be evolving to offer more aesthetically, their significance to a building's construction still comes down to their fire-rated performance attributes. Building codes have seen numerous changes over the past decade and experts agree that the industry can expect this to continue.

For example, one change in the 2012 International Building Code (IBC) is in Section 703.4, which clarifies that the fire-resistance rating of glass and other building materials must be established without the use of automatic sprinklers or any other fire suppression system.

San Diego says it's also important for architects and specifiers to know about the updated Chapter 7 tables in the 2012 IBC.

"For the first time, the IBC specifically makes distinctions between fire-protective versus fire-resistive glazing, their allowed applications and most importantly, their limitations," she says, explaining that these changes were done to make it easier for designers, code officials, and installers to clearly categorize and apply fire-protective and fire-resistive glazing.

She notes, though, that these are not new code requirements, but rather a clarification of the 2006 and 2009 editions of the IBC.

"Even though the new tables will not be adopted locally until jurisdictions accept the 2012 IBC, they are useful today in understanding the 2006 and 2009 IBC glazing requirements. The requirements contained in the new tables have been in effect since the 2006 IBC, and conform to what NFPA 80 provided in the 1999 and 2007 NFPA 80 editions, which are incorporated by reference in the 2012 IBC," she says.

Also concerning codes, Ron Leiseca, eastern regional sales manager for Vetrotech Saint-Gobain, says the role of ceramics is decreasing due to limited performance capabilities.

"As their role in rated applications of 60 minutes is phased out by code clarifications—NFPA and ICC have both clarified that ceramics are extremely limited to very small areas in these ratings—architects [will have to] widen their consideration to alternate materials that can offer more capabilities without greatly affecting budgets."

And when it comes to code changes, Poling adds that almost every state, excluding Illinois, has adopted a 2003 or newer edition of the IBC.

"This eliminates wired glass in areas that require a safety glazing product," he says. "This is by far the most important change we should all be aware of."

Multi-Tasking

As architects continue looking for glass to provide multiple performance abilities, products, too, will continue to evolve to meet these changing needs. As San Diego points out, "all of these multi-tasking, fire-rated glazing products were created to meet the demands of the architectural community." And that's a movement the industry can expect to see more of in the years to come. **AGG**

Ellen Rogers is the editor of the *Architects' Guide to Glass & Metal* magazine. She can be reached at erogers@glass.com or follow her on Twitter @AGGmagazine and like **AGG** magazine on Facebook to receive updates.

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