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5 Myths About Fire-rated and Protective Glass

By Jeff Yoders, Senior Associate Editor

Jeff Griffiths, director of business development at San Francisco-based *SAFTI FIRST*, represents the manufacturer of fire-rated glazing on numerous industry technical committees and assists installers and specifiers on the proper use of fire-rated glazing.

Here he shares five common misconceptions he sees regularly on the specification and use of fire-rated glass.

This wall assembly at California State University, Fullerton, provides 2 hours of heat protection. Because radiant heat protection is provided by fire-resistive glazing, the entire wall can be made of fire-rated products.

1 My building project has sprinklers specified, so I don't need fire-rated glass or other fire-rated interior products.

There's a perception among architects and some code officials that the presence of a sprinkler system waives the need for fire-rated glass. This is an example of a little knowledge becoming dangerous. Past encounters with a particular application that warranted an exemption can easily get misinterpreted into a blanket concept. There is still a strong belief among most within the building industry

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This 60-minute, temperature-rise door assembly at California State University, Fullerton, has glazing and a frame that are both tested to meet the ASTM E 119 standard.

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Platt Byard Dovell White Architects specified 120-minute fire-resistive glazing for the Reece School in New York to enhance the building's transparency while still protecting the occupants.

that passive and active fire protection work hand in hand. This is just one of many examples of a belt-and-suspenders approach to assured performance within standard construction practices.

2 Fire-resistive glazing will satisfy all the requirements of ASTM E 119, so that's all you need to specify.

There are basically two types of fire-rated glazing: fire-protective and fire-resistive. Fire-protective is intended to contain smoke and flames only. Fire-resistive insulates against the spread of heat. ASTM E 119 is a test standard used to determine a product's ability to do so. There is growing support among individuals in committee code development, especially among fire service professionals, for the greater use of fire-resistive glazing. Modern building materials and furnishings are incorporating an ever-increasing amount of petrochemical derivatives that pose an increased risk of fire hazard. The widespread use of adhesives in laminated building components is just one example. The heat generated by these materials can quickly cause spontaneous ignition of surrounding materials if not contained. Fire-resistive glazing can stop the rampant spread of heat, resulting in increased personal safety and reduced property loss.

3 Fire-rated glazing doesn't qualify as safety glass, so I can't use it.

Fire-rated glazing has to comply with the same impact-resistance standards as do other types of glass. Wired glass has lost all of its exemptions from impact standards through code changes adopted as part of IBC 2003 and 2006.

4 If unspecified by the architect, window and door glass decisions can be left up to the contractor or fabricator.

Based on my involvement with the Window and Door Manufacturers Association, it appears that more and more door manufacturers are getting involved with glazing, especially fire-rated glass. In large part this is due to installation issues arising in the field and the manufacturer being held accountable. This led to the recent change in NFPA 80 requiring third-party oversight of component installations in doors at the job site or in a fabricator's shop.

5 ASTM E 05 requires a hose stream test to gauge structural integrity during a fire, so if it passes, I can be assured the products I'm specifying will hold up in firefighting conditions.

No. In fact, the commentary following current National Fire Protection Association test standards that include the hose stream test clearly states that it is not intended to replicate real-world fire-fighting procedures. Spraying water from 20 feet away does not approximate in any way the effects of fire-fighting tactics within the average building corridor. The use of the hose stream is an imperfect attempt to check the structural integrity of building components. It took the place of swinging weights, which was a haphazard means of testing floors and walls. Based on my conversations with fire service professionals, when it comes to fire-rated glazing and fire-fighting in general, the containment of radiant heat within the early stages of a fire is of far greater concern than the structural integrity of structural components. The heat is what causes spontaneous combustion and the rapid spread of fire. **BD+C**