

Wearing a Label

As the Fire-Rated Labeling Debate Continues, the Glazing Industry Risks Being Labeled as Divisive

Megan Headley

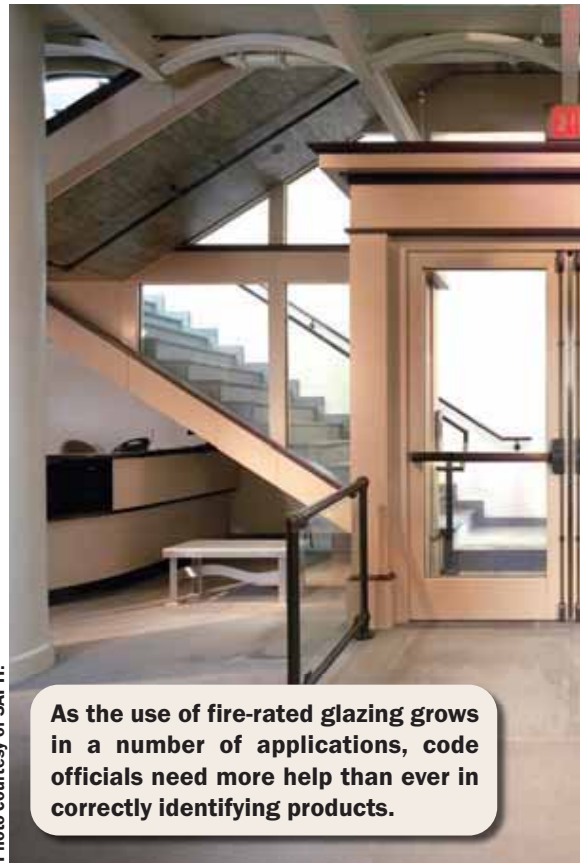


Photo courtesy of SAFTI.

As the use of fire-rated glazing grows in a number of applications, code officials need more help than ever in correctly identifying products.



The current system for labeling fire-rated glazing has been questioned and reevaluated since day one, and now the International Code Council is stepping up to see if the issue can be sorted out.

Photo courtesy of TGP.

In July the International Code Council's (ICC) Code Technology Committee (CTC) resolved to research standards for marking the rating of fire-resistance and fire protection glazing (see *July 2008 USGlass*, page 28, for more on the meeting that led to this decision).

The ICC has required fire-rated glass products be labeled since 2003. So why, five year later, is a discussion still being held about how to label these products? Have fire-rated glazing (FRG) products changed so drastically in that time? Have opinions shifted? Have code officials found the existing system too difficult to decipher?

That last point is one frequently cited by those FRG manufacturers in favor of a new system, and an argument derided by proponents of the existing system. The only issue on which all agree in principle is that code officials need some form of assistance when it comes to enforcing the appropriate installation of FRG products.

Does the current labeling system really help the code officials? Or is the ongoing debate simply hurting the use of FRG?



“It doesn’t need to be reevaluated when it’s been accepted by the people who need it.”

—Bret Penrod, Pilkington

Doing It for the Code Officials

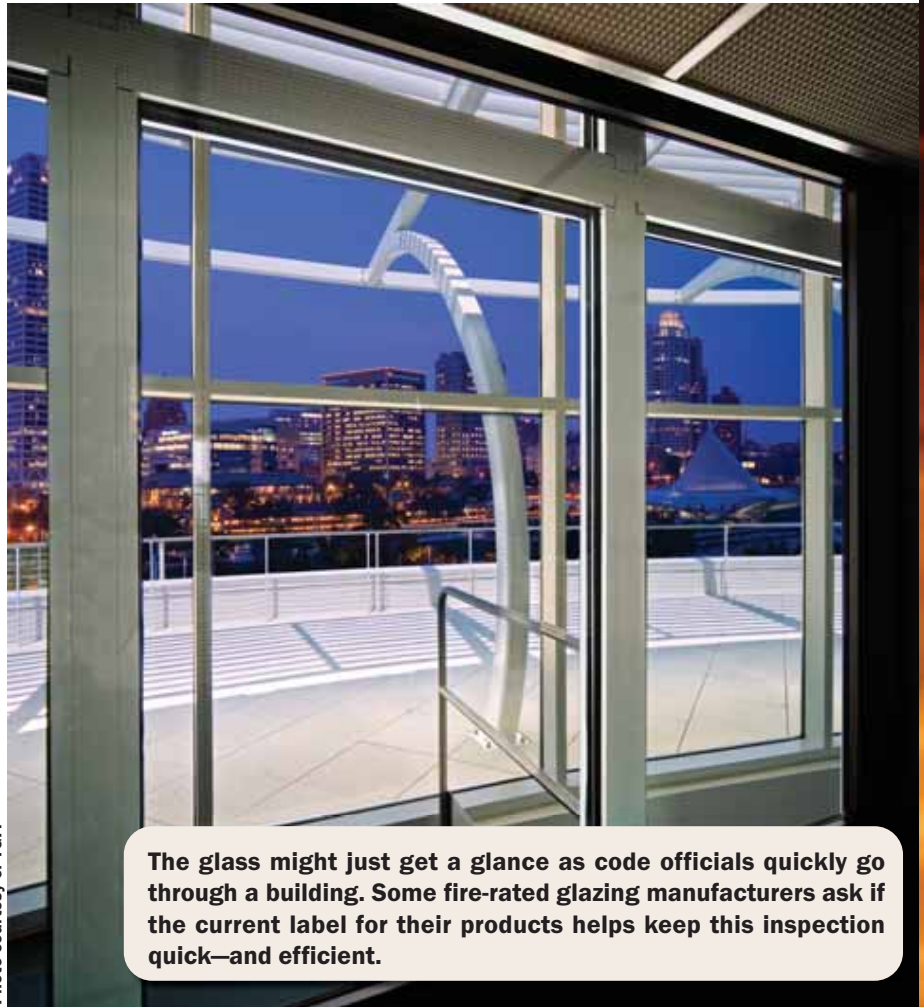
Pilkington initially spearheaded the introduction of a labeling system into the International Building Code.

“Our feeling was that the code officials needed to know what product goes into what application, to make sure the code inspector can look at a label and quickly ascertain if it’s the right product or not, being that FRG is still relatively new on the market,” says Bret Penrod, general manager of fire protection for Pilkington North America in Toledo, Ohio.

The International Building Code’s label requirement was followed in short order by a corresponding requirement from the National Fire Protection Association (NFPA).

“It was intended to include information on the label so that the code official could determine at a glance what type of FRG they were dealing with,” says Thom Zaremba, an industry consultant with Roetzel & Andress in Toledo, Ohio, who has represented Pilkington on FRG issues.

“We thought that there needed to be



The glass might just get a glance as code officials quickly go through a building. Some fire-rated glazing manufacturers ask if the current label for their products helps keep this inspection quick—and efficient.

a more clear system on how to identify products and where products should be used in a real world installation,” adds Devin Bowman, national sales manager for Technical Glass Products (TGP) in Kirkland, Wash.

Currently, if the glazing meets fire, temperature rise and hose-stream testing specified in ASTM E119 for a fire-rated wall, it is labeled with a “W,” followed by the time in minutes of its fire resistance. If the glass meets both the fire and hose-stream testing specified in NFPA 257 for “opening” protectives, the glazing will be labeled with an “OH” for “opening” and “hose-

stream” tested, followed by the time in minutes of its fire-protection rating. If the glass meets the fire-testing specified in NFPA 252 for a “door,” it is labeled with a “D.” Neither 20-minute doors, nor the glass in them, need to meet the hose-stream test when other protective openings do. Because some doors limit temperature rises to 450 degrees Fahrenheit during the first 30 minutes of the fire test, the labeling system also adds an “H” designation if the glazing in a door does meet the hose stream test or an “NH” if it does not. In addition, it adds a “T” if the glazing can meet the temperature rise limitation

and an “NT” if it cannot. The time in minutes that the glazing is fire rated is also included on the label (*for more information, see April 2006 USGlass, page 70*).

Not everyone finds this to be a simple system.

“I just don’t think it fits within the confines of what we’re trying to get across to the building official, the architect and anybody else,” says Scott Foote, an independent consultant for AGC InterEdge Technologies LLC in Sausalito, Calif. “The authority having jurisdiction should be able to look at that glass and immediately identify it as a product that belongs in that par-

ticular location and I don’t think it answers that question.”

To answer that, changes to the code have been proposed on several occasions in the past. One would change from the D-O-W system to the use of P for fire protective glazing and R for fire-resistant glazing—rather than labeling the glass for location, it would be labeled for performance.

“We favor what’s been proposed as a change to the code simply coming up with a designation of P for protective and R for resistive and then with a time duration tied to that,” says Jeff Griffiths, director of business development for SAFTI FIRST Fire Rated Glazing Solu-

tions, a subsidiary of O’Keeffe’s Inc. in San Francisco. “That simplifies everything and, within the context of the code, there is a clear line of what’s the appropriate application of protective versus resistive.”

“Generally speaking we have two types of products in FRG,” explains Len Brunette, president of Vetrotech-Saint Gobain in Auburn, Wash. “We have fire protective products, those products that are not required to block radiant heat, and we have fire resistive products, which are required to block radiant heat.”

While the intent of the proposal may be to simplify matters for code officials, it has certainly made things infinitely more complicated for FRG manufacturers.

Code Confusion


Whether a label needs to be used hasn’t been the real question of late; now that it’s here, manufacturers say they want to find the best way to make the code officials’ job easier.

“What I hear from code officials is, ‘My code official has to run through this building, he’s got X number of minutes to make an inspection of it, and he’s probably looking at glass, he’s looking at electrical, he’s looking at plumbing, he’s got all these things to be concerned with, how do you, Mr. Glass Manufacturer, make it easier for my inspectors to identify products,’” says Brunette.

While to simplify the process for those officials seems an admirable enough goal, there’s a difference of opinion on whether this is a goal code officials have requested. The issue has been present at code hearings, but not necessarily brought up by the building code officials.

“Since this system has been live we really haven’t had any feedback that this is a confusing system or they’re having any problems using the new label,” Bowman says.

As Penrod points out, “The code officials are the ones that voted for it at the



Fire-rated glazing manufacturers and industry organizations are aiming to assist in educating code officials about this product and its labeling system.

Photo courtesy of TGP.

“... If you had an inspector that went out to the jobsite and he saw a piece of glass and it had the W, O, HS and any other letters that might pertain to that piece of material, he would have to have a scorecard to identify it.”

—Len Brunette, Vetrotech

meetings and the hearings; they're the ones that keep voting down the other proposals.”

He adds that since Pilkington began labeling its products in 2005, they haven't heard any reports of confusion.

“We've never had a complaint, nobody's ever called us to complain and say they don't understand it,” Penrod says.

Others interpret the silence differently.

“It's still never been explained to us by the proponent of this labeling how it's to be implemented, what the real logistics are and who's been looking for this labeling. Certainly the building officials aren't because our phones would be ringing off the hook at this point,” says Griffith. “The customers aren't looking for it. And the real value of the labeling still escapes most of the manufacturers—it just adds cost, for one thing, and it adds another level of responsibility to the customer.”

Confusion seems to occur on a case-by-case basis, as many professionals involved in this issue do report stories of building professionals confused by this system.

“I've talked with code officials and they tell me that, quite honestly—and this is just our point of view,” Brunette says, “but if you had an inspector who went out to the jobsite and he saw a piece of glass and it had the W, O, NH and any other letters that might pertain to that piece of material, he would have to have a scorecard to identify it. Whereas if he has only the P or the R he needs to know ‘What am I requiring in this opening?’”

“A couple months ago I was doing a training of fire service marshals,” recalls Kate Steel, a code consultant who represented the Americas Glass Association's (AGA) Fire and Safety Glazing Council

(FSGC) in this last code cycle, “... and I'm trying to go through this marking system and they ask, ‘How are we going to understand this in the field? How are we going to lean down and look (realizing how many panels per floor they have to look at)? How are we going to do this? Number one, we need a cheat sheet, so we know what the code says and we can line the markings up. And then we're physically going to have to be down there trying to decipher D, H, T, OH? It just isn't going to work for us.’”

Steel says that she's also heard feedback that some parts of the system are counterintuitive to the building officials who must scan the letters.

“Now I don't know what you think when you see a W on a piece of glass, but I can tell you what I think and a lot of other people think: ‘Oh, it's okay for a window.’ That doesn't mean to them

what it means to me,” she says.

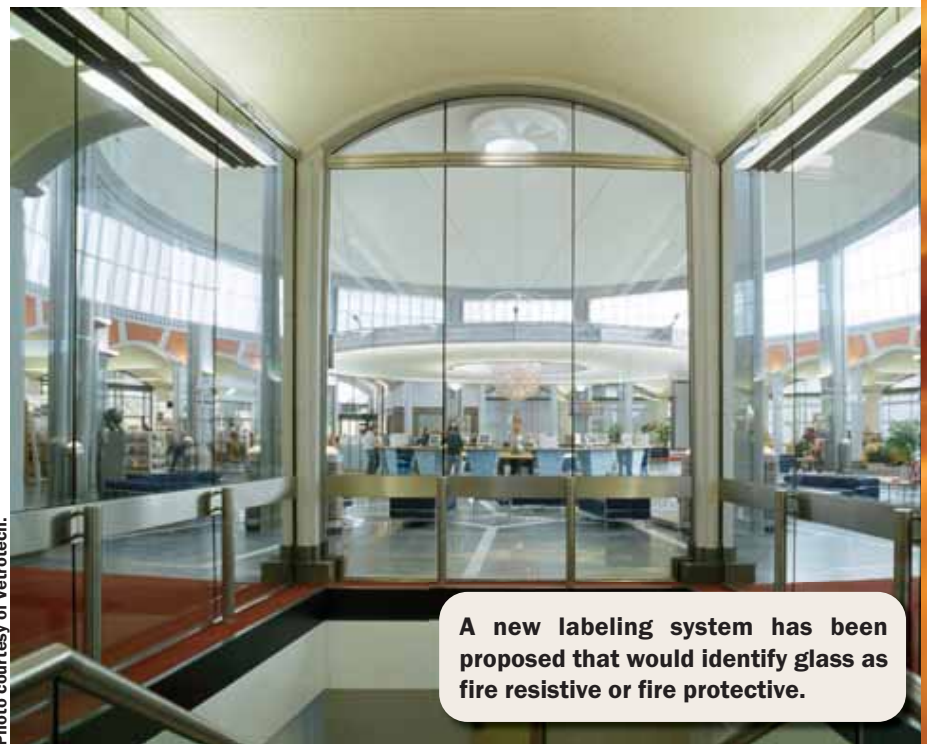
“The current system that has been set up is just ridiculously difficult and is very confusing to those with a lot of experience in the industry so you can imagine what it's like for someone with very little experience,” adds Mike Grossman, manager of technical services of Vitro America in Memphis, Tenn.

But as Bowman points out, that's the nature of change, and it's nothing a little training can't fix down the line.

“I think change in general can be confusing,” he says. “I think once how the system works is explained to them it's pretty easy to understand.”

TGP provides presentations to more than 2,000 code officials each year about a variety of topics, including the code requirements. And groups such as the Glass Association of North America (GANA) and the AGA are aiming to assist in educational efforts.

“We're part of the AGA and I know between us and GANA, both groups are trying to put together an education program to I hope go out mutually to the code bodies out there and educate,”



A new labeling system has been proposed that would identify glass as fire resistive or fire protective.

Photo courtesy of Vetrotech.

Brunette says. "I think we try to [educate] currently with presentations to the architectural community. But I think oftentimes it's a little overwhelming to the architectural community because of the array of products that's currently available in the marketplace."

Fanning the Flames

The proposed change to the code would label FRG for its performance rather than a location.

"Often times I think, as a manufacturer, we don't know where the glass is going when people order it from us," says Diana San Diego, marketing and communications manager for SAFTI FIRST. "But we know if it's right for a protective application or resistive application."

But Zaremba says of the current system, "It has nothing to do with where the product is going to go."

"We include those designations if the product is able to meet them," Bowman explains. "We put all those designations on the product as it's capable of carrying the designation."

"Because we have product that is appropriate for both doors and windows, it carries over into both openings," says Bowman. "It's pretty self-explanatory. Once you have a lite of glass, you know that it's appropriate for a door or you know that it can also be used in a window."

But is the current labeling system so self-explanatory?

"[Code officials] can look at the glass and they can see what tests for the glass have been completed and see what the glass is supposedly appropriate for, but, the designations on this label don't necessarily guarantee that the glass is appropriate for the particular application," Griffith says. "For instance, if you have a piece of glass that's fire-rated for 45 minutes and designated for D a door application because it's safety-rated glass, the door that it gets put in could be a 90-minute door and could require

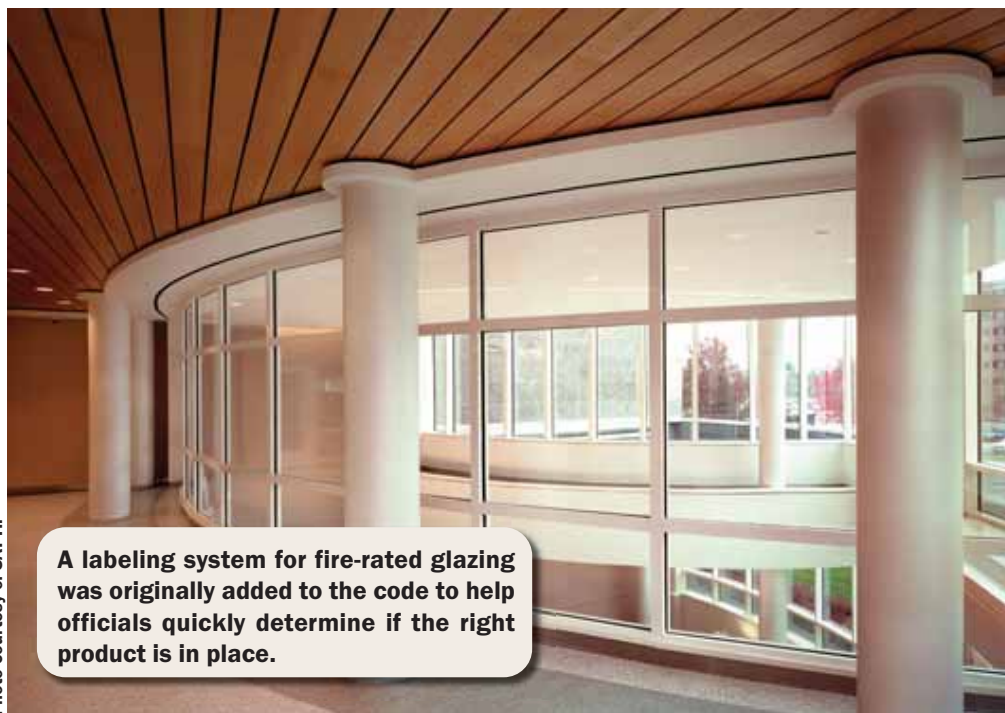


Photo courtesy of SAFTI.

A labeling system for fire-rated glazing was originally added to the code to help officials quickly determine if the right product is in place.

temperature rise protection."

Brunette adds another example.

"If you have a stairwell that door needs to be a 90-minute temperature rise door, it's a barrier-to-heat product, fire-resistive," he says. "Now it needs to block heat so we don't have heat going into the stairwell, that's your safe haven. We have products that are $\frac{3}{16}$ -inch thick that will stay in the opening for 90 minutes—they won't block any heat. Now if I put a panel of glass in there that is virtually 24 by 80, I've taken away the majority of the door itself and I've got a huge area for radiant heat to pass through. Now if that product had the letter P on it and the code official looked at that stairwell and said, 'Oh no, this has to be an R product,' he would have us change it out . . . If he saw that product in there with the R he would say 'Okay, I've got the proper product in here.'"

Zaremba argues that such issues are prevented in the very beginning, during the design.

"You don't just grab a piece of glass, haul it out to a jobsite and say 'let's see well I'll just go stick it here.' It doesn't work that way. There are plans and specifications that specify what product is used where, that's being done by the architects and engineers and the people specifying the product for the location," he says. "It really is people trying to raise confusion where really

the only way you can get confused is if you really don't understand how the system works in the first place."

A few professionals also point out that they've seen the wrong product used in the wrong application.

"Architects and engineers specify these systems for the end user and that is where the greatest confusion occurs. We need a system that gives the people responsible for design of the building a fair means to understand the systems and where they can be used," says Harold D. Hicks, P.E., FSFPE, president of Atlantic Code Consultants in Murrsville, Pa. He notes, "I [found myself recently] in a room of 30 design professionals taking a 36-hour class on fire protection and not one professional was even aware that there are labeling requirements for FRG."

"I think we've seen projects out there where we've got a product in and we look at it and well it's not the right product. So how did it get misused?" Brunette asks.

Testing, Testing

Opponents of the existing system are quick to point out the other issue under fire, so to speak.

"Frankly there are products available on the market today that do not meet the required test requirements," says Bowman, referring specifically to the hose stream test. "I think that some of

the confusion may be a result of certain manufacturers not liking the fact that this labeling system is a little more stringent and that it adds clarity to where products should be used and maybe some of their products will not be able to be used anymore.”

According to the current code, any product that's labeled for greater than 20 minutes must meet the hose stream test.

“If you have a label that has a designation for 45 minutes, as an example, it has to have an NH,” says Brunette. “Before it didn't have that and so there may have been some confusion where a code official might have viewed a lite of glass and it just said 45 minutes and if it was impact-rated it would have impact reading included on the label. Now it's much clearer—it says NH. So really there should be no product that is used in an

opening that is greater than 20 minutes that has an NH designation.”

But if any product in an opening greater than 20 minutes must have undergone an NH, isn't the labeling redundant?

“There are glazings that are on the market that ... are listed for 45 or 60 minutes but are unable to withstand the hose stream test ...” Zaremba says.

Steel points out that testing and labeling agencies typically already write out “tested without hose stream” on their labels, a designation that she says could be included alongside the R and P designations.

“It's a red herring issue because, by practice not by code, the agencies already mark it there. You'll see it on the listing book, you'll see it on the label: tested without hose stream,” Steel says. She adds, “There are some people in

this industry who want a marking to dictate whether the product can be used or not. The fairest, most objective way to do it is to identify the fire performance, and identify the hose stream performance. It's really simple.”

According to Steel, the concern voiced over the hose stream test is a distraction from the main issue, “which is why we're seeing products go in transoms and sidelites that don't belong there.”

Says Steel, “The markings should not be a way to exclude products from the market, it should be honest and accurate.”

Upper Limits

Although a glazing product can be tested for anything a manufacturer requests, these professionals say that doesn't necessarily mean it should be.

John Drogenberg, consumer affairs manager and engineer for Underwriter Laboratories (UL), explains that the manufacturer is trying to sell its product everywhere, regardless of which code is applied. “What they say is, for example, ‘I'm selling these doors to a hotel in Wichita, I've got to find out whether Wichita uses the NFPA code or the ICC code or whatever and make sure that door meets that code.’ We can test to any of the codes here, whatever they want.”

“UL will ... test for anything,” Bowman says. “You can go through and do a test without the hose stream test for a 45-minute product. They will not provide a label for that product. They are very strict about the listings that they provide.”

But according to Foote, “testing for anything” is the real problem.

“It is confusing when [a test laboratory] tests products with no upper limits and they put 60 and 90 minute labels on these products—but the codes limit those products to 45 minutes so they're testing well beyond the code requirements,” Foote says, adding “That's the real issue.”



Industry professionals who have seen instances of the wrong product in an application seem to lean toward a new label.

Photo courtesy of Vetrotech.

As an example, he explains that UL might rate a ceramic product for 60 minutes. “The codes limit for a maximum 45-minute listing on an interior basis, but because UL rated those ceramic products for an excess of 45 minutes they get to put that O on the glass and it continues the confusion in the marketplace,” Foote says.

Steel adds another example. “There’s a 60- and 90-minute rating for fire protective products that have markings for OH 60 DH NT 60 and the listing is for transoms and sidelites. None of the codes allow a fire protection-rated product in a 60- or 90-minute transom or sidelite. And that’s a huge failing of this marking system.”

According to Foote, NFPA 257 at one point had an upper limit of 45-minute rating for windows, but the restrictions were removed once clear fire-rated products came on the market. “So you can get a label that says UL-rated for 90 minutes but the building codes limit that opening to 45 minutes. And that’s where the whole confusion comes in,” Foote says.

Steel adds, “It started back in 1989 when ceramics came on the market and could test for longer than the code allowed them to be used.” While UL initially said it wouldn’t list outside code limits, that position has since changed, she says. “Since then both test agencies take the position that we just test for performance, so we’re going to list it for 60 or 90 minutes in a door, even though it’s not allowed. Right or wrong, that’s what they do, and because they do that this marking system doesn’t work,” Steel says.

But why go through the time and expense of testing if it’s not only not required but not allowed by the codes?

“It’s a marketing game,” Foote says. “As one building official said years ago when all this confusion came up, basically it’s a false sense of security. Just because you’re putting a 90-minute glazing in a one-hour wall doesn’t mean that it belongs there.”

If We Can’t All Get Along— Let the Building Officials Sort it Out

So is this an issue that will eventually be silenced as more code officials come to understand the system? Or does it need to be addressed by further research?

“It seems like it’s in place—I don’t think anybody needs to really look at it,” says Penrod. “It doesn’t need to be reevaluated when it’s been accepted by the people who need it.”

Yet the system has been questioned and reevaluated since day one—doesn’t that mean something needs to change?

Maybe. But with disagreement rife among the manufacturers, it seems unlikely at this point that waiting it out will bring an end to the issue.

According to Zaremba, “O’Keefe’s representatives had asked the Fire Rated Glazing Council (FRGC) of GANA to address this issue, which it agreed to do. After the FRGC agreed to do that, O’Keefe’s then went to the ICC’s code technology committee and asked them to look at it.”

The CTC is made up of building code officials while GANA’s group consists of glass manufacturers. Among the objectives of the ICC committee are identifying and making recommendations for the elimination of conflicts among the codes and standards. The committee also evaluates new technology or concepts that are related to the requirements being investigated. Where the new technology is not already contained in the codes, the committee may form study groups on various topics, with the board’s approval. The CTC may be composed of code officials, as well as representatives of interested organizations and professions with knowledge and experience in the issues being studied.

While the code officials are the audience for whom the label is ultimately intended, some point out that the group lacks the technical knowledge that manufacturers can impart.

“You end up having to look for two different types of people,” says Grossman. “Number one, people who know something about glass—and a lot of code people don’t. They know some general knowledge about a lot of different things but a lot of times don’t have a very detailed knowledge about certain aspects of the products. So you need somebody with that information. You also need somebody who carries a lot of weight, which the code people do simply because of their position. And if you can get both of those entities working together then usually you can end up with a pretty good situation.”

But Steel explains that the CTC will allow input from a variety of areas.

“I hope that the [ICC] board of directors will do this because this is an opportunity to have all the interests, all the stakeholders of the code enforcement community, glazing contractors, architects . . . it’s really important to get everyone to weigh in on this,” Steel says.

“To some extent I really think it should be looked at by the code officials and the manufacturers should get out of the way, because the way this whole thing got started really was from a manufacturer’s self-guided interest,” Griffith says.

It’s dissension like this that causes Grossman to worry. “The problem is, if you get any dissension among manufacturers on the floor, the code committees will use that as a reason for not passing anything because they see it as conflict within the industry,” he says. “They want unanimity. They get very worried about any kind of conflict in the industry. In this case because there was already conflict in place, it looks as if the ICC might be best suited to solve that problem.” ■

the author



Megan Headley is the editor of USGlass magazine.