In the continuing effort to uncover possibly useful trends by talking to the folks in the field, AWCI’s Construction Dimensions asked two dozen fire marshals and building inspectors around the country for their take on how contractors were doing concerning fireproofing, firestopping or any kind of fire suppression application.

Several of the fire marshals and inspectors that we questioned did not have any trouble with contractors (see the chart on page 38). When they did have trouble, it was with architects either not knowing codes or using shortcuts to reduce costs. Looking for any areas of difficulty for contractors, or shortcuts attempted in the effort to bring down costs or reduce construction times, we found that the most common complaint was contractors just not following approved plans. The second most common area of trouble was with contractors not
knowing their materials or how to use them.

**Maybe Someone Wrote It for a Reason**

“Contractors can save themselves a lot of time and money if they simply make sure they are building to the approved plans,” points out a fire chief from Colorado. “They’ll never have any problems from the fire or the building departments if they do.”

“I don’t have a problem with the construction itself, other than minor things like poke-throughs. Installing systems in accordance with their own plans is where there’s a problem,” agrees a Texan inspector.

“We occasionally run into shortcuts that seem to have, as the common denominator, a deviation from approved plans,” explains a Tennessee fire marshal. An exit that’s changed at the last minute or a kitchen system that goes in without the proper clearances being maintained. Sometimes the appropriate protection isn’t installed, and sometimes systems aren’t tested properly before we see them.”

Another Texan agrees: “One area that we have a problem with contractors and the construction field is their failing to read carefully the plans and the fire protection engineer’s comment sheets, spelling out our requirements. So when we inspect the place, they claim ignorance. Maybe it’s because contractors want the building completed as soon as possible. In their rush, their oversights cost them a lot of money and time redoing the work and paying fees.

“Maybe they need an adviser to coordinate with the inspection bureaus. Many contractors come from out of town and don’t know the procedures to follow or don’t have time to mess with them. Yet, when we get down to the inspections, I hear regularly, ‘I have another project in Houston, and you’re really holding me up bad. It’s costing me money and time.’ Yet they’re holding themselves up by failing to follow procedures or not reading the comment sheets about obtaining certain things, or maybe fireproofing a wall or covering up the wiring. We make them do it properly and they say, ‘They didn’t make me do this in Houston or Dallas,’ but I know they do.

“I don’t blame them for being in a rush. The work, they’re putting in is not bad. If I were going to give them an overall grade, it would be a ‘B,’ because sometimes they are so rushed that the work is plain shoddy: poke-throughs are one problem; sprinkler and fire alarm systems often fail because procedures and plans approved by us are not followed. When you point this out, you get, ‘I know, but we always do it this way!’

Talking to the problem with other contractors, an Arkansas inspector notes that “A half-inch pipe doesn’t require a two-inch hole. This may not be important for a regular wall in a one- or two-family dwelling, but a two- or three-R-rated wall isn’t supposed to have any holes in it.”

An Ohio inspector reckons that the way to handle this sort of problem “is to make sure that each contractor is responsible for fixing any penetrations they make in separation walls. You know the sprinkler contractor is going to drill a hole for a 2-inch pipe, and it’s going to be 5 inches in diameter. Or the electrical contractor is going to punch a whole cinder block out when he only needs to
punch out half of it for a cable tray. So either the sub trains his men properly, or the contractor hires an outside fire-stopping contractor to backfill the holes and then bills that contractor. Once they get the bill, they may get the message and train their men properly.”

**It Helps When You Know What You’re Doing**

In most cases, trouble with fireproofing is caused by lack of training. “We haven’t had any problems since educating contractors on the use of approved material for a system, such as a certain thickness floor, ceiling or wall system,” notes a New Mexico inspector. “The material has to be tested through approved laboratories, yet some contractors were not using regular drywall compound and were using insulation that wasn’t secure. The blast alone in a fire would probably have blown it out. We really crack down on the type of fireproofing used in commercial buildings.”

“When contractors in our area of Wisconsin have any trouble,” notes one building inspector, “it is with the learning curve on the requirements, product knowledge and using the correct product in the correct location. I often end up showing people in the field how to apply firestopping material in the proper locations. They are unsure whether they should be firestopping on one side, on both sides or in between the walls when they are exposed.”

A Colorado inspector agrees: “The only difficulty contractors are having with fireproofing is lack of knowledge concerning what to use and where. There isn’t much intentional corner cutting but more a misunderstanding of code requirements. Some contractors have educated themselves and are doing a very good job. The problem is general contractors who, instead of hiring the proper fireproofing subcontractors, try to do their own.”

**Shortcuts That End You Up Two Steps Back**

An Indiana building inspector was one of those happy with most contractors. “We have more trouble with architects
and engineers than with construction people because they interpret the codes so as to achieve the cheapest design. We haven’t had to take them to court, but I know architects in Southern Indiana have ended up in court for trying to save $3 to $4 per house by taking shortcuts. Using untreated lumber for fills underneath the front door is one example. It saves a buck per house, but multiplied by a couple hundred houses, and you can see the motivation. Most of our contractors know our reputation, and if they haven’t done it right the first time, they’ll be back doing it for nothing the second time. In the remodeling field, some guys come into town, collect half down and never come back. They’re the worst and are plain thieves. We have quite a few of them in court; we do catch up with them.”

An inspector from Utah has been experiencing similar problems: “We don’t have problems with contractors but architects who don’t understand the codes, and therefore don’t write the right specs.”

In a similar vein, “Contractors have the option for a certified fire protection engineer to review their plans,” explains a Texan inspector. “We’ll run into problems occasionally with these on residential structures on questions of access or sprinkler systems installed incorrectly. It’s usually something that was missed on the plan review.”

Some contractors have been taking shortcuts, however. A Colorado fire chief relates: “It’s obviously much cheap-
er to wire initiating devices to a secondary box when they are located a long distance from the fire alarm control panel. Having a slave panel and a main box is not allowed for various reasons relating to the maintenance of the system. One sub wired six different slave boxes to the main fire alarm control panel, charging his contractor considerably less than he should have in the process.

"By the time we found out what he had done, they were in a different stage of construction, and it was much more difficult for the sub to go back and do it correctly. In fact, he went out of business because he couldn't afford to do it, and the general contractor who had hired a guy who was willing to take shortcuts, had to hire another company to make it right. The general contractor lost a lot of money on the deal as a result.

"It's probably the exception rather than the rule, although all the contractors try to get away with something like that. We have a fairly good process in place to prevent it from happening. Most of the shortcuts are on a much smaller scale, with no particular common denominator.

"We've had a little more of it recently because there is so much development going on here with contractors from outside the metro area doing the work. They try some things that may have worked for them in other places and then they find out very quickly that they are not going to work here. Once they are tuned up to what we require, then everything works well."

**Working With Is Easier than Against**

A third of those canvassed had positive comments to make about the work of fireproofing contractors. "Contractors have a lot of pressure on them, yet the majority of their construction is pretty good," notes a Texan. "Architects are increasingly requiring proper firestopping, and contractors are becoming better at installing it," adds an Arkansas man. "Most of our guys are decent and do a very good job throughout. I just returned from one inspection and was
pleased at how everything was just perfect,” says an Indianan. “Contractors usually follow the approved specifications and plans pretty carefully” reports a Floridian.

A common theme expressed by fire marshals and building inspectors alike was also expressed by a Tennessee fire marshal: “We want to work with you, so work with us. We have worked very hard toward non-adversarial relationships with the construction community, without lowering standards. As a result, they’re doing a better job now than they were 15 years ago. We sit down with contractors and talk about what we can accept that doesn’t fit the letter of the code, but which they can document will work, because we know that the code is not necessarily up to the latest technology. I like contractors who will point something out to me so as to teach me something I don’t know about a project. There’s always new technology out there that we don’t necessarily know everything about. It helps when someone walks me through while I explain to them what I need.”

“Most fire marshals in the United States know that contractors are under lot of pressure from building owners or companies to get a building out,” adds a Texan. “I wish they would coordinate more with the fire marshal’s office for inspections and anything else that needs to be done. We’re both working for the same goal, it’s just that we’ve got pressures from different sides.”

Echoing the call for an understanding of a fire marshal’s position, a fellow Texan says, “Fire codes are meant to protect everybody. Our demands may sometimes seem onerous or not immediately identifiable as to why something needs to be done. Yet qualified people
have gone through very lengthy consensus gathering to arrive at these codes. When we enforce a code, we’re doing so for the safety of our citizens, including you and yours.”

“If everybody is on the same page at the start, we won’t have problems halfway through construction,” adds a Pennsylvanian.

“We’re all in this together,” insists an inspector from Arkansas. “Contractors have both criminal and civil liabilities so doing it right is better and probably cheaper in the long run. Sometimes contractors feel a regulator is against the businessperson, but that’s not necessarily true. The bottom line for all of us is to understand that when Murphy’s Law kicks in, we need to know that we designed and built a building and maintained it, so that life-safety issues were addressed properly.”

One fire marshal from Ohio offered an additional message to contractors and architects: “Fire safety should always be number one, even more important than a building’s appearance. If a client hires you with the understanding that fire safety is not an issue, you can say, ‘It’s a job, and I’m going to take it.’ But it’s a matter of integrity when you ask yourself, ‘Why am I openly putting up a one-R-rated will when I know it should be a two? Why am I installing a 20-minute door when I know it should be a 90-minute door?’ We’re in a market-driven business, for sure. But it might help to know that the European market has a different set of standards. In Finland, for instance, they design buildings for how long they will withstand a fire. They make that their first priority.”

“Keep up the good work,” exhorts an inspector from Indiana. “Ninety-nine percent of contractors are good. We only have to take a few of them to court. It’s like any industry—a few will always try to cut corners, but the majority are here to make a decent living and go about their business, not to hurt anybody.”

For anyone living in a house or working in an office, that’s probably good news.

About the Author
Steven Ferry is a free-lance writer for the construction industry. He is based in Dunedin, Fla.