



by Brent Johnson and Don Pilz

# Special Inspections: THE NEXT STOP IN FIRESTOPPING

## As Regulations Change in the Firestopping Industry, Special Inspections Are Coming on Scene to Provide Knowledge on the Subject Matter

With 2012 IBC and 2013 CBC now in effect, special inspections for firestop penetrations and joints will now be required for high-rise buildings (structures greater than 75-feet above fire department access) as well as Category III or IV buildings and/or special occupancies under Chapter 17.

### **What You Should Know**

Special inspections will require visual and or destructive testing. Destructive testing occurs when the special inspector will wait until the firestop product is fully cured and then take a “coupon” (removal of field installed firestop sealant or fire spray) of the sealant/spray to verify its depth at multiple locations at the bond lines. The bond line would be either at the penetration or the perimeter joint of the substrate interface. The special inspector would need to obtain the average shrinkage value of the material (the wet thickness of the material listed in the tested systems) and verify that the cured depth of material at the bond line meets these parameters. Depending on the condition, multiple coupons or sample sections must be taken, inspected and then properly repaired. One factor often overlooked by contractors and inspectors is that some firestopping materials can take weeks to fully cure, depending on variables like the humidity and temperature. This variation in time causes

challenges to project timelines, if not properly planned for. Recommendation: consider firestopping products that are fully cured upon installation and do not require the reliance of adhesive bond strength.

### **Who Will Perform the Special Inspections?**

Currently, there are limited requirements on who can perform special inspections but these limitations are changing rapidly. The current ASTM E2174 and E3293 Standards requires the special inspector to meet at least one of the following: have minimum requirements of at least two years of experience as a construction inspector and have education, credentials, and experience acceptable to the Authorized Authority (AA); be a quality assurance agency credited by the Authorities Having Jurisdiction (AHJ); or may meet the criteria contained in Practice E699 for agencies involved in quality assurance. The inspector may not be a competitor of any contractor and be independent from any

manufacturer, supplier, and contractor. Recently, ASTM E 3808 was developed to provide AAs and AHJs a resource to help decide who is qualified to perform the special inspections and who is not. It is possible for inspectors to get additional levels of certification like the Premier Level Certificate from the International Firestop Council or the Intertek IQP Certification. These types of certifications require a large amount of studying. They also require passing an exam and attending training sessions in person to become fully educated on the firestop industry.

### Who will train the inspectors?

Currently there is training being offered to help educate special inspectors, AHJ, architects, owners and contractors on the subject by multiple resources like the International Firestop Council (firestop.org) as well as unbiased consulting firms like FireWise Consultants (firewiseconsultants.com). The International Firestop Council is currently the only resource that has an online testing process that makes it easier for individuals to learn at their own pace anywhere in the world complemented by local hands-on trainings throughout the country.

### What will a typical inspection consist of?

Under the new ASTM Standards for special inspection, some of the biggest changes include a minimum set guideline for how much inspection of firestop should be done. Either visually during installation or post installations (destructive test) a set percentage of each type of condition, depending on the size of the building, will be completed. On top of this, documentation will play a bigger role as no inspection can be performed unless the correct tested listed system or engineering judgment has been approved by the AHJ and is presented to the special inspector before inspection. This means that accurately pinpointing all conditions well in advance and having a program in place during preconstruction to design these buildings more accurately is imperative.

### What happens if you fail an inspection?

The ASTM Standards will give the special inspector a guideline to follow when a failed inspection occurs. Depending on the type of condition when a failed inspection occurs, the condition must be properly repaired and re-inspected on top of adding an additional inspection elsewhere on the project each time a failure occurs. If a certain number of failures occur, inspection will cease and the contractor must repair and inspect their own work before any inspections can recommence.

### Potential Inspectors

For potential inspectors, the International Firestop Council has taken a proactive approach to be the leader in helping inspectors and Authority Having Jurisdiction become better educated in these code changes, inspection techniques and product understanding. Rather than just requiring attendance of a training session or individual Manufacturers Certifications, the IFC has created an 80-plus question, two-hour exam that requires 40 to 60 hours of studying, even by experienced firestop inspectors. Because of this level of detail, partnered with hands-on product training, the IFC Premier Level Certification program is a premium training program providing owners and AHJs more confidence that those special inspectors with this certificate are qualified to perform these inspections.

For complex projects, builders or owners may want to hire unbiased third party consultants such as FireWise Consultants who can assist individuals and companies throughout the country in comprehensive training to be better educated and prepared to perform these special inspections. Such third party consultants can also help architects, owners and contractors understand how the changes may affect their projects and what can be proactively done. Due to FireWise Consultants' extensive experience on OSHPD Projects, they have been selected to partner with the IFC as a local training resource, for everything from educational seminars by Firestop Product Familiarization to Hands on Special Inspector training. In addition, FireWise Con-



Special Inspectors will be able to assist and detect the differences between proper and improper firestop installation.



CEMCO HOTROD Compressible Firestopping is fully cured upon installations and seals off uneven concrete.

sultants is working with architects and contractors to help update/properly design their construction drawings, firestop submittals and building information model to ensure all firestopping conditions are properly documented well before inspections occur. This step will reduce delays and change orders during construction.

Passive firestopping is a vital life safety requirement for any building as it is the first line of defense in saving lives and is not reliant upon electricity or a water source. These new special inspection requirements will help ensure firestopping is properly installed. They will also lend themselves to new, innovated, intumescent firestopping products which will ensure proper firestopping performance for years to come. W&C

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