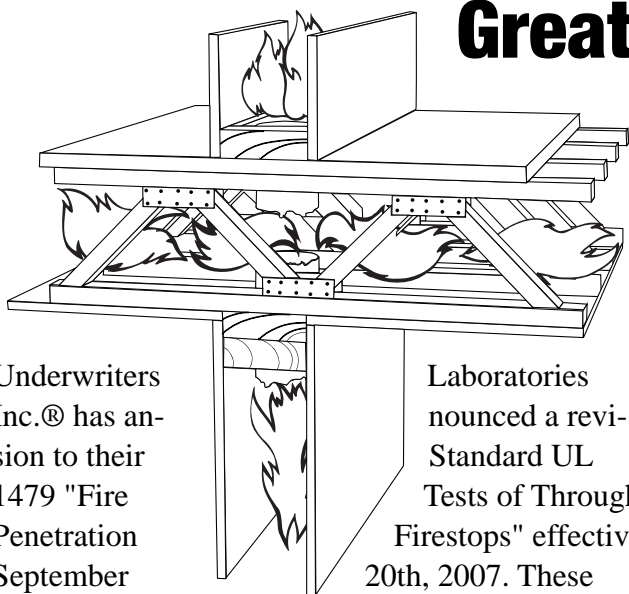


Technology Update

Greater Protection Required For Many Plastic Pipe Applications



Underwriters Inc.® has announced to their 1479 "Fire Penetration September changes dramatically impact the firestopping of plastic pipes in certain types of construction including wood framed floors.

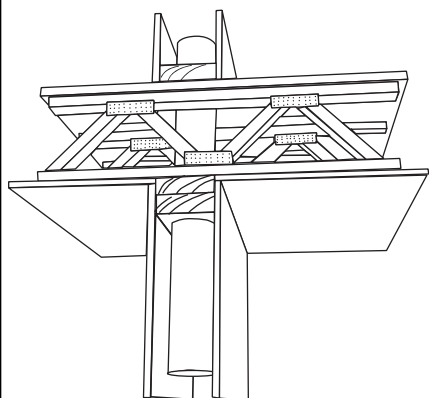
Laboratories announced a revision to their Standard UL Tests of Through-Firestops" effective 20th, 2007. These changes dramatically impact the

For certain penetrations incorporating smaller pipes of certain types, intumescent sealants will remain suitable for use. Larger pipes may require additional protection. For this reason, UL is advising contractors (as well as architects and specifiers) to consider how these changes may impact future work.

The purpose of this Tech Update is to explain the nature of the changes and how they may impact designs of the protection systems that you specify or use.

Why are the test methods being changed? Many UL systems using caulk as the only form of protection, rely on the pipe not coming in direct contact with the fire. Concerns were raised about the potential for fire to enter a wall cavity and spread to floors above (See Fig. 1). UL reacted to these concerns by revising the standard to require these systems to be tested with the pipes exposed to the fire. For a more complete explanation of the problem, see STI's Technical Update entitled *Firestopping Wood Floor Chase Assemblies*.

Fig. 1 - Older Caulk-Only Systems – A Smoke Seal Only!



Older systems (See figure on left) can't shut down the pipe if fire enters the stud cavity.

The fire can quickly spread to the wall cavity above (See figure on right).

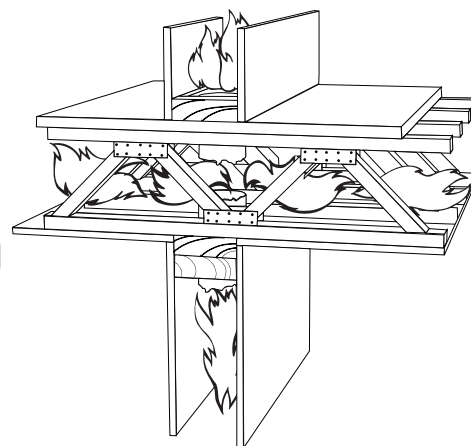
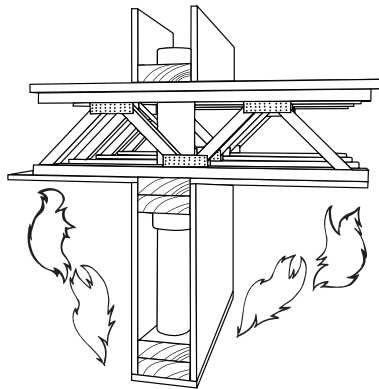
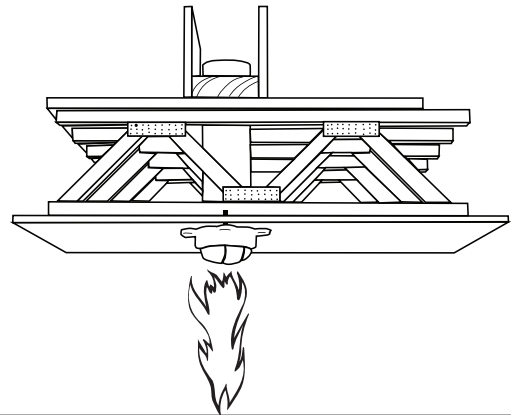


Fig. 2 - Changes to UL 1479 Will Expose Penetrants to the Fire



A stub wall assembly formerly protected penetrants and seals from direct exposure to the fire (See figure on left).

Revisions to the Test Standard now require the penetrants and penetration seals to be exposed to the fire (See figure on right).



What has changed? The previously used test assembly enclosed the penetration within a stub wall assembly. Thus flames did not come in direct contact with the either the penetrant or the area of the floor where the penetration occurred. The revisions to the standard now require that this area be directly exposed to the fire (See Fig. 2).

Are wood floor assemblies the only designs effected? No they are not. Any floor penetration previously tested within a stub wall assembly is potentially in question. This includes certain concrete or masonry floors as well.

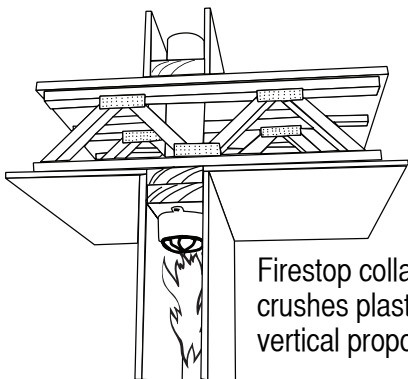
How does this impact through-penetration designs? If fire enters a wall cavity, the potential for vertical propagation is far greater in situations

where air may flow through unsealed openings above.

While firestop caulks are suitable for preventing this flow around many penetrants during a fire, they may not be adequate for preventing flow through penetrants that may burn or melt out during a fire. Stopping fire at the top of the stud cavity becomes more critical with the new test method. For many DWV applications, more aggressive designs using wrap strips or collars will be required to be installed within or below the top plate of the wall (See Fig. 3).

How do I know if a UL System meets this new requirement? Many published systems already meet the requirement. The key is to look for systems that list the chase wall as being *optional*. These systems have generally been tested with exposed penetrants. Just to be safe, you should ask your firestop manufacturer for a list of compliant systems.

Fig. 3 - Protection Within Wall Cavity Prevents Propagation



Firestop collar expands and crushes plastic pipe preventing vertical propagation.



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