

## FireWise

### Test Standard Changes and the affect on Wood Floor/Ceiling Assembly Systems

UL has conducted an industry review of all UL Classified through penetration firestop designs that require chase walls in the listings. The industry review is related to the recent changes of UL 1479, Fire Tests of Through-Penetration Firestop; Section 4.1.2.1. This section now states that penetrating items shall be directly exposed to the furnace temperatures and not contained within the cavity of a wall. This change became effective September 20, 2007. At that time manufactures were required to show that their systems would work when tested with the penetrating item outside of the chase wall.

#### Background

Historically UL 1479, Fire Tests of Through-Penetration Firestops, provided for firestop systems to be tested with the penetrating item completely contained within a rated chase wall. This chase wall as shown in Figure 1 was typically capable of limiting the effects of fire to the penetrating item. As a result, listed systems such as nominal 4" plastic pipes firestopped with minimal amounts of sealant, including non-intumescent sealants, were soon hitting the market because the pipes were protected from the extreme furnace temperatures. While the method shown in Figure 1 simulates a condition in which the wall is exposed to fire on both sides (considered more severe than would be

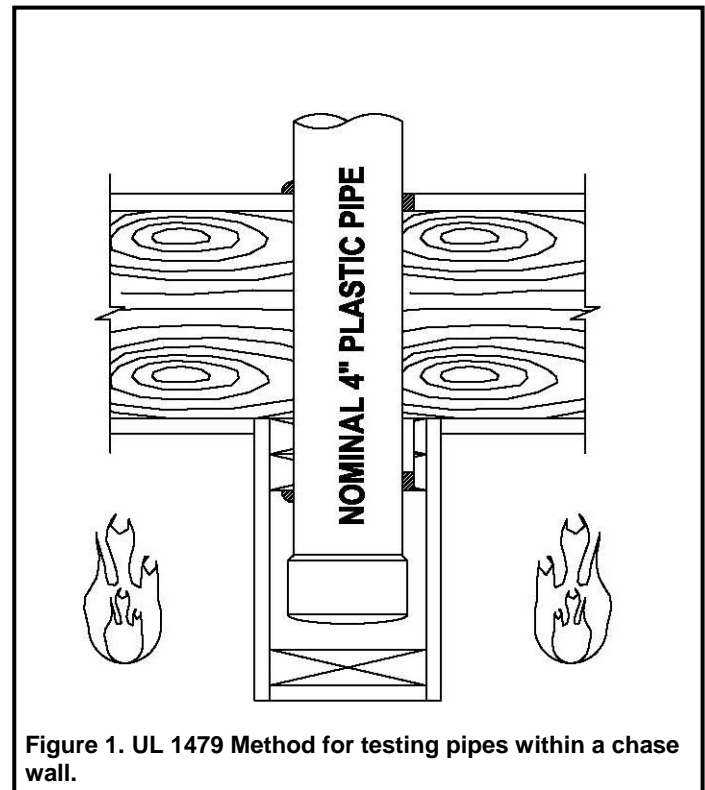


Figure 1. UL 1479 Method for testing pipes within a chase wall.

expected in a typical fire scenario), it did not directly evaluate the consequences of fire starting within the wall or passage of fire through unprotected electrical boxes, etc.

Because of these issues and the increased risks involved with combustible type building construction, UL's Standard Technical Panel for UL 1479 determined a change should be made to the standard. After weeks of discussion the wording was agreed upon and adopted, eliminating the



chase wall structure (Figure 2). While probably more severe than actual conditions (it ignores any protective benefit of the chase wall), it provides a conservative, easily-defined procedure.

### Effects on Manufacturers

This standards revision may have impacted the F, T and L ratings of previously listed systems. After September 20, 2007 all firestop systems published in the UL Online Certifications Directory were revised to reflect the ratings achieved using the new test criteria. The biggest impact we see across the industry is that “caulk and walk” UL systems for pipes larger than 2” were eliminated. Systems with Firestop Collars or Firestop Wrap Strips must be utilized to firestop these larger diameter non-metallic pipes within rated chase walls.

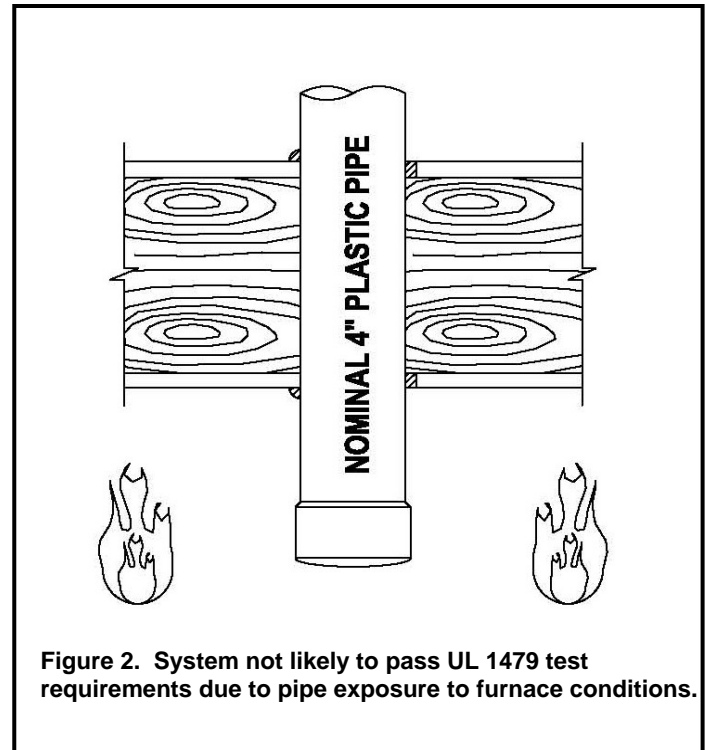


Figure 2. System not likely to pass UL 1479 test requirements due to pipe exposure to furnace conditions.

Table 1. Removed Hilti UL Systems

F-C-1096	F-C-2051	F-C-2242
F-C-1136	F-C-2072	F-C-2325
F-C-1097	F-C-2125	F-C-3072
F-C-2018	F-C-2126	F-C-5044
F-C-2025	F-C-2127	F-C-8025
F-C-2050	F-C-2185	F-C-8038

### Effects on Contractors

In the past “caulk and walk” systems have been heavily relied on in order to provide solutions for the various penetrating items including maximum 4” non-metallic pipes. Installers, designers and code enforcers may have noticed that systems previously used for a specific hourly rating may no longer be listed in the UL certifications if they did not comply with the new requirements (Table 1). With those systems no longer being listed, alternate systems will need to be utilized (Table 2). It is up to the Authority Having Jurisdiction to decide if projects started prior to September 20th will be allowed to use the removed systems or not. Contractors should make themselves aware of what solutions are available for bidding and installation purposes.



**Table 2. Replacement Systems for “Caulk and Walk”**

Removed System (“Caulk and Walk”)	Application	Replacement System(s)	Product(s)
F-C-1096	Maximum 4” metallic pipe	F-C-1009*	FS ONE, CP 606, CP 601s
F-C-2018 F-C-2072 F-C-2125 F-C-2325	Maximum 2” non-metallic pipe	F-C-2071* F-C-2160* F-C-2142*	FS ONE
F-C-2025 F-C-2050 F-C-2051 F-C-2126 F-C-2127 F-C-2185 F-C-2242	Maximum 4” non-metallic pipe	F-C-2030* F-C-2335* (3” and smaller)	CP 643N, CP 648S
F-C-5044	Insulated (glass-fiber) metallic pipe	F-C-5036* F-C-5066*	FS ONE, CP 606

\*System allows for optional chase wall

