POSITION DOCUMENT

Two-Hour Steel H-Stud Gypsum Area Separation Firewalls and Utilities in the Adjacent Flanking Walls

January 2019

This document is intended to clarify the criteria for the placement of utilities in the flanking walls on either side of a two-hour steel H-stud gypsum shaftliner panel area separation wall (ASW).

It is understood among building professionals that per the *International Building Code* (IBC), party walls shall be constructed without openings, and per the *International Residential Code* (IRC), common walls shall be constructed without plumbing or mechanical equipment, ducts, or vents in the common wall. However, there is confusion in the building industry based on a misunderstanding of the two-hour steel H-stud gypsum shaftliner panel ASW. This misunderstanding lies in the relationship between the steel H-stud gypsum shaftliner panel portion and the adjacent flanking walls.

Two-hour steel H-stud gypsum shaftliner panel ASWs consist of two (2), one-inch thick panels of gypsum shaftliner inserted between steel H-studs, connected via aluminum breakaway clips to adjacent flanking walls providing lateral support. It is the two (2) one-inch gypsum shaftliner panel and H-stud portion that serves as the fire separation in these assemblies and that shall not be penetrated. When the assembly is tested to ASTM E119 *Standard Test Methods for Fire Tests of Building Construction and Materials*, the exposed surface is the gypsum shaftliner panel and H-stud wall itself. The ASTM E119 tested system is as shown in Figure 1.

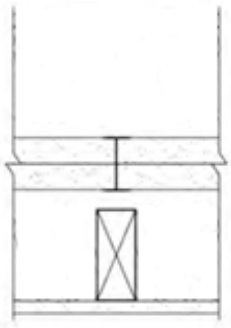

Figure 1: Typical Fire-Tested Shaftliner Gypsum Panel ASW Assembly
(Fire exposure from gypsum shaftliner panel and H-stud side)

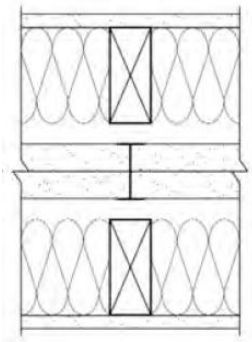

Figure 2: Typical Shaftliner ASW With Adjacent Flanking Walls Shown

The flanking walls also serve as finished walls for the respective occupied spaces. The cavity space may be filled with insulation or various utilities such as plumbing or mechanical equipment, ducts or vents, etc., as shown with the insulation in Figure 2. Because the flanking walls do not form the fire separation, it is permissible to penetrate them to allow the aforementioned utilities into the occupied space. The functionality of the steel H-stud gypsum shaftliner panel portion of the assembly as a fire separation is in no way compromised by utilities or penetrations in the flanking walls.

The flanking wall membrane may be penetrated without limitation because it does not compromise the fire separation provided by the two (2) one-inch gypsum shaftliner panels. However, guidance provided by the IBC, *Section 714 Penetrations*, may be used when electing to treat the flanking wall membrane as part of the fire-separation assembly. IBC Section 714 states that it is acceptable to have penetrations by steel electrical boxes that do not exceed 16 square inches in area, provided the aggregate area of the openings through the membrane does not exceed 100 square inches in any 100 square feet of wall area. This steel electrical box allowance is also documented in the *UL Fire Resistance Directory*®.

The Gypsum Association will work to clarify the code language in future editions of the code. In the interim, please be assured that the Association will work with its member companies to try to inform and educate the industry further.