



Classified by  
Underwriters Laboratories, Inc.  
to UL 2079 and CAN/ULC-S115

## System No. HW-S-0069

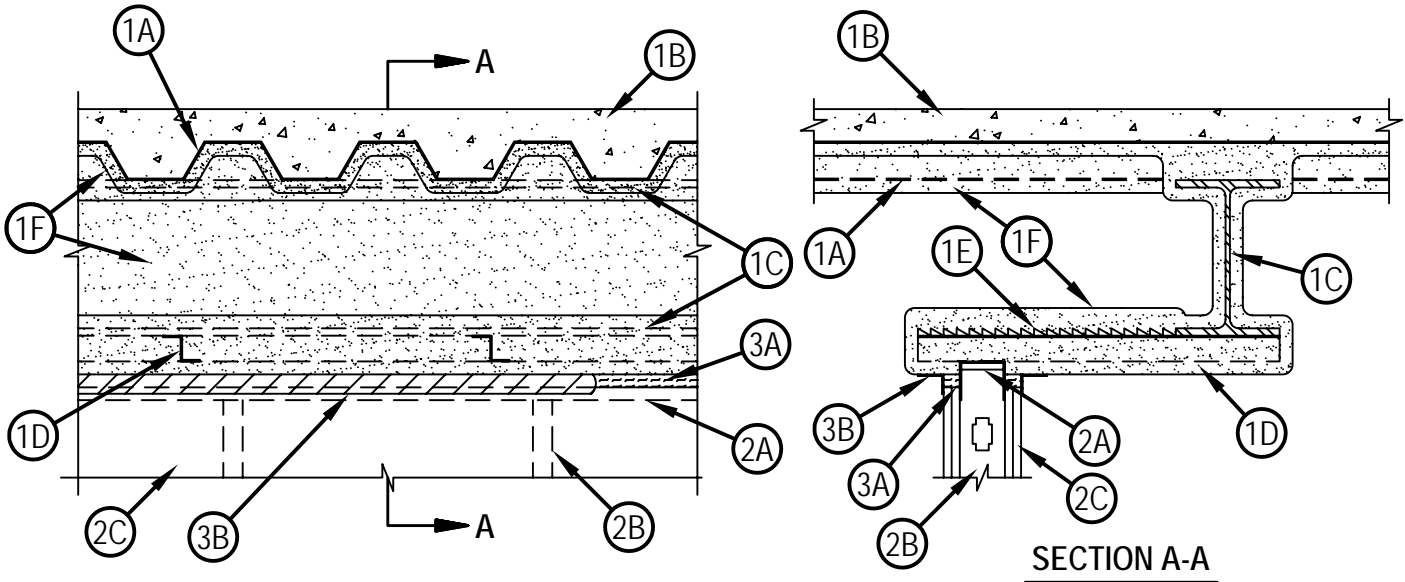
Assembly Ratings — 1 and 2 Hr (See Items 1 and 2)

Maximum Joint Width - 1 In.

L Rating At Ambient — Less Than 1 CFM/Lin Ft

L Rating At 400°F — Less Than 1 CFM/Lin Ft

HWS 0069



1. Floor Assembly — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 Series Floor-Ceiling Design in the UL Fire Resistance Directory and as noted below. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the following construction features:

- A. Steel Floor and Floor Units\* — Max 3 in. (76 mm) deep galv steel fluted floor units.
- B. Concrete — Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.
- C. Structural Steel Support — Steel beam, as specified in the individual D700 Series Floor-Ceiling Design, used to support steel floor units. Structural steel support oriented parallel to and max 12 in. (305 mm) from wall assembly.
- D. Steel Furring — Z-shaped bars or channels, located to span from steel beam to min 1 in. (25 mm) beyond face of wall and spaced max 24 in. (610 mm) on center. Z-shaped bars are nom 1-1/2 to 2 in. (38 to 51 mm) deep and formed from min 16 gauge painted or galvanized steel. Channels are nom 1-1/2 in. (38 mm) or 2 in. (51 mm) deep and formed from min 16 gauge painted or galvanized steel. Each bar or channel welded to steel beam and welded, bolted or screwed to ceiling runner of wall. Each bar or channel shall be fully covered with spray applied fire resistive material to the minimum thickness of material required on the flanges of the steel beam.
- E. Steel Lath — Nom 3/8 in. (10 mm) diamond mesh expanded steel rib lath having a nom weight of 3.4 lb/yd<sup>2</sup> (1.8 kg/m<sup>2</sup>) shall be installed over and attached to the steel furring bars or channels (Item 1D) to completely cover the exposed area from the flange tip of the steel beam to the end of the bar/channel framing extending beyond the wall surface. The lath shall be secured with steel fasteners or tie wire and shall be fully covered with spray applied fire resistive material (see Item 1F).
- F. Spray-Applied Fire Resistive Material\* — After installation of ceiling runner, steel floor units and structural steel beam to be sprayed with the thickness of material specified in the individual D700 Series Design. The flutes of the steel floor units above the structural steel beam shall be filled with spray-applied fire resistive material across the entire top flange of the steel beam. Each bar or channel furring member (Item 1D) shall be fully covered with spray applied fire resistive material to the minimum thickness of material required on the flanges of the steel beam. The thickness of material applied to the expanded steel lath shall be sufficient to completely fill the spaces between the bar/channel furring above the wall. Additional spray-applied fire resistive material shall be applied to the web of the steel beam on each side of the wall. For a 1 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 13/16 in. (21 mm). For a 2 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 1-3/8 in. (35 mm). In addition, the thickness of material applied to the expanded steel lath shall cover the top surface of the lath with a minimum 1-5/8 in. (41 mm) of material for the 1 hr Assembly Rating and 2-5/8 in. (67 mm) of material for the 2 hr Assembly Rating.

W R GRACE & CO - CONN — Type MK-6/HY, MK-6/HY ES, MK-6s, RG



**Hilti Firestop Systems**

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Assembly Ratings — 1 and 2 Hr (See Items 1 and 2)

Maximum Joint Width - 1 In.

L Rating At Ambient — Less Than 1 CFM/Lin Ft

L Rating At 400°F — Less Than 1 CFM/Lin Ft

HW-S-0069

F1. Spray-Applied Fire Resistive Material\* — After installation of ceiling runner, steel floor units and structural steel support to be sprayed with the min thickness of material specified in the individual D700 Series Design. The flutes of the steel floor units above the structural steel beam shall be filled with spray-applied fire resistive material across the entire top flange of the steel beam. Each bar or channel furring member (Item 1D) shall be fully covered with spray applied fire resistive material to the minimum thickness of material required on the flanges of the steel beam. The thickness of material applied to the expanded steel lath shall be sufficient to completely fill the spaces between the bar/channel furring above the wall. Additional material shall be applied to the web of the steel beam on each side of the wall. For a 1 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 11/16 in. (18 mm). For a 2 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 1-1/2 in. (38 mm). In addition, the thickness of material applied to the expanded steel lath shall cover the top surface of the lath with a minimum 1-5/8 in. (41 mm) of material for the 1 hr Assembly Rating and 2-5/8 in. (67 mm) of material for the 2 hr Assembly Rating.

ISOLATEK INTERNATIONAL — Type 300

2. Wall Assembly — The 1 or 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Steel Floor and Ceiling Runners — Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with min 1-1/4 in. (32 mm) to max 3 in. (76 mm) flanges. Ceiling runner is secured to steel furring (Item 1D) with steel fasteners or welds spaced max 24 in. (610 mm) OC. Ceiling runner to be installed parallel with structural steel support and located such that a max clearance of 12 in. (305 mm) is present between the finished wall and the flange of the steel beam (Item 1C).

B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 in. to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest in ceiling runner without attachment.

C. Gypsum Board\* — Gypsum board sheets installed to a min total 5/8 in. (16 mm) or 1-1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom plane of the spray applied fire resistive material on the steel furring (Item 1D) on both sides of the wall assembly.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. Joint System — Max separation between bottom plane of spray-applied fire resistive material on the steel furring (Item 1D) and the top of the gypsum board is 1 in. (25 mm). The joint system shall consist of forming and fill materials, as follows:

A. Forming Material\* — Nom 4 pcf (64 kg/m<sup>3</sup>) density mineral wool batt insulation. Sections of mineral wool batt cut to a thickness equal to the overall thickness of gypsum board and compressed a min of 50 percent into the gap between the top of the gypsum board and the bottom plane of the spray applied fire resistive material on the steel furring (Item 1D) on both sides of the wall assembly.

FIBREX INSULATIONS INC — FBX Safing Insulation

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — Type SAF

A1. Forming Material\* - Strips — (Optional) - Nom 5/8 in. and 1-1/4 in. (16 and 32 mm) wide precut mineral wool strips for 1 and 2 hr rated assemblies respectively. The strips are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the spray applied fire resistive material on the steel furring (Item 1D) on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — CP 767 Speed Strips

B. Fill, Void or Cavity Material\* - Sealant — A min 1/8 in. (3 mm) wet thickness of fill material sprayed or troweled on each side of wall to completely cover mineral wool forming material and to overlap min 1/2 in. (13 mm) onto wall and min 2 in. (51 mm) onto spray-applied fire resistive material.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — CP672 Firestop Spray.

\*Bearing the UL Classification Mark



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