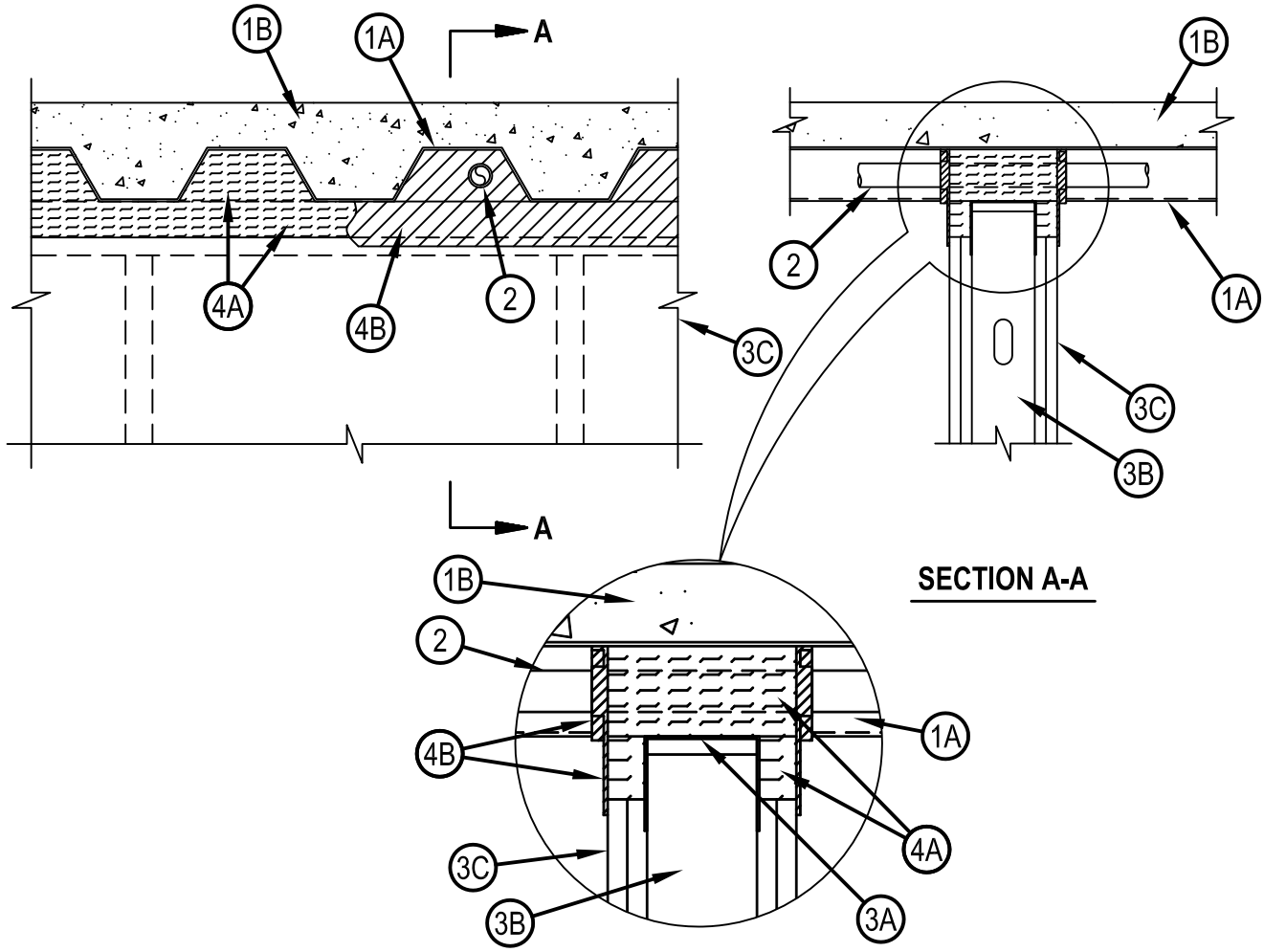
CANADA ONLY

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

System No. HW-D-0003

F Ratings — 1 and 2 Hr (See Item 3)
FT Rating — 0 Hr
FH Rating — 1 and 2 Hr (See Item 3)
FTH Rating — 0 Hr
Nominal Joint Width — 2 In.
Class II Movement Capabilities —20% Compression and Extension, or
Class II Movement Capabilities — 20% Compression and 12.5% Extension (See Item 1C)



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 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory. 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 Form Units* — Max 76 mm (3 in.) deep galv steel fluted floor units.
   B. Concrete — Min 64 mm (2-1/2 in.) thick reinforced concrete, as measured from the top plane of the floor units.
   C. Spray—Applied Fire Resistive Materials* — (Optional, Not Shown) - Prior to the installation of the Forming Material and Fill, Void or Cavity Material (Items 4A and 4B), the steel floor units may be sprayed with a fire resistive material to the thickness specified in the individual D700 Series Design.
   W R GRACE & CO - CONN — Type MK-6-HY
   ISOLATEK INTERNATIONAL — Type 300
   When Type 300 spray is used, the movement cycling for the joint is Class II Movement Capabilities with 20% Compression and 12.5% Extension.

System No. HW-D-0003

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1A. Roof Assembly — (Not Shown) - As an alternate to the floor assembly (Item 1), a fire rated fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P900 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The roof assembly shall include the following construction features:

A. Steel Roof Deck — Max 76 mm (3 in.) deep galv steel fluted roof deck.

B. Roof Insulation — Min 57 mm (2-1/4 in.) thick poured insulating concrete, as measured from the top plane of the steel roof deck.

1B. Roof Assembly — As an alternate to Items 1 and 1A, a fire rated protected fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P700 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. Steel Roof Deck — Max 76 mm (3 in.) deep galv steel fluted roof deck.

B. Spray—Applied Fire Resistive Materials* — (Not Shown)—Prior to the installation of the Forming Material and Fill, Void or Cavity Material (Items 4A and 4B), the roof assembly shall be sprayed with a fire resistive material to the thickness specified in the individual P700 Series design.

W R GRACE & CO - CONN — Type MK-6-HY

ISOLATEK INTERNATIONAL — Type 300

When Type 300 spray is used, the movement cycling for the joint is Class II Movement Capabilities with 20% Compression and 12.5% Extension.

2. Through Penetrant — (Optional) - Nom 38 mm (1-1/2 in.) diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT) may be installed parallel with and within the flutes of the steel floor or roof deck. A max of two through penetrants is permitted in an individual flute. The conduit or EMT shall be located anywhere within flute of steel deck, except that when the nom diam of through penetrant exceeds 13 mm (1/2 in.), a min clearance of 13 mm (1/2 in.) is required between the penetrant and the steel deck. A min clearance of 13 mm (1/2 in.) is required between the penetrants.

3. Wall Assembly — 1 or 2 hr fire-rated gypsum board/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. Ceiling runner installed perpendicular to direction of fluted steel deck and secured with steel masonry anchors or welds spaced max 610 mm (24 in.) OC.

A1. Light Gauge Framing* - Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 3A, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Items 3B). Ceiling runner installed perpendicular to direction of fluted steel deck and secured with steel masonry anchors or welds spaced max 610 mm (24 in.) OC.

STEELER INC — Steeler Slotted Ceiling Runner

B. Studs — Steel studs to be min 89 mm (3-1/2 in.) wide. Studs cut 13 to 25 mm (1/2 to 1 in.) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest in ceiling runner without attachment.

B1. Light Gauge Framing* —Slotted Studs — Slotted steel stud to be used in conjunction with Light Gauge Framing* —Floor and Ceiling Runners (Item 3A1). Slotted steel studs to be min 89 mm (3-1/2 in.) wide. Slotted steel studs cut 13 to 25 mm (1/2 in. to 1 in.) less in length than assembly height with bottom nesting in and secured to both ceiling and floor runners. Ceiling runner secured to preformed slot within steel stud by means of No. 10 by 19 mm (3/4 in.) long low profile head steel screw. Floor runner attached to bottom of steel stud by means of No. 8 by 13 mm (1/2 in.) long pan head steel screw. Slotted steel stud spacing not to exceed 610 mm (24 in.) OC.

STEELER INC — Steeler Slotted Stud

C. Gypsum Board* — Gypsum board sheets installed to a min total thickness of 16 or 32 mm (5/8 in. or 1-1/4 in.) on each side of wall for 1 or 2 hr fire rated assemblies, respectively. Wall to be constructed in the individual Design in the UL Fire Resistance Directory, except that a max 51 mm (2 in.) gap shall be maintained between the top of the gypsum board and the bottom surface of the floor or roof deck. The screws attaching the gypsum board to the studs along the top of the wall shall be located 25 mm (1 in.) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner.

The hourly F and FH ratings of the joint system are equal to the hourly fire rating of the wall assembly in which it is installed.

4. Joint System — Max separation between bottom of floor or roof deck and top of gypsum board (at time of installation of joint system) is 51 mm (2 in.). The joint system is designed to accommodate a max 20 percent or 12.5 percent (see Item 1C) compression or extension from it's installed width. The joint system shall consist of forming and fill materials as follows:

A. Forming Material* — Nom 64 kg/m3 (4 pcf) density mineral wool batt insulation cut approx 25 percent wider than the flutes and with a length approx equal to the overall thickness of the wall. Multiple pieces stacked on top of each other, as needed, and then compressed 50 percent in thickness and inserted into the flutes of the steel deck above the top of the ceiling runner. The mineral wool batt insulation is to project beyond each side of the ceiling runner, flush with wall surfaces. Additional 16 and 32 mm (5/8 in. and 1-1/4 in.) wide strips for 1 and 2 hr rated assemblies, respectively, of nom 64 kg/m3 (4 pcf) mineral wool batt insulation are to be cut to fill the gap between the top of the gypsum board and bottom of the floor. The strips of mineral wool are compressed 50 percent and tightly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the floor on both sides of the wall.

ROCK WOOL MANUFACTURING CO — Delta- Board

THERMAFIBER INC — Type SAF

A1. Forming Material*—Plugs — (Optional, Not Shown) Preformed mineral wool plugs, formed to the shape of the fluted floor units, friction fit to completely fill the flutes above the ceiling channel. The plugs shall project beyond each side of the ceiling runner, flush with wall surfaces. Additional forming material, described in Item 3A, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of floor.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP777 Speed Plugs

A2. Forming Material* - Strips — (Optional) - Nom 16 and 32 mm (5/8 in. and 1-1/4 in.) wide by 51 mm (2 in.) high precut mineral wool strips for 1 and 2 hr rated assemblies respectively. The strips are compressed 50 percent and firmly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the floor on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

B. Fill, Void or Cavity Material* — Min 1.6 mm (1/6 in.) dry thickness (3.2 mm or 1/8 in. wet thickness) of fill material sprayed or troweled on each side of the wall to completely cover mineral wool forming material and to overlap a min of 13 mm (1/2 in.) onto gypsum board, steel (or sprayed) deck and through penetrants on both sides of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 672 Firestop Spray or CFS-SP WB Firestop Joint Spray

*Bearing the UL Classification Mark