

System No. HW-D-0539

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 and shall include the following construction features: A. Steel Floor and Form 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. Steel Attachment Clips — (Optional, Not Shown) - Used to secure ceiling runner when spray-applied fire resistive material (Item 1D) is applied to floor units prior to installation of ceiling runner of wall. Z-shaped clips formed from 1 in. (25 mm) wide strips of min 20 ga galv steel. Clips to be sized to extend through the thickness of the spray-applied fire-resistive material on the steel floor unit with 1-1/2 in. (38 mm) long

upper and lower legs. Legs of clips fastened to bottom of floor units (prior to application of spray-applied fire-resistive materials) with steel fasteners or welds. Clips spaced max 24 in. (610 mm) OC and extend to within 1/4 to 3/4 in. (6 to 19 mm) from the surface of the wall. D. Spray-Applied Fire Resistive Material* — (Optional. Not Shown) - After installation of the ceiling runner, or prior to installation of the ceiling runner and after installation of the steel attachment clips (Item 1C), the steel floor units may be sprayed with the min thickness of material specified in the individual D700 Series Design.

ISOLATEK INTERNATIONAL — Type 300 GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY 1A. Roof Assembly — (Not Shown) — As an alternate to the floor assembly, 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 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 3 in. (76 mm) deep galv steel fluted roof deck. B. Roof Insulation — Min 2-1/4 in. (57 mm) 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

A. Steel Roof Deck — Max 3 in. (76 mm) deep galv steel fluted roof deck. B. Steel Attachment Clips — (Optional. Not Shown) - Used to secure ceiling runner when spray-applied fire resistive material is applied to roof deck prior to installation of ceiling runner of wall. Z-shaped clips formed from 1 in. (25 mm) wide strips of min 20 ga galv steel. Clips to be sized to extend through the thickness of the spray-applied fire-resistive material on the roof deck with 1-1/2 in. (38 mm) long upper and lower legs. Legs of clips fastened to bottom of roof deck (prior to application of spray-applied fire-resistive materials) with steel fasteners or welds. Clips spaced max 24 in. (610 mm) OC and extend to within 1/4 to 3/4 in. (6 to 19 mm) from the surface of the wall.

C. Spray—Applied Fire Resistive Materials* — (Not Shown)—Prior to or after the installation of the steel ceiling runners, the roof assembly shall be sprayed with the type and thickness of fire resistive material indicated in the individual P700 Series design. ISOLATEK INTERNATIONAL — Type 300 GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

2. Wall Assembly — The 1 hr 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 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). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width.. Ceiling runner centered beneath and parallel with the valley of the deck and secured to valley with steel fasteners, steel masonry anchors or welds spaced

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max 24 in. (610 mm) OC. For floor or roof decks with spray-applied fire resistive material, ceiling runner attached to steel attachment clips

Hilti Firestop Systems

secured to valley as described in Item A1.

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track-Type SDLT

shall include the following construction features:

(Item 1C) with steel fasteners spaced max 24 in. (610 mm) OC.

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A1. Light Gauge Framing*-Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 2A, slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Slotted ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys before or after optional spray-applied fire resistive material is used with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC. The use of welds to secure the ceiling runner may only be used prior to the

installation of the optional spray-applied material. BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK, SLPTRK325 CEMCO, LLC — CST, CST325

SCAFCO STEEL STUD MANUFACTURING CO A2. Light Gauge Framing* — Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 2A through 2A1, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Flange height of slotted ceiling runner shall be 3-1/4 in. (83 mm) with 2 in. (51 mm) deep slots. Slotted ceiling runner centered beneath and parallel with the valley of the deck and

B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1-1/4 in. to 1-1/2 in. (32 to 38 mm) less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC. When slotted ceiling runner (Item 2A2) is used, steel studs cut in lengths 3/4 to 1-3/4 in. (19 to 44 mm) less than floor to ceiling height and secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at +/- 3/16 in. (5 mm) of the mid-height of slot on each side of wall.

C. Gypsum Board* — Gypsum board installed to a min total thickness of 5/8 in. (16 mm) or 1-1/4 in. (32 mm) on each side of wall for 1 hr and 2 hr rated assemblies, respectively. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a max 1-1/2 (38 mm) gap shall be maintained between the top of the gypsum board and the bottom of the steel deck and the top row of screws shall be installed into the studs 1 to 1-1/2 in. (25 to 38 mm) below the bottom of the ceiling

The hourly Assembly, F, FT, FH and FTH Ratings of the joint system are dependent on the hourly rating of the wall. 3. Joint System — Max separation between bottom of floor or roof and top of gypsum board at time of installation of joint system is 1-1/2 in. (38 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of forming material and a fill material, as follows:

A. Forming Material* — Nom 5/8 in. or 1-1/4 in. (16 or 32 mm) wide strips of min 4 pcf (64 kg/m3) mineral wool batt insulation, for 1 and 2 Hr rated assemblies, respectively. Strips compressed 50 percent in thickness and inserted cut-edge first into gap between top of gypsum board and bottom of the floor or roof deck, flush with both surfaces of the wall.

JOHNS MANVILLE — Safing ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL - SAFE THERMAFIBER INC — Type SAF

A1. Forming Material*—Strips — As an alternate to Item 3A, nom 5/8 in.(16 mm) and 1-1/4 in. (32 mm) wide precut mineral wool strips for 1 and 2 hr rated assemblies, respectively. The strips are compressed 50 percent in thickness and inserted cut-edge first into the gap between the top of the gypsum board and the bottom of the floor or roof deck, flush with both surfaces of the wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

B. Fill, Void or Cavity Material* — Min 1/16 in. (1.6 mm) dry thickness (min 1/8 in. or 3.2 mm wet thickness) of fill material sprayed on each side of the wall to completely cover mineral wool forming material and to overlap a min of 1/2 in. (13 mm) onto gypsum board and steel deck, and 2 in. (51 mm) onto the spray-applied fire resistive material (Item 1D), on both sides of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray

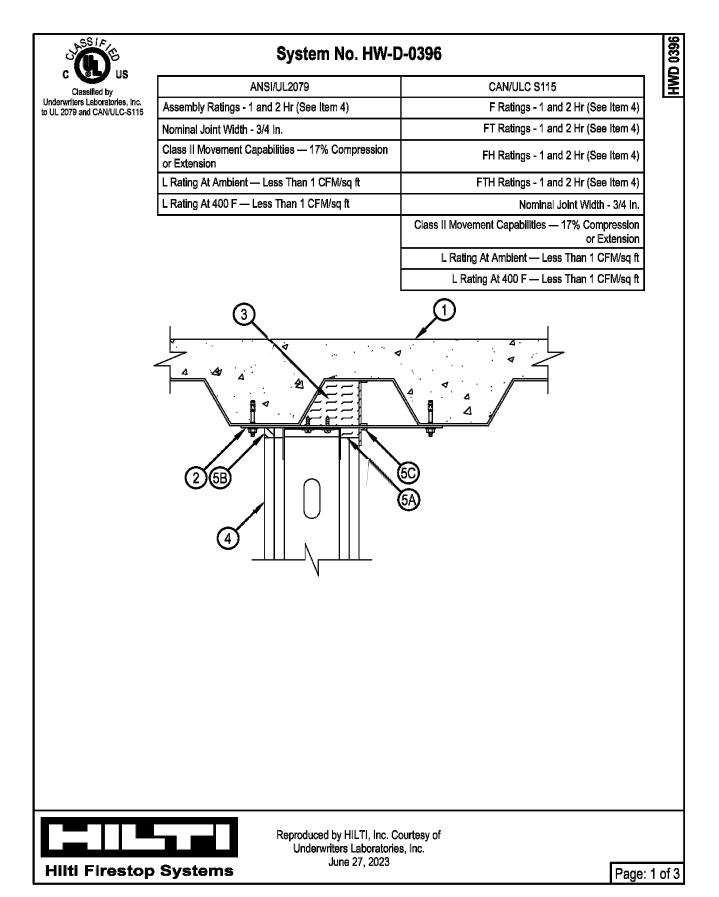
tindicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),



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UL System No.: HW-D-0539 SCALE: N.T.S. UL NO. HW-D-0539



System No. HW-D-0396

. Floor Assembly — The fire-rated fluted steel floor unit/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D900 Series Floor-Ceiling Design in the Fire Resistance Directory and shall include the following construction features: A. Steel Floor and Form 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. 2. Steel Straps — Min 2 in. (51 mm) wide min No. 16 gauge galv steel straps cut to a length to span the flute and overlap the adjacent valleys of fluted floor units by min 1-1/2 in. (38 mm). Straps spaced max 24 in. (610 mm) OC and fastened to floor assembly with masonry anchors or steel

3. Forming Material* - Plugs — Preformed mineral wool plugs, formed to the shape of the fluted floor area directly above the wall, friction fit to fill the fluted area directly above the steel straps and wall. Adjacent lengths of plugs to be tightly butted with butted seams spaced min 24 in. (610 mm) apart along the length of the plugs.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP777 Speed Plugs I. Wall Assembly — The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following

A. Steel Floor and Ceiling Runners — Floor and ceiling runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner installed parallel to direction of fluted steel floor units, directly beneath steel straps, and secured to straps with two No. 8 self-drilling, self-tapping steel screws per strap.

A1. Light Gauge Framing* - Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 4A, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Items 4B). Ceiling runner installed parallel to direction of fluted steel floor deck, directly beneath steel straps, and secured to straps with two No. 8 self-drilling, self-tapping steel screws per strap. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

CEMCO, LLC — CST BRADY CONSTRUCTION INNOVATIONS INC. DBA SLIPTRACK SYSTEMS — SLP-TRK

MARINO/WARE, DIV OF WARE INDUSTRIES INC - Type SLT B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and resting on the floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 4A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side

of wall. Stud spacing not to exceed 24 in. (610 mm) OC. C. Gypsum Board* — For 1 hr assembly, one layer of 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design, For 2 hr assembly, two layers of 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design, For both hourly ratings, a nominal 3/4 in. (19 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the steel floor units and the bottom surface of the steel straps and forming material (Item 3). The top row of screws shall be installed into the stude 3 in.

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

(76 mm) below the valleys of the steel floor units.



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5. Joint System — Max separation between bottom of floor and top of wall is 3/4 in. (19 mm). The joint system is designed to accommodate a max 17 percent compression or extension from its installed width. The joint system consists of a forming material and two fill materials between the top of the gypsum board and the bottom of the floor, as follows:

A. Forming Material* — Min 4 pcf (64 kg/m3) density mineral wool batt insulation shall be cut into strips to fill the gap between the top of the gypsum board and the underside of the forming material plugs (Item 3) and straps (Item 2) on the side of the wall located beneath the crest of the floor units. The width of the strips shall be equal to the total thickness of the gypsum board. The strips of mineral wool are compressed 50 percent in thickness and inserted cut-edge first into the gap between the top of the gypsum board and bottom of the mineral wool plug or steel

ROCK WOOL MANUFACTURING CO - Delta Board

ROCKWOOL — SAFE THERMAFIBER INC — Type SAF A1. Forming Material* - Strips — As an alternate to Item 5A, nom 5/8 in. (16 mm) and 1-1/4 in. (32 mm) wide precut mineral wool strips for 1 and 2 hr rated assemblies respectively. The strips are compressed 50 percent in thickness and inserted cut-edge first into the gap between the top of the gypsum board and the underside of the forming material plugs (Item 3) and straps (Item 2) on the side of the wall located beneath the

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips A2. Forming Material — (Optional, Not Shown) - Mineral wool insulation, fiberglass batt insulation or polyurethane/polyethylene foam backer rod Forming material to be installed on the side of the 2 hr fire rated wall located beneath valley of steel floor units, between the top of the gypsum board and the valley of the steel floor unit, and recessed from surface of the wall to accommodate the required thickness of sealant (Item 5B). B. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material installed on the side of the wall located beneath valley

crest of the floor units. Adjoining lengths of strips to be tightly butted with butted seams spaced min 48 in. (1219 mm) apart along the length of

of steel floor unit, between the top of the gypsum board and the bottom of the valleys of the steel floor units, flush with the surface of the wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP606 Sealant C. Fill, Void or Cavity Material* - Sealant — Min 1/8 in. (3.2 mm) wet thickness (min 1/16 in. or 1.6 mm dry thickness) of fill material sprayed or troweled to completely cover the mineral wool plugs (Item 3) and mineral wool forming material (Items 5A and 5A1) on the side of the wall located beneath the crest of the steel floor unit. Fill material to overlap a min of 1/2 in. (13 mm) onto the gypsum board, steel floor units and

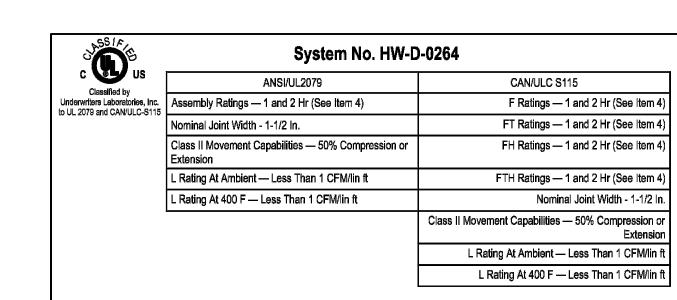
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP672 Firestop Spray or CFS-SP WB Firestop Joint Spray Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),

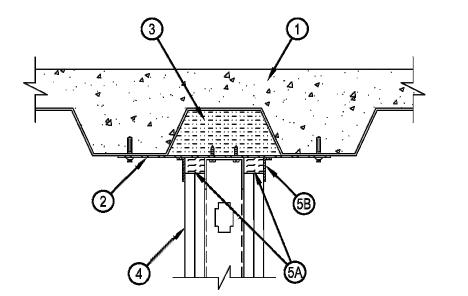


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UL System No.: HW-D-0396 UL NO. HW-D-0396 SCALE: N.T.S.





. Floor Assembly — The fire-rated fluted steel floor unit/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 Fire Resistance Directory and shall include the following construction features: A. Steel Floor and Form Units* — Max 3 in. (76 mm) deep galy 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. Soray-Applied Fire Resistive Material* — (Optional, Not Shown) - After installation of the steel straps (Item 2), the steel floor units may be sprayed with the min thickness of material specified in the individual D700 Series Design. ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY or MK-10HB 1A. Roof Assembly — (Not Shown) - As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof shall be constructed of the materials and in the manner described in the individual P700 or P900 Series Roof-Ceiling designs 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:

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June 22, 2023



System No. HW-D-0264

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

B. Roof Insulation — Roof insulation to consist of min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the C. Spray-Applied Fire Resistive Material* — (Optional. Not Shown) - After installation of the steel straps (Item 2), all surfaces of the steel deck may be sprayed with the thickness of material as specified in the individual P700 Series Floor-Ceiling Design. The flutes of the steel deck

above the steel straps and wall may be filled with material as an alternate to the Forming Material (Item 3). ISOLATEK INTERNATIONAL — Type 300 GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY or MK-10HB . Steel Straps — Min. 2 in. (51 mm) wide 16 MSG galv steel straps cut to a length to span the flute and overlap the adjacent valleys of fluted floor

units or roof deck by 1-1/2 in. (38 mm). Straps spaced max 24 in. (610 mm) OC and fastened to floor or roof assembly with masonry anchors or steel fasteners. As an alternate, min 1 in. (25 mm) long Hilti X-DNI 27 P8 S15 or Hilti X-U 27 P8 S15 powder actuated floor pins with integral min 9/16 in. (14 mm) diam washer may be used to secure steel straps to floor or roof assembly. 3. Forming Material* - Plugs — Preformed mineral wool plugs, formed to the shape of the fluted floor units or roof deck, friction fit to completely fill

the flutes above the steel straps. Adjacent lengths of plugs to be tightly butted with butted seams spaced min 24 in. (610 mm) apart along the lenath of the pluas. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP777 Speed Plugs

3A. Forming Material* — As an alternate to Item 3, min 4 pcf (64 kg/m3) mineral wool batt insulation forming material cut to the shape of the fluted floor units or roof deck and friction fit to completely fill the flutes above the steel straps. Adjacent lengths of batts to be tightly butted with butted seams spaced min 24 in. (610 mm) apart along the length of the flutes. INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

JOHNS MANVILLE — Safing ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL — SAFE THERMAFIBER INC - Type SAF . Wall Assembly — The 1 hr or 2 h fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in

the individual U400. V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following A. Steel Floor and Ceiling Runners — Floor and ceiling runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Flange height of ceiling runner to be 3/4 in. (19 mm) greater than extended joint width. Ceiling runner

installed parallel to direction of fluted steel floor units, directly beneath steel straps, and secured to straps with two No. 8 self-drilling, self-tapping steel screws per strap. A1. Light Gauge Framing* — Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 4A, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Items 4B). Ceiling runner installed parallel to direction of fluted steel floor

deck, directly beneath steel straps, and secured to straps with two No. 8 self-drilling, self-tapping steel screws per strap. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used. BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK, SLPTRK325 CEMCO, LLC — CST , CST325

CLARKDIETRICH BUILDING SYSTEMS — Types SLT, SLT-H MARINO/WARE, DIV OF WARE INDUSTRIES INC - Type SLT METAL-LITE INC — The System

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RAM SALES L L C — RAM Slotted Track

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System No. HW-D-0264

A2. Light Gauge Framing*- Notched Ceiling Runner — As an alternate to the ceiling runners in Items 2A through 2A1, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC.

OLMAR SUPPLY INC — Type SCR A3. Light Gauge Framing* — Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 4A through 4A2, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 4B). Flange height of slotted ceiling runner shall be 3-1/4 in. (83 mm) with 2 in. (51 mm) deep slots. Slotted ceiling runner installed parallel to direction of fluted steel floor deck, directly beneath steel straps, and secured to straps with two No. 8 self-drilling, self-tapping steel screws per strap.

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track-Type SDLT B. Studs — Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 3/4 in. (19 mm) to 1 in. (25 mm) less in length than assembly height with bottom nesting in and resting on the floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 4A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. Stud spacing not to exceed 24 in. (610 mm) OC. When slotted ceiling runner (Item 4A3) is used, steel studs cut in lengths 3/4 to 1-3/4 in. (19 to 44 mm) less than floor to ceiling height and secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at +/- 3/16 in. (5 mm) of the mid-height of slot on each side of wall.

C. Gypsum Board* — For 1 hr assembly, one layer of 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition

Design. For 2 hr assembly, two layers of 5/8 in. (16 mm) thick gypsum board are specified in the individual Wall and Partition Design. For both hourly ratings, a nominal 1-1/2 in. (38 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the steel floor units and the top row of screws shall be installed into the studs 3 in. (76 mm) below the valleys of the steel floor units. The hourly ratings of the joint system are dependent on the hourly rating of the wall. Joint System — Max separation between bottom of floor and top of wall is 1-1/2 in. (38 mm). The joint system is designed to accommodate a max

50percent compression or extension from its installed width. The joint system consists of a forming material and a fill material between the top of the gypsum board and the bottom of the floor, as follows: A. Forming Material* — Min 4 pcf (64 kg/m3) density mineral wool batt insulation cut shall be cut into strips to fill the gap between the top of

gypsum board and bottom of the floor units. The width of the strips shall be equal to the total thickness of the gypsum board. The strips of mineral wool are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the mineral wool plug or steel floor units.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing JOHNS MANVILLE — Safing

UL System No.: HW-D-0264

SCALE: N.T.S.

ROCK WOOL MANUFACTURING CO — Delta Board ROCKWOOL — SAFE THERMAFIBER INC — Type SAF

A1. Forming Material* - Strips — (Optional) - Nom 5/8 in. (16 mm) and 1-1/4 in. (32 mm) wide precut mineral wool strips for 1 hr 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 steel floor units on both sides of the wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 767 Speed Strips

B. Fill, Void or Cavity Material* - Sealant — Min 1/8 in. (3.2 mm) wet thickness (min 1/16 in. or 1.6 mm dry thickness) of fill material sprayed or troweled on each side of the wall to completely cover the mineral wool forming material and to overlap a min of 1/2 in. (13 mm) onto gypsum board, steel floor units or roof deck and steel straps on both sides of the wall and min 2 in. (51 mm) onto spray-applied fire resistive material HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray

Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),

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E. TIEN JCDMC PROJECT MANAGER AS SHOWN Z. Price DESIGNED BY UL NO. HW-D-0264

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HEALTH

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(916)734-7024

REVISION DESCRIPTION

ADDENDUM 1 (ACD-001)

CONSTRUCTION DOCUMENTS

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DATE

10/17/2025

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CONSULTANT LOGO:

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products,
- equipment, system, devices, and materials. Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- · Only products which bear UL's Mark are considered Certified.

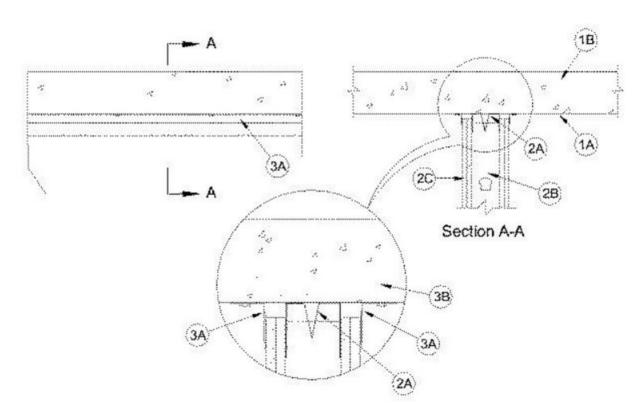
XHBN - Joint Systems

See General Information for Joint Systems

System No. HW-D-0419

June 21, 2023

Assembly Rating — 1 and 2 Hr (See Item 2) Nominal Joint Width - 1/2 in. Class II and III Movement Capabilities - 100% Compression & Extension



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick steel reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Floor may also be constructed of any min 6 in. thick UL Classified hollow-core Precast Concrete Units*. See Precast Concrete Units (CFTV) category in the Fire Resistance Directory for names of manufacturers.

The hourly fire rating of the floor assembly shall be equal or greater than the hourly fire rating of the wall assembly.

2. Wall Assembly — The 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. Light Gauge Framing* — M-Track ceiling runner to consist of galv steel with slotted V-section to accommodate steel studs (Item 2B). M-Track ceiling runner secured to floor assembly with steel masonry anchors spaced max 24 in. (610 mm) OC, alternating the fastenings from one side of M-Track to the other.

B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 in. to 1 in. (13 to 25 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest in M-Track 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 1/2 in. (13 mm) gap shall be maintained between the top of the gypsum board and the bottom of the floor. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 to 3-1/2 in. (25 to 89 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner.

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

CEMCO, LLC — CMT

3. Joint System — Max separation between bottom of floor and top of wall (at time of installation of joint system) is 1/2 in. (13 mm). The joint system is designed

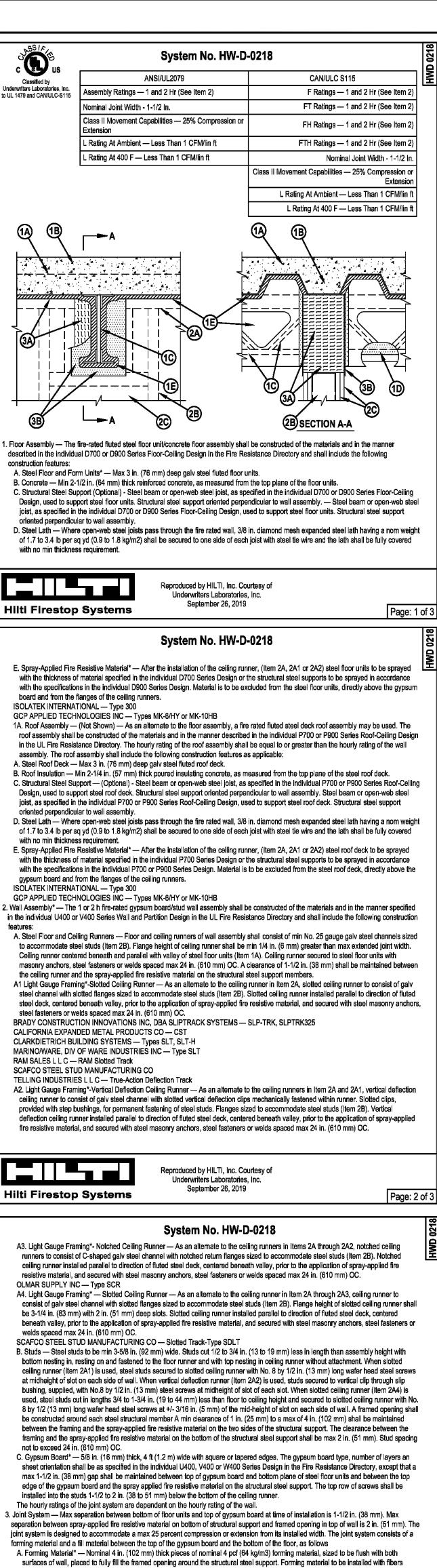
to accommodate a max 100 percent compression or extension from its installed width. A. Fill, Void or Cavity Material — A nom 20 gauge steel angle provided with a nom 1 in. (25 mm) wide intumescent strip on one leg. Angle to be secured to floor assembly with steel masonry anchors spaced a max 12 in. (305 mm) OC with the intumescent strip against the outer face of gypsum board on both sides of wall. CEMCO, LLC — Firestik

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2023-06-21

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A4. Light Gauge Framing* — Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 2A through 2A3, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Flange height of slotted ceiling runner shall be 3-1/4 in. (83 mm) with 2 in. (51 mm) deep slots. Slotted ceiling runner installed parallel to direction of fluted steel deck, centered beneath valley, prior to the application of spray-applied fire resistive material, and secured with steel masonry anchors, steel fasteners or

B. Studs — Steel studs to be min 3-5/8 in. (92 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to the floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. When vertical deflection runner (Item 2A2) is used, stude secured to vertical clip through slip bushing, supplied, with No.8 by 1/2 in. (13 mm) steel screws at midheight of slot of each slot. When slotted ceiling runner (Item 2A4) is used, steel studs cut in lengths 3/4 to 1-3/4 in. (19 to 44 mm) less than floor to ceiling height and secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at +/- 3/16 in. (5 mm) of the mid-height of slot on each side of wall. A framed opening shall be constructed around each steel structural member A min clearance of 1 in. (25 mm) to a max of 4 in. (102 mm) shall be maintained between the framing and the spray-applied fire resistive material on the two sides of the structural support. The clearance between the framing and the spray-applied fire resistive material on the bottom of the structural steel support shall be max 2 in. (51 mm). Stud spacing

sheet orientation shall be as specified in the individual U400, V400 or W400 Series Design in the Fire Resistance Directory, except that a max 1-1/2 in. (38 mm) gap shall be maintained between top of gypsum board and bottom plane of steel floor units and between the top edge of the gypsum board and the spray applied fire resistive material on the structural steel support. The top row of screws shall be

joint system is designed to accommodate a max 25 percent compression or extension from its installed width. The joint system consists of a A. Forming Material* — Nominal 4 in. (102 mm) thick pieces of nominal 4 pcf (64 kg/m3) forming material, sized to be flush with both surfaces of wall, placed to fully fill the framed opening around the structural steel support. Forming material to be installed with fibers vertical along the sides of the beam and pieces sized to attain a min compression rate of 25 percent in the thickness direction. Forming

material to be installed with fibers horizontal at the bottom of the beam and pieces sized to attain a min compression rate of 50 percent in the thickness direction. Additional mineral wool batt insulation cut into strips to fill the gap between top of the gypsum board and bottom of floor units. Width of the strips shall be equal to the total thickness of the gypsum board. The strips of mineral wool shall be compressed 50 percent in thickness and firmly packed into the gap between the top of gypsum board and bottom of floor units.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing JOHNS MANVILLE — Safing ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL - SAFE THERMAFIBER INC — Type SAF B. Fill, Void or Cavity Material* - Sealant — A min 1/16 in. (1.6 mm) dry thickness (min 1/8 in. or 3.2 mm wet thickness) of fill material sprayed of troweled on each side of wall to completely cover mineral wool forming material and to overlap min 1/2 in. (13 mm) onto gypsum board and min 2 in. (51 mm) onto the steel floor units or the spray applied material on the steel floor unit and on the structural support member on both sides of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),



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CONSULTANT LOGO:

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UL System No.: HW-D-0218

SCALE: N.T.S.

UL NO. HW-D-0218

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