

Joint Systems

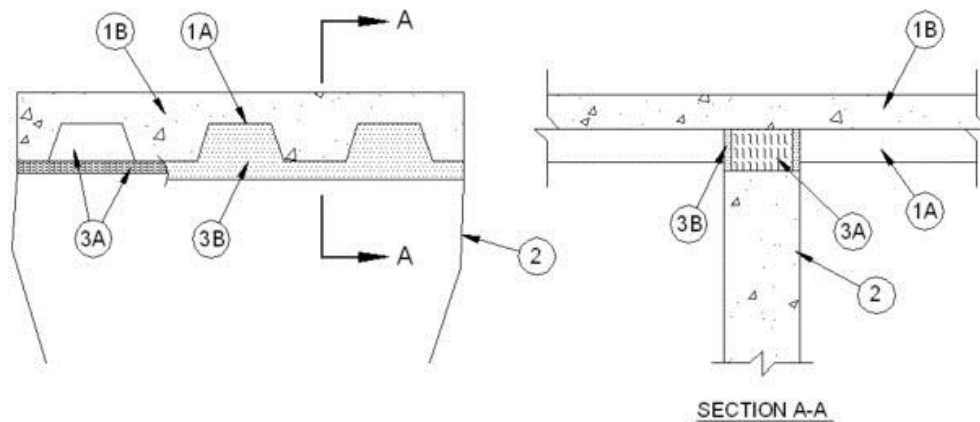
System No. HW-D-0509

July 07, 2008

Assembly Rating — 2 Hr

Nominal Joint Width — 1 In.

Class II Movement Capabilities — 25% Compression



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 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 3 in. (76 mm) thick reinforced concrete, as measured from the top plane of the floor units.

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** — 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 roof deck.

C. **Roof Covering** — Hot-mopped or cold application materials compatible with concrete.

2. **Wall Assembly** — Min 6 in. (152 mm) thick reinforced light or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Wall to be perpendicular to (Joint Configuration A), or parallel to and centered under the valley (Joint Configuration B) of the steel floor units or roof deck. Wall may also be constructed of any UL Classified **Concrete Blocks***.

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

3. **Joint System** — Max separation between bottom of floor or roof and top of wall (at time of installation of joint system) is 1 in. (25 mm). The joint system is designed to accommodate a max 25 percent compression

from its installed width. The joint system shall consist of a forming material and fill material in the flutes of the steel floor unit or roof deck and between the top of the wall and bottom of the steel floor unit or roof deck as follows:

Joint Configuration A

A. Forming Material* — Min 4-3/4 in. (121 mm) width of 4 pcf (64 mm) mineral wool batt insulation, cut to the shape of the fluted deck, approximately 20 percent larger than the area of the flutes and compressed into the flutes of the steel floor units or roof deck. Additional min 4-3/4 in. (121 mm) wide sections of mineral wool batt insulation are compressed 50 percent in thickness and installed cut edge first to fill the gap between the top of the wall and bottom of the steel floor units or roof deck. The forming material shall be recessed 5/8 in. (16 mm) from each side of the wall.

FIBREX INSULATIONS INC — FBX Safing Insulation

ROCK WOOL MANUFACTURING CO — Delta Safing Insulation

ROXUL INC — SAF M

W R GRACE & CO - CONN — FlameSafe Mineral Wool

A1. Forming Material*-Plugs — (Not Shown) As an alternate to the forming material (Item 3A), mineral wool plugs preformed to the shape of the fluted floor units or roof deck, may be used within the flutes. Plugs shall be friction fitted to completely fill the flutes. The plugs shall be recessed from each surface of wall to accommodate the required thickness of fill material. Additional forming material, described in Item 3A, to be used in conjunction with the plugs to fill the gap between the top of concrete wall and bottom of steel floor units or roof deck.

ROCK WOOL MANUFACTURING CO — Deck Plugs

B. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material installed on each side of the concrete wall in the flutes of the steel floor unit or roof deck and between the top of the wall and the bottom of the steel floor unit or roof deck flush with each surface of concrete wall.

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Joint Configuration B

A. Forming Material* — Min 4 pcf (64 mm) density mineral wool batt insulation compressed 50 percent in thickness and as necessary in width, and inserted into opening between the top of the wall and the steel floor unit or roof deck and recessed from both surfaces of wall to accommodate the required thickness of fill material.

FIBREX INSULATIONS INC — FBX Safing Insulation

ROCK WOOL MANUFACTURING CO — Delta Safing Insulation

W R GRACE & CO - CONN — FlameSafe Mineral Wool

B. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. . (16 mm) thickness of fill material installed flush with both sides of the wall.

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*Bearing the UL Classification Mark