



System No. HW-D-0139

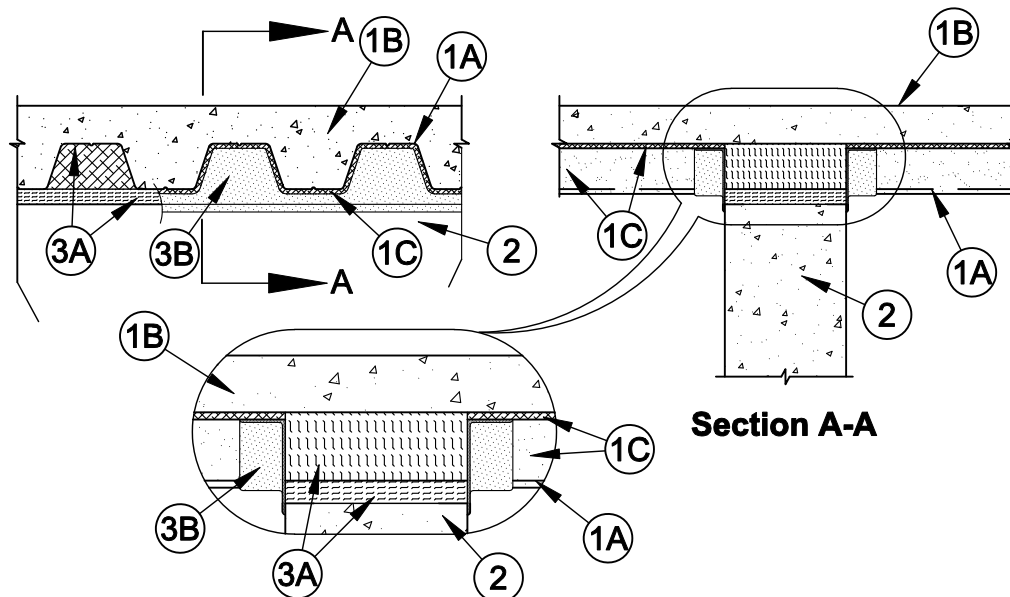
Assembly Rating - 3 Hr

Nominal 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

Class II Movement Capabilities - 18.75% Compression or Extension



Section A-A

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 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. **Spray-Applied Fire Resistive Material*** - Prior to installation of the forming material (Item 3A) and sealant (Item 3B), steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (18 mm) thickness of material in accordance with the specifications in the individual D700 Series Design. Material is to be excluded from the steel deck in the area immediately above the wall. The spray applied fire resistive material is mixed with water in accordance with the mixing instructions on the bag. The min average density of the spray applied fire resistive material shall be 15 pcf (240 kg/m³) with a min individual density of 14 pcf (224 kg/m³). See Design Information Section in Volume 1 of the Fire Resistance Directory for method of density determination.

W R GRACE & CO - CONN - Type MK-6/HY

- C1. **Spray-Applied Fire Resistive Material*** - Prior to installation of the forming material (Item 3A) and sealant (Item 3B), steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (18 mm) thickness of material in accordance with the specifications in the individual D700 or D800 Series Design. Material is to be excluded from the steel deck in the area immediately above the wall. The spray applied fire resistive material is mixed with water in accordance with the mixing instructions on the bag. When Type 300 is used, the min average density of the spray applied fire resistive material shall be 15 pcf (240 kg/m³) with a min individual density of 14 pcf (224 kg/m³). When Type II is used, the min average density of the spray applied fire resistive material shall be 13 pcf (208 kg/m³) with a min individual density of 11 pcf (176 kg/m³). See Design Information Section in Volume 1 of the Fire Resistance Directory for method of density determination.

ISOLATEK INTERNATIONAL - Type 300, Type II

- 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 P700 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 3 in. (76 mm) deep galv steel fluted roof deck.



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- B. **Roof Insulation - Mineral and Fiber Board*** - Min 3/4 in. (19 mm) thick boards applied in one or more layers directly over steel roof deck or over gypsum board sheathing laid atop steel roof deck.
- C. **Roof Covering*** - Hot-mopped or cold-application materials compatible with mineral and fiber board insulation.
- D. **Spray-Applied Fire Resistive Material*** - Steel roof deck to be sprayed with a max 3/4 in. (19 mm) thickness of spray applied fire resistive material as specified in the individual P700 Series Roof-Ceiling design. Material is to be excluded from the steel deck in the area immediately above the wall. The spray applied fire resistive material is mixed with water in accordance with the mixing instructions on the bag. The min average density of the spray applied fire resistive material shall be 15 pcf (240 kg/m³) with a min individual density of 14 pcf (224 kg/m³). See Design Information Section in Volume 1 of the Fire Resistance Directory for method of density determination.

W R GRACE & CO - CONN - Type MK-6/HY

- D1. **Spray-Applied Fire Resistive Material*** - Prior to installation of the forming material (Item 3A) and sealant (Item 3B), steel floor units to be sprayed with a max 3/4 in. (19 mm) thickness of material in accordance with the specifications in the individual P700 or P800 Series Design. Material is to be excluded from the steel deck in the area immediately above the wall. The spray applied fire resistive material is mixed with water in accordance with the mixing instructions on the bag. When Type 300 is used, the min average density of the spray applied fire resistive material shall be 15 pcf (240 kg/m³) with a min individual density of 14 pcf (224 kg/m³). When Type II is used, the min average density of the spray applied fire resistive material shall be 13 pcf (208 kg/m³) with a min individual density of 11 pcf (176 kg/m³). See Design Information Section in Volume 1 of the Fire Resistance Directory for method of density determination.

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- 2. **Wall Assembly** - Min 8 in. (203 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Block***.

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

- 3. **Joint System - Max separation between bottom of floor or roof deck and top of concrete wall (at time of installation of joint system) is 1 in. (25 mm). The joint system is designed to accommodate a max 18.75 percent compression or extension from it's installed width.** The joint system shall consist of forming and fill materials, as follows:

- A. **Forming Material*** - Sections of min 4 pcf (64 kg/m³) mineral wool batt insulation with a width equal to the thickness of the wall compressed 50 percent in thickness and installed cut edge first to completely fill the gap between the bottom of the steel deck and the top of the concrete wall. Min 9 in. (229 mm) thickness of min 6 pcf (96 kg/m³) mineral wool batt insulation cut to the shape of the fluted deck installed into the flutes of the steel floor above the compressed mineral wool batt insulation atop the concrete wall. The mineral wool batt insulation is to be compressed min 14 percent in thickness such that it is flush with both sides of the wall.

FIBREX INSULATIONS INC - FBX Safing Insulation

IIG MINWOOL L L C - MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO - Delta Board

ROCKWOOL MALAYSIA SDN.BHD - SAFE

ROXUL INC - SAFE

THERMAFIBER INC - Type SAF

- B. **Fill, Void or Cavity Material* - Sealant** - Min 1/8 in. (3.2 mm) wet thickness or 1/16 in. (1.6 mm) dry thickness of fill material spray applied on each side of the wall in the flutes of the steel floor or roof deck and between the top of the wall and the bottom of the steel floor or roof deck and overlap a min 1/2 in. (13 mm) onto concrete and a min 2 in. (51 mm) onto the spray applied material (Item 1C) on both sides of wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal AS200 Elastomeric Spray

*Bearing the UL Classification Mark



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