



System No. F-A-1220

- 1. Floor Assembly —The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:
 - A. Concrete Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete above the crest. A1. Concrete — [As an alternative to Item 1A, Not shown] Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete, with a min 2 in. (51 mm) thickness of concrete or grout topping extending continuously beyond the periphery of the firestop device.
 - B. Steel Floor and Form Units* ---Max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
 - C. Concrete —[As an alternate to Items 1A, and 1B] Min 7-1/2 in. (190 mm) thick reinforced lightweight or normal weight (1600-2400 kg/m3or 100-150 pcf) concrete.
- 2. Firestop Device* Cast in place firestop device platform installed prior to concrete placement in floor assembly. The CFS-CID MD PLT firestop device platform is screwed to the fluted deck with one fastener at each corner in accordance with manufacturer installation instructions. The firestop device platform is sized for nominal 2 and 3 in. (51 and 76 mm) deep fluted decks.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC CFS-CID MD PLT W2" and W3" 2A. Firestop Device* — [As an alternative to Item 2, Not shown] Cast in place firestop device installed over firestop device platform (Item 2) prior to
- concrete placement in floor assembly. The CFS-CID MD Firestop Device is set onto and screwed to the device platform in accordance with manufacturer installation instructions. The firestop device is sized for the diameter of the through penetrant and for the height of the concrete topping over the fluted deck. Both the 2.5" and 4" height devices must use a device extension to accommodate the increased floor thickness. The firestop device may extend a max of 2 in. (51 mm) above the top surface of the concrete.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-CID MD P 2"/2.5", 3"/2.5" and 4"/2.5"; and CFS-CID MD P 2"/4", 3"/4" and 4"/4", CFS-CID MD PX 2"/2.5", 3"/2.5" and 4"/2.5" and CFS-CID MD PX 2"/4", 3"/4" and 4"/4"

- 2B. Firestop Device* [As an alternative to Item 2 and 2A, Not shown]. Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions. The firestop device may extend a max of 2 in. (51 mm) above the top surface of the concrete.
 - HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC ---CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-PX 2", CP 680-PX 3"
- 3. Through-Penetrants One metallic pipe, conduit, or tubing to be installed within the firestop device. Pipe to be rigidly supported on both sides of floor assembly. The following types of pipes may be used:
 - A. Aluminum Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) aluminum pipe for use in closed (process or supply) or vented (drain, waste or vent) systems.
 - B. Aluminum Conduit Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) aluminum conduit for use in closed (process or supply) or vented (drain, waste or vent) systems.
 - C. Aluminum Electric Metallic Tubing Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) aluminum electric metallic tubing for use in closed (process or supply) or vented (drain, waste or vent) systems.

The size of the firestop device (Item 2) is dependent on the diameter of the through penetrant as shown in the table below:

Nom Pipe Diam ++	Firestop Device
1-1/2 to 2 in. (38 to 51 mm)	CP 680-P(X) 2", CFS-CID MD-P(X) 2"
2-1/2 to 3 in. (64 to 76 mm)	CP 680-P(X) 3", CFS-CID MD-P(X) 3"
>3 to 4 in. (76 to 102 mm)	CP 680-P(X) 4", CFS-CID MD-P(X) 4"

++ L Rating applies only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.).



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Configuration B

4. Pipe Covering Material* — Nom 0.5 in. (12.7 mm) flexible sheet material to be wrapped around the penetrant in accordance with manufacturer's installation instructions. Three layers of pipe covering to be individually wrapped around the outer circumference of the penetrant. The vertical seams of each layer to be offset by a min of 2 in. from the preceding layer. Nom 3 in. wide aluminum foil tape to be applied to all vertical seams. Pipe covering to be secured using two, nom 1/2 in. (13 mm) wide stainless steel hose clamps. Top hose clamp located nom 2 in. (51 mm) from bottom surface of floor. Bottom hose clamp located nom 2 in. (51 mm) from lower edge of pipe covering.

Configuration	No. of Layers of Pipe Covering	T, FT, FTH Ratings, hr
А	0	0
В	3	2

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CFP-ES Endo-Shield

- 5. Riser Clamp Required for use with Config B, metallic riser clamps sized to fit the outer circumference of the penetrant and installed in accordance with the manufacturer's installation instructions. The riser clamp to be installed flush with the exposed edge of the pipe covering material below floor.
- * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



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