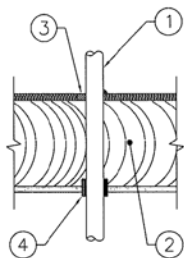
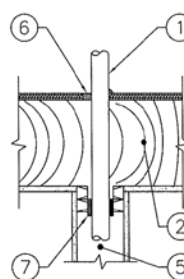


Grabber Construction Products, Inc.
Design No. JWA/PH 60-09
Horizontal Floor/Ceiling Assembly, Single Penetrations
GrabberGard EFC and GrabberGard IFC
Test Standards: ASTM E814, UL 1479: Non-metallic Open and Closed Systems
ULC S115-M11: Non-metallic Open and Closed Systems
Positive Pressure Differential – 50 Pa (0.20 in. of water) Minimum
Rating: 1 Hour

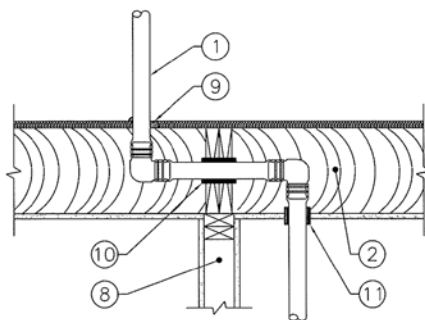
Penetrating Material & Size	Max Hole Size	Annular Space	ASTM E814		ULC S115-M11		
			"F"	"T"	"F"	"FH"	"FT"
PEX up to 2 in. (51mm) ID	See below	See below	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour
PE/PE-RT up to 2 in. (51mm) ID	See below	See below	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour
At gypsum board ceiling	67mm (2-5/8 in.)	6mm (1/4 in.)	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour
At header plates	76mm (3 in.)	12.5mm (1/2 in.)	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour
At joists	76mm (3 in.)	12.5mm (1/2 in.)	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour
At plywood sub-floor	67mm (2-5/8 in.)	0 to 13mm (0 – 1/2 in.)	1 Hour	1 Hour	1 Hour	1 Hour	1 Hour



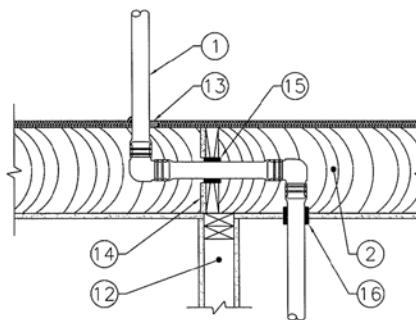
DESIGN A



DESIGN B



DESIGN C



DESIGN D

1. PENETRATING ITEM: Penetration to be centered in openings in gypsum board, header plates, and joists. Penetration can be centered or offset in openings in sub-floor, see table above.

2. FLOOR/CEILING ASSEMBLY: Use a wood frame gypsum wallboard (GWB) floor/ceiling assembly, with or without concrete topping, with a min. depth of 9-1/4 in. (235mm). The floor/ceiling assembly shall have a fire



resistance rating determined in accordance with ASTM E119, UL 263, or CAN/ULC-S101, as applicable. The fire resistance rating shall be equal to or greater than the "F" rating of the through-penetration firestop assembly, and shall comply with the min. requirements below.

DESIGN A

- 3. FIRESTOP SYSTEM COMPONENT 1:** Grabber Construction Products, Inc. – GrabberGard EFC* or GrabberGard IFC* fully filling the annular space to the full depth of the membrane. On 0 to 6mm (0 to 1/4 in.) annular space, a min. 12mm (1/2 in.) diameter bead of sealant must be placed around penetrating item. After the installation of the Wrap Strip WS1* (Component 2), a min. 3mm (1/8 in.) diameter bead of sealant to be applied at the interface of the WS1 and the ceiling membrane.
- 4. FIRESTOP SYSTEM COMPONENT 2:** PFP Partners – Wrap Strip WS1* to be installed around penetrant and recessed into opening such that the outer edge wrap strips extend approximately 12mm (1/2 in.) below ceiling membrane surface. Min. two layers installed in the annular space between the pipe and ceiling membrane. Aluminum foil tape to be installed around circumference of the outer wrap strip and pipe assembly for securing wrap strips in place.

DESIGN B

- 5. WALL ASSEMBLY:** Rated or non-rated metal or wood framed gypsum wallboard (GWB) wall assemblies.
- 6. FIRESTOP SYSTEM COMPONENT 1:** Grabber Construction Products, Inc. – GrabberGard EFC* or GrabberGard IFC* fully filling the annular space to the full depth of the

membrane. On 0 to 6mm (0 to 1/4 in.) annular space, a min. 1/2 in. (12mm) diameter bead of sealant must be placed around penetrating item. After the installation of the Wrap Strip WS1* (Component 7), a min. 3mm (1/8 in.) diameter bead of sealant to be applied at the interface of the WS1 and the bottom of the header plates.

- 7. FIRESTOP SYSTEM COMPONENT 2:** PFP Partners – Wrap Strip WS1* to be installed around penetrants recessed into opening such that the outer edge wrap strips extend approximately 12mm (1/2 in.) below the header plates. Min. four layers installed in the annular space between the pipe and header plate. Aluminum foil tape to be installed around circumference of the outer wrap strip and pipe assembly for securing wrap strips in place.

DESIGN C

- 8. WALL ASSEMBLY:** Rated or non-rated metal or wood framed gypsum wallboard (GWB) wall assemblies.
- 9. FIRESTOP SYSTEM COMPONENT 1:** Grabber Construction Products, Inc. – GrabberGard EFC* or GrabberGard IFC* fully filling the annular space to the full depth of the membrane. On 0 to 6mm (0 to 1/4 in.) annular space, a min. 1/2 in. (12mm) diameter bead of sealant must be placed around penetrating item.
- 10. FIRESTOP SYSTEM COMPONENT 2:** PFP Partners – Wrap Strip WS1* to be installed around penetrants and installed within joists recessed into opening such that the outer edge wrap strips extend approximately 12mm (1/2 in.) beyond the both surfaces of the joists. Min. four layers installed in the annular space between the pipe and joists on both sides of



joists. Aluminum foil tape to be installed around circumference of the outer wrap strip and pipe assembly for securing wrap strips in place.

- 11. FIRESTOP SYSTEM COMPONENT 3:** PFP Partners – Wrap Strip WS1* to be installed per the requirements of Item 4 in Design A or Item 7 in Design B (depending on if penetrant is installed outside or inside a wall assembly).

DESIGN D

- 12. WALL ASSEMBLY:** Rated or non-rated metal or wood framed gypsum wallboard (GWB) wall assemblies.

- 13. FIRESTOP SYSTEM COMPONENT 1:** Grabber Construction Products, Inc. – GrabberGard EFC* or GrabberGard IFC* fully filling the annular space to the full depth of the membrane. On 0 to 6mm (0 to 1/4 in.) annular space, a min. 1/2 in. (12mm) diameter bead of sealant must be placed around penetrating item.

- 14. FIRESTOP SYSTEM COMPONENT 2:** One layer of nominal 16mm (5/8 in.) thick Type X gypsum wallboard inserted securely and fastened with drywall screws to the single joist to cover joist completely within joist cavity.

- 15. FIRESTOP SYSTEM COMPONENT 3:** PFP Partners – Wrap Strip WS1* to be installed around penetrants and installed within joist recessed into opening such that the outer edge wrap strips is centered within the joist. Min. four layers installed in the annular space between the pipe and joist. Aluminum foil tape to be installed around circumference of the outer wrap strip and pipe assembly for securing wrap strips in place.

- 16. FIRESTOP SYSTEM COMPONENT 4:** PFP Partners – Wrap Strip WS1* to be installed per the requirements of Item 4 in Design A or Item 7 in Design B (depending on if penetrant is installed outside or inside a wall assembly).

*WH Labeled Component