

3M Company
Design No. 3M/PHV 120-03
Through Penetration
3M™ Fire Barrier Ultra PPD
3M™ Fire Barrier PPD-6
3M™ Fire Barrier Ultra RC Pack
3M™ Fire Barrier Ultra GS Wrap Strip
3M™ Fire Barrier RC-1 Collar
3M™ Ultrafast™ Anchors
3M™ Fire Barrier IC 15WB+
3M™ Fire Barrier CP 25WB+
3M™ Fire Barrier 3000WT
3M™ FireDam 150+

CAN/ULC-S115, ASTM E814
Rating: See Table 1
Pressure Differential: Positive, 50 Pa (0.20 in. w.g.)

TABLE 1. RATINGS

		CAN/ULC-S115	ASTM E814
Penetrating Item	Pipe Size	F, FH, FT, FTH	F, T
PVC	1-1/2 in. - 6 in.	2 Hr	2 Hr
System XFR	1-1/2 in. - 6 in.	2 Hr	2 Hr
CPVC	1-1/2 in. - 4 in.	2 Hr	2 Hr
ccABS	1-1/2 in. - 4 in.	2 Hr	2 Hr
ABS	1-1/2 in. - 4 in.	2 Hr	2 Hr
FRPP	1-1/2 in. - 4 in.	2 Hr	2 Hr
PVC – Thin Wall	2 in.	2 Hr	2 Hr

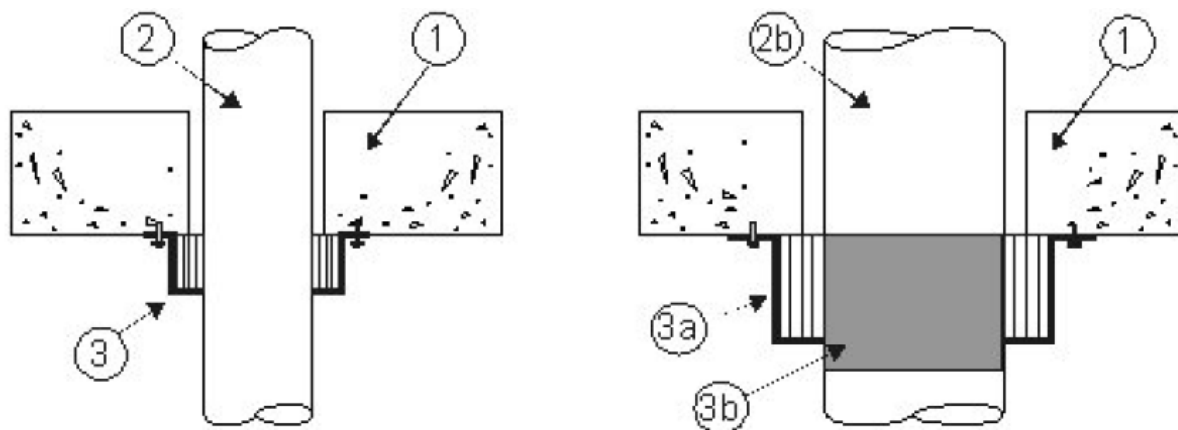


Figure 1. Penetration Detail

1. **FLOOR OR WALL ASSEMBLY:** Code conforming 2-hour fire-rated floor or wall assembly, nominal 4-1/2-in. thickness, low density cast concrete, or hollow core concrete. Wall may also be constructed of nominal 8-in. thick concrete blocks (filled or unfilled).

HOLLOW CORE CONCRETE (Not Shown): Seal the annular space at pipe penetration on the floor side with a 1/4-in. thickness of one of the Intertek-Certified sealants listed below applied over 1-in. thickness of Intertek-Certified mineral wool.

Certified Products: Sealant

- 3M™ Fire Barrier CP 25WB+
- 3M™ Fire Barrier IC 15WB+
- 3M™ Fire Barrier 3000WT
- 3M™ FireDam 150+

2. **PENETRATING ITEMS:** (See also Table 1) Nominal 4-in. diameter, Schedule 40, ccABS, ABS, PVC, System XFR, CPVC, and FRPP pipes for use in DWV (Drain, Waste and Vent) or Closed (Process and Supply) piping systems, and PVC - Thin Wall Vacuum Tubing (nominal 2-in. diameter). Use 1/4-in. maximum annular space between penetrating item and floor or wall assembly. Ratings achieved will equal that of floor or wall assembly.

- b) Nominal 6-in. diameter, Schedule 40, PVC, and System XFR.

3. **FIRESTOP SYSTEM COMPONENTS:**

Certified Products: 3M™ Fire Barrier Ultra PPD, 3M™ Fire Barrier PPD-6, 3M™ Fire Barrier Ultra PPD or 3M™ Fire Barrier Ultra RC Pack: Size devices appropriately for pipe diameter and secure with Intertek-Certified 3M™ Ultrafast™ Anchors or steel masonry anchors 1/4-in. diameter x 1-1/4-in. long over fender washers. To reduce opening size backfill annular space with a non-shrink grout. Use Intertek-certified 3M™ Fire Barrier Ultra PPD 1.5 for PVC – Thin Wall Vacuum Tubing (nominal 2-in. diameter).

3M™ PPD Size Chart

Device	Nominal Pipe Size	Max. Hole Size
PPD 1.5	1-1/2 in.	2-1/2 in.
PPD 2.0	2 in.	3 in.
PPD 3.0	3 in.	4 in.
PPD 4.0	4 in.	5 in.
PPD-6	6 in.	7 in.



3M™ Fire Barrier Ultra RC Pack Size Chart

Device	Nominal Pipe Size	Max. Hole Size
RC Pack 2	2 in.	3 in.
RC Pack 3	3 in.	4 in.
RC Pack 4	4 in.	5 in.

Certified Products: 3M™ Interam™ Ultra GS Wrap Strip in 3M™ Fire Barrier RC-1 Collar:

Use nominal 1/8-in. thick, 2-in. wide 3M™ Fire Barrier Ultra GS Wrap Strip and nominal 2-in. wide 3M™ Fire Barrier RC-1 Collar as an alternative to 3M™ Fire Barrier Ultra PPD. Install the wrap strip tightly around penetrating item with continuous layers and butted tightly against the ceiling. Use aluminum foil tape, steel wire tie, or equivalent to hold wrap strip in place temporarily. Use 3M™ Fire Barrier RC-1 collar to retain the wrap strip. Bend the anchor tabs outward 90 degrees and install the collar tightly around the wrap strip with 1-in. overlap at the ends. Secure the collar with 1/2-in. wide stainless steel hose clamp. Fasten the collar tabs to the floor or wall assembly as specified for the 3M™ Fire Barrier Ultra PPD.

3M™ Interam™ Ultra GS Wrap Strip in 3M™ Fire Barrier RC-1 Collar Size Chart

Pipe ID	Anchors Required	Wrap Strip Layers
1-1/2 in.	2	1
2 in.	2	1
3 in.	3	2
4 in.	4	3

- a) Intertek-Certified 3M™ Fire Barrier PPD-6: Installed onto nominal 6-in. pipe (Item 2b) over aluminum foil tape (Item 3b), secured with steel masonry anchors 1/4-in. diameter x 1-1/4-in. long over fender washers.
- b) Aluminum Foil Tape: Wrap pipe with one layer of tape covering 4 in. of pipe length.

Certified Products: Sealant

- 3M™ Fire Barrier CP 25WB+
- 3M™ Fire Barrier IC 15WB+
- 3M™ Fire Barrier 3000WT
- 3M™ FireDam 150+

Use sealant to fill the annular space at the pipe penetration as a smoke seal.

Note: Check the CPVC manufacturers' compatibility list before applying any 3M Fire Protection Products to a system which includes CPVC pipes.



This Design Listing is intended to provide guidance for on-site verification of the installation of system components and shall not be used in place of the manufacturer's published installation instructions. The manufacturer is responsible for providing installation instructions and requirements that ensure compliance with the system as tested and evaluated by Intertek. Installation must comply with this Design Listing, the manufacturer's installation instructions, and the applicable Code. In the event of conflict, this Design Listing governs.

Compliance of the assembly described in this Design Listing with the referenced standard(s) is contingent upon verification that the field-constructed assembly is consistent with the assembly described herein. Intertek-certified products may be verified by the authorized Intertek label. Products not bearing the Intertek label shall be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.

This Design Listing is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of that agreement. Intertek assumes no liability to any party other than the Client, in accordance with the agreement, for any loss, expense, or damage arising from the use of this document. Only the Client is authorized to permit copying or distribution of this Design Listing, and only in its entirety. Partial reproduction or distribution of excerpts is not permitted.

Refer to the listing report in the Directory of Building Products (<https://bpdirectory.intertek.com>) for the applicable edition of the referenced standard(s)