

3M Company
Design No. 3M/PH 120-05
Through Penetration
3M™ Fire Barrier Ultra PPD
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+
3M™ MPS Moldable Putty+ (MPS2)

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
ccPVC	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
PVC	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
CPVC	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
ccABS	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
ABS	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
FRPP	1-1/2 in. - 4 in.	1 & 2 Hr	1 & 2 Hr
PVC – Thin Wall	2 in.	1 & 2 Hr	1 & 2 Hr

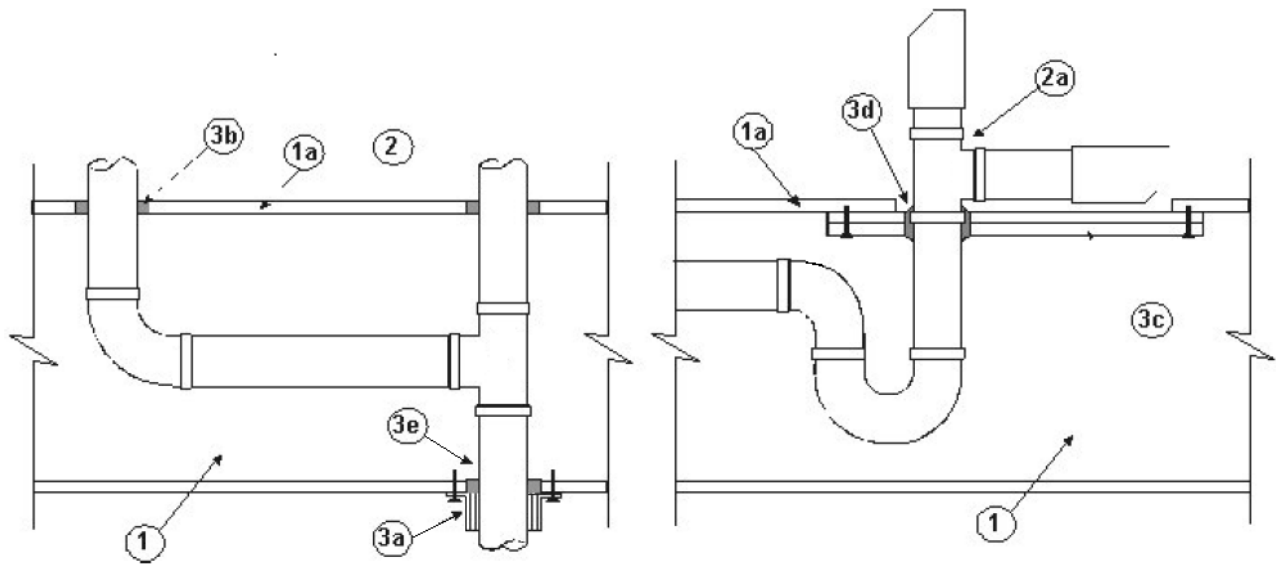


Figure 1. Penetration Detail

- 1. FLOOR/CEILING ASSEMBLY:** Code conforming 1- or 2-hour fire-rated floor/ceiling assembly, framed with minimum 2x10 solid sawn or manufactured wood joists, topping optional (not shown).

CHASE WALL (Optional – Not Shown): 1 or 2 hour fire-rated or non-fire-rated wood or steel stud gypsum wallboard assembly, when used, install the firestop system as detailed in (Item 3) to the underside of single and double top plates.

a) Flooring System: Maximum rectangular cutout, 8 in. x 12 in., in flooring to accommodate the Bathtub Waste/Overflow Fitting (Item 2a).

- 2. PENETRATING ITEMS:** (See also Table 1) Schedule 40, PVC, ccPVC, CPVC, ABS, ccABS & FRPP 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), branch piping, Tee's,

Couplings & Elbows Optional within assembly. Ratings achieved will equal that of floor/ceiling assembly (Item 1). Maximum 1/4-in. annular space through gypsum board and at single or double top plates. Maximum 1/2-in. annular space through wood floor.

a) Bathtub Waste/Overflow Fitting: Maximum pipe diameter 2 in., any of the pipe types detailed above may be used, see Item 3c Gypsum Board Patch.

3. FIRESTOP SYSTEM COMPONENTS:

a) Certified Products: 3M™ Fire Barrier Ultra PPD or 3M™ Fire Barrier Ultra RC Pack: Size devices appropriately for pipe and secure with Intertek-Certified 3M™ Ultrafast™ Anchors or 1-1/2-in. toggle bolts over fender washers. Use 1-1/4-in. drywall screws and fender washers for single and double top plates. Use 3M™ Interam™ Ultra PPD 1.5 for nominal 2-in. diameter Thin Wall PVC Vacuum Tubing.



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 ceiling as specified for the 3M™ Fire Barrier™ Ultra PPD.

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

b) Sealant:

Certified Products: 3M™ Fire Barrier CP 25WB+ Caulk, 3M™ Fire Barrier IC 15WB+ Sealant, 3M™ FireDam 150+ Caulk or 3M™ MPS Moldable Putty+ (MPS2), to fill

the annular space to a minimum depth of 5/8 in. at the wood floor.

c) Gypsum Board Patch: Two pieces of gypsum board, sized 4 in. larger than the cutout opening in the flooring, screw-attached to bottom of flooring concentric with cutout. Diameter of opening through both layers of the Gypsum Board Patch is maximum 2-1/2 in. for 1-1/2-in. diameter pipes and maximum 3 in. for 2-in. diameter pipes.

d) Sealant:

Certified Products: 3M™ Fire Barrier CP 25WB+ Caulk, 3M™ Fire Barrier IC 15WB+ Sealant, 3M™ FireDam 150+ Caulk or 3M™ MPS Moldable Putty+ (MPS2), applied within the annular space around the penetrating item to the full thickness of the Gypsum Board Patch.

e) Sealant:

Certified Products: 3M™ Fire Barrier CP 25WB+ Caulk, 3M™ Fire Barrier IC 15WB+ Sealant, 3M™ FireDam 150+ Caulk or 3M™ MPS Moldable Putty+ (MPS2), to fill the annular space at the pipe penetration as a smoke seal, however, it is not required to achieve stated ratings.

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.

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