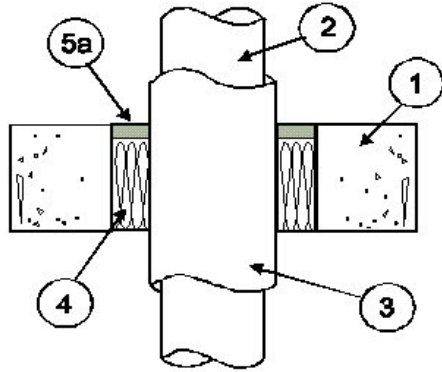


DESIGN NO. 3M/PHV 120-16

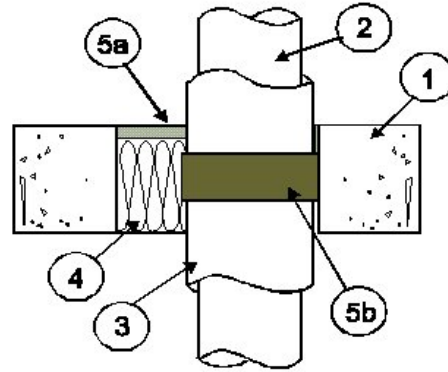
HORIZONTAL OR VERTICAL (FLOOR OR WALL), RATINGS - SEE BELOW, ANNULAR SPACE - 0" (POINT CONTACT) TO 1-1/2"

TEST PRESSURE DIFFERENTIAL - 2.5 Pa (0.01" OF WATER)

Penetrant	Max. Pipe Diameter	Max. Opening Diameter	CAN/ULC-S115		ASTM-E814	
			F, FH	FT, FTH	F	T
Steel Pipe	4"	8"	2 Hr	2 Hr	2 Hr	2 Hr
Copper Pipe	2"	5"	2 Hr	2 Hr	2 Hr	2 Hr



Design A



Design B

1.	Floor or Wall Assembly: Code conforming 2 hour fire-rated floor or wall assembly, nominal 4-1/2" thick, normal or low density cast concrete. Wall may be constructed of nominal 8" thick concrete blocks (filled or unfilled).
2.	Penetrant: (See table of ratings) Steel Pipe nominal 4" diameter (or smaller), or Copper Pipe nominal 2" diameter (or smaller).
3.	Pipe Insulation: Nominal 1" thick Kookphen® K, rigid phenolic insulation. Ratings achieved will equal that of floor or wall assembly.
4.	Forming Material: Minimum 4" thickness of 4 pcf mineral wool batt insulation, compressed and firmly packed into the opening as a permanent form. Material to be recessed 1/2" from the top surface of floor or from both surfaces of wall.
5.	Firestop System Components: Design A: *3M™ Fire Barrier CP-25WB+ Caulk applied over forming material to a minimum depth of 1/2". For wall applications firestop system is applied to both sides. Design B: *3M™ Fire Barrier Ultra GS Intumescent Wrap Strip taped around the entire perimeter of the insulation (Item 3). Floor applications strip to be centered within the floor thickness. For wall applications wrap strip is recessed 1" from the surface on both sides.

Note: Metric conversion factor, inches x 25.4 = mm.

*Components bearing the Warnock Hersey Certification Mark.