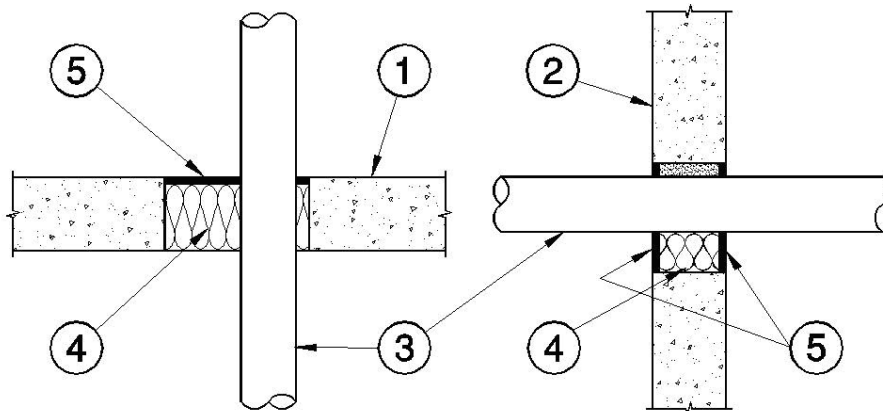


**DESIGN NO. 3M/PHV 120-19**  
**HORIZONTAL/VERTICAL (FLOOR/WALL); RATINGS: SEE TABLE BELOW**  
**TEST PRESSURE DIFFERENTIAL - 2.5 PA (0.01" OF WATER) MINIMUM**

Penetrating Items	Max. Pipe Size*	Max. Hole Size*	Min-Max Annular Spacing*	RATINGS			
				CAN/ULC-S115		ASTM-E814	
				F, FH	FTH	F	FT
Glass	2"	3"	1/4" - 1/2"	2 Hr	80 Min.	2 Hr	80 Min.
Steel/Cast Iron Sch. 10 or heavier	8"	12"	0" - 3-3/8"	2 Hr	26 Min.	2 Hr	26 Min.
Copper	4"	6"	0" - 1-3/4"	2 Hr	15 Min.	2 Hr	15 Min.
Conduit	4"	6"	0" - 1-1/2"	2 Hr	15 Min.	2 Hr	15 Min.
CPVC**	2"	4"	0" - 1-1/2"	2 Hr	15 Min.	2 Hr	15 Min.
PVC**	2:	4"	0" - 1-1/2"	2 Hr	15 Min.	2 Hr	15 Min.
BX	1/2"	2"	0" - 1-1/2"	2 Hr	15 Min.	2 Hr	15 Min.
EL XXX	45% Fill	6"	1/4" - 1/2"	2 Hr	15 Min.	2 Hr	15 Min.



1. **Floor/Ceiling Assembly:** Minimum 4-1/2" thick concrete slab, two hour rated floor/ ceiling assembly.
2. **Wall Assembly:** Minimum 5" thick concrete slab, or minimum 8" concrete block, two hour rating wall assembly.
3. **a) Penetrating Items:** See Table of Ratings.  
**b) Electrical Penetrations:** Maximum 8 cables spaced 1/8" minimum apart.  
**c) Metal Pipes:** Maximum 3 penetrating items spaced 1/8" minimum apart.
4. **Mineral Wool Packing:** Nominal 4 PCF or heavier density mineral wool insulation, tightly packed around the penetrating item to a depth of 4" minimum.
5. **Firestop Sealant:** 3M™ 1003 Silicone Sealant Self Leveling for floor/ceiling penetrations or \*3M™ Fire Barrier 1000 Silicone Sealant No Sag for floor or wall penetrations, applied to a depth of 3/8" for floor penetrations on top of the mineral wool packing, and to a depth of 3/8" on both sides of a wall assembly.

\*To convert to mm, multiply by 25.4

\*\*Process & supply pipe only in Canada.