

METAL PIPE THROUGH CONCRETE WALL OR CONCRETE BLOCK WALL ASSEMBLY

F-RATING = 2-HR.

T-RATING = 0-HR.

M-RATING = SEE TABLE BELOW

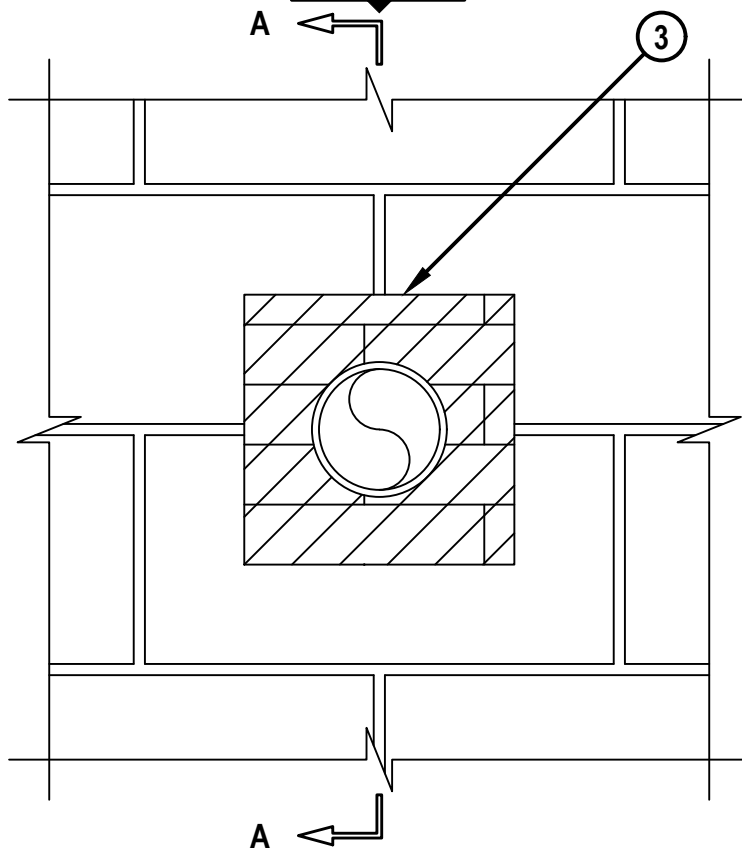
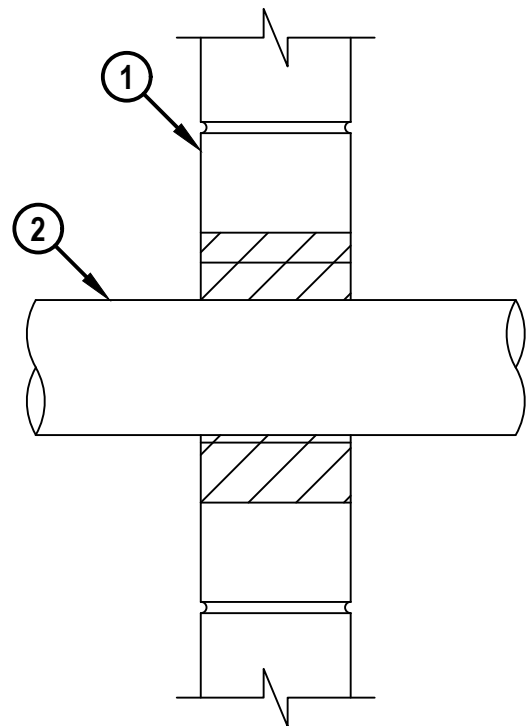
L-RATING (WITHOUT MOVEMENT) AT AMBIENT = 5 CFM/SQ FT

L-RATING (WITHOUT MOVEMENT) AT 400°F = 2 CFM/SQ FT

L-RATING (WITH MOVEMENT) AT AMBIENT = 5.2 CFM/SQ FT

L-RATING (WITH MOVEMENT) AT 400°F = 1.03 CFM/SQ FT

WJ1321a.082925

FRONT VIEW**SECTION A-A**

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1. CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING):

A. LIGHTWEIGHT OR NORMAL WIGHT CONCRETE WALL (MINIMUM 5" THICK).

B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.

2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :

A. MAXIMUM 4" DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).

B. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.

C. MAXIMUM 4" NOMINAL DIAMETER STEEL EMT.

D. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE OR TUBING (TYPE L, REGULAR, OR HEAVIER).

E. MAXIMUM 2" NOMINAL DIAMETER ALUMINUM PIPE (SCH. 10 OR HEAVIER) (CLOSED OR VENTED).

F. MAXIMUM 2" NOMINAL DIAMETER ALUMINUM CONDUIT (CLOSED OR VENTED).

G. MAXIMUM 2" NOMINAL DIAMETER ALUMINUM EMT (CLOSED OR VENTED).

3. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 8" WIDE x 5" DEEP, REFERENCE : FRONT VIEW) FIRMLY PACKED AND CENTERED WITHIN WALL ASSEMBLY (SEE NOTE BELOW).**M-RATING TABLE**

MOVEMENT DIRECTION	NOMINAL PENETRANT DIAM.	ANNULAR SPACE	MOVEMENT
Y	4"	MAX 2-1/2"	50%
Z	4"	2-1/2"	MAX 2.23"

****PERCENTAGE MOVEMENT BASED ON THE MINIMUM DISTANCE BETWEEN OUTER DIAMETER OF PENETRANT AND INSIDE OPENING.**

NOTES : 1. MAXIMUM AREA OF OPENING = 81 SQ. IN., WITH A MAXIMUM DIMENSION OF 9".

2. ANNULAR SPACE = MINIMUM 0" TO MAXIMUM 2-1/2".

3. APPLY HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT INTO ANY VOID THAT MAY EXIST (AROUND PENETRANTS OR BETWEEN FIRESTOP BLOCKS), TO MAXIMUM EXTENT POSSIBLE.

4. FOR BLOCK WALLS, FIRESTOP BLOCKS TO FILL ENTIRE THICKNESS OF WALL UNLESS WALL IS SOLID FILLED.

**Hilti Firestop Systems**

HILTI, Inc.
Plano, Texas USA (800) 879-8000

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Scale -

Date Aug. 29, 2025

Drawing No.

WJ
1321a

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