

UL/cUL SYSTEM NO. W-J-8102

MULTIPLE HVAC LINE SETS THROUGH CONCRETE WALL ASSEMBLY

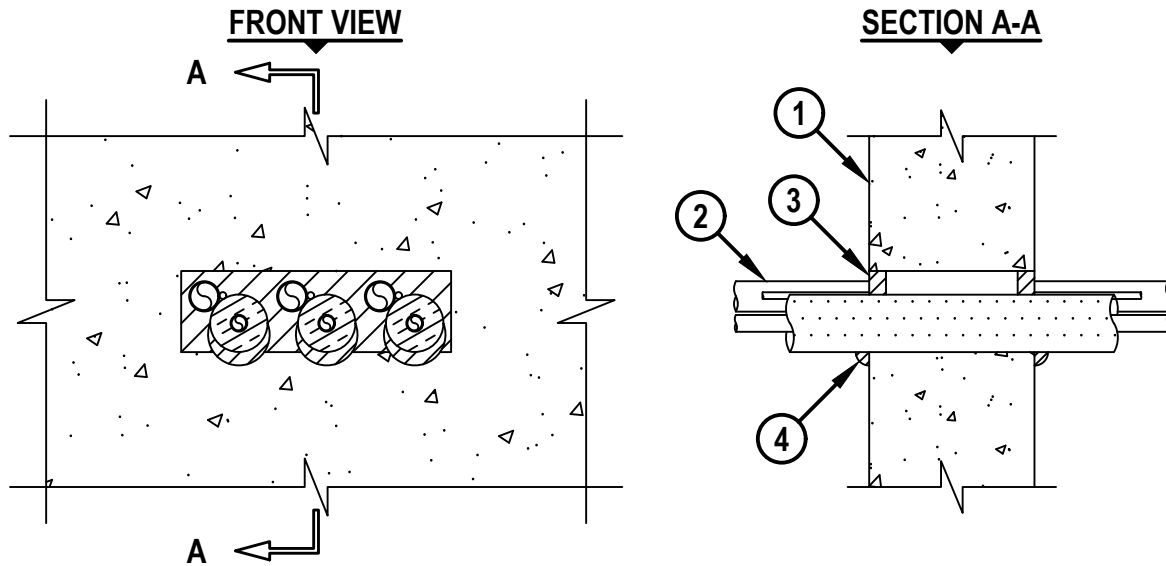
F-RATING = 1-HR. OR 2-HR.

T-RATING = 1/4-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT

L-RATING AT 400°F = LESS THAN 1 CFM / SQ FT

WJ8102a.111522



1. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL OR CONCRETE BLOCK WALL ASSEMBLY.
 - A. MINIMUM 4-7/8" THICK CONCRETE FOR 1-HR. ASSEMBLIES.
 - B. MINIMUM 6-1/8" THICK CONCRETE FOR 2-HR. ASSEMBLIES.
2. ONE OR MORE HVAC LINE SETS CONSISTING OF THE FOLLOWING, BUNDLED TOGETHER :
 - A. MAXIMUM 1" NOMINAL DIAMETER COPPER PIPE OR TUBING (MAX. QTY. = 2).
 - B. ON ONE OF THE METALLIC PIPES OR TUBES WITH A MAXIMUM NOMINAL DIAMETER OF 1/2", A MAXIMUM 3/4" THICK AB/PVC PIPE INSULATION MAY BE INSTALLED.
 - C. MAXIMUM 4 PAIR NO. 18 AWG THERMOSTAT CABLE WITH PVC JACKET.
3. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
4. MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM SIZE OF OPENING = 10" x 3".
2. ANNULAR SPACE BETWEEN HVAC LINE SETS AND PERIPHERY OF OPENING = MINIMUM 0", MAXIMUM 1-1/2".
3. ANNULAR SPACE BETWEEN LINE SETS = MINIMUM 1/2", MAXIMUM 3/4".

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Sheet	1 of 1
Scale	9/64" = 1"
Date	Nov. 15, 2022

Drawing No.
WJ
8102a

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HVAC LINE SET THROUGH CONCRETE WALL ASSEMBLY

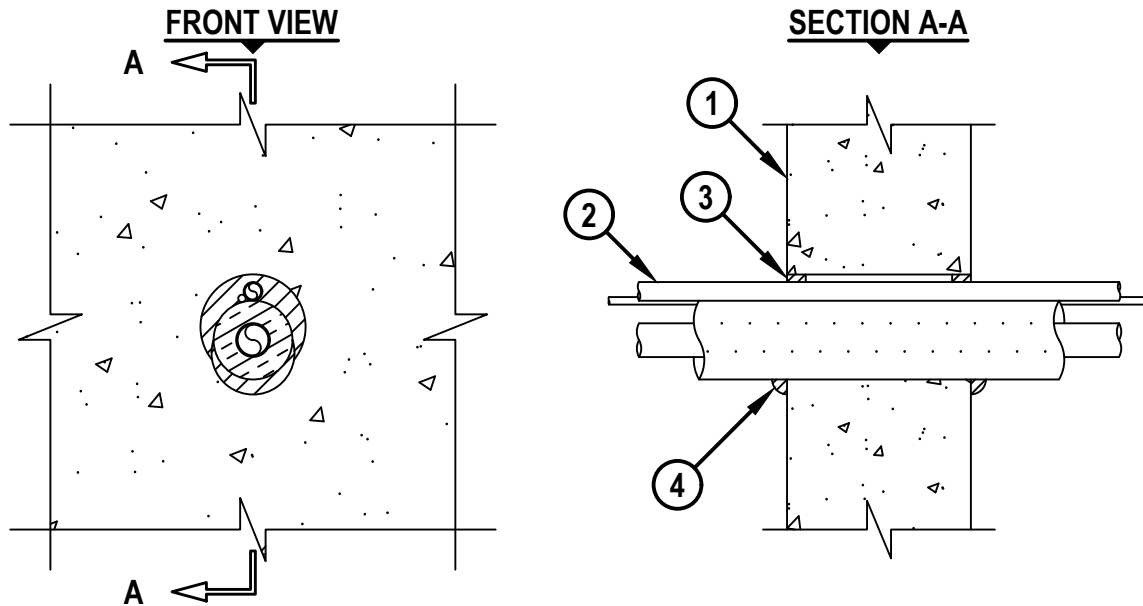
F-RATING = 1-HR. OR 2-HR.

T-RATING = 0-HR., 1/4-HR., OR 1/2-HR. (SEE ITEM 2 BELOW)

L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT

L-RATING AT 400°F = LESS THAN 1 CFM / SQ FT

WJ8101a.111522



1. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL OR CONCRETE BLOCK WALL ASSEMBLY.
 - A. MINIMUM 4-7/8" THICK CONCRETE FOR 1-HR. ASSEMBLIES.
 - B. MINIMUM 6-1/8" THICK CONCRETE FOR 2-HR. ASSEMBLIES.
2. HVAC LINE SET CONSISTING OF THE FOLLOWING :
 - A. MAXIMUM 1" NOMINAL DIAMETER COPPER PIPE OR TUBING (MAX. QTY. = 2).
 - B. AB/PVC PIPE INSULATION. ON ONE OF THE METALLIC PIPES OR TUBES, A MAXIMUM 3/4" THICK AB/PVC PIPE INSULATION MAY BE INSTALLED. WHEN AB/PVC PIPE INSULATION IS INSTALLED, THE T-RATING IS 1/4-HR. AND 1/2-HR. FOR 1-HR. AND 2-HR. RATED ASSEMBLIES, RESPECTIVELY.
 - C. EPDM PIPE INSULATION. AS AN ALTERNATIVE TO ITEM 2B, ON ONE METALLIC PIPE OR TUBE, A MAXIMUM 3/4" THICK EPDM PIPE INSULATION MAY BE INSTALLED. WHEN EPDM PIPE INSULATION IS INSTALLED, THE T-RATING IS 0-HR. AND 1/4-HR. FOR 1-HR. AND 2-HR. RATED ASSEMBLIES, RESPECTIVELY.
 - D. MAXIMUM 4 PAIR NO. 18 AWG THERMOSTAT CABLE WITH PVC JACKET.
3. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
4. MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 3-1/2".
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1/2".

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METAL PIPE THROUGH CONCRETE WALL OR CONCRETE BLOCK WALL ASSEMBLY

F-RATING = 1-HR. OR 2-HR.

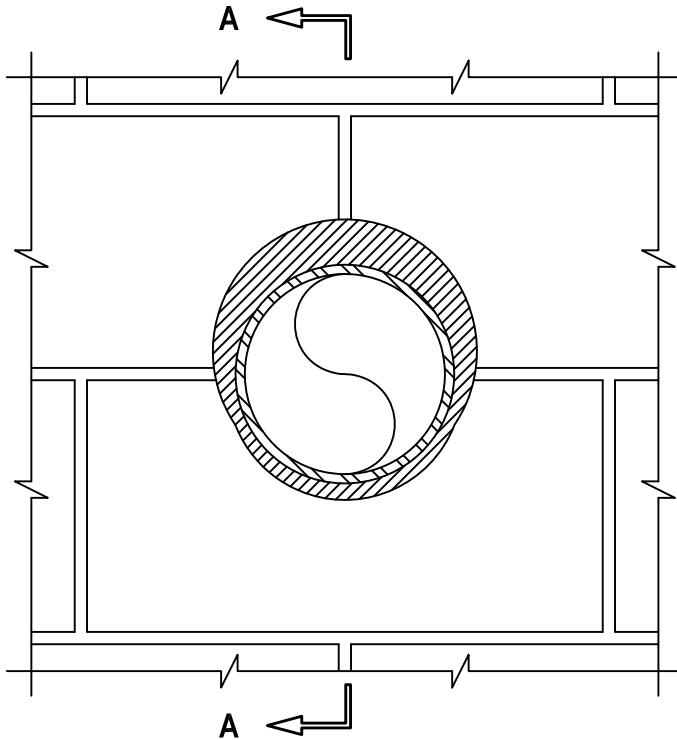
T-RATING = 0-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT

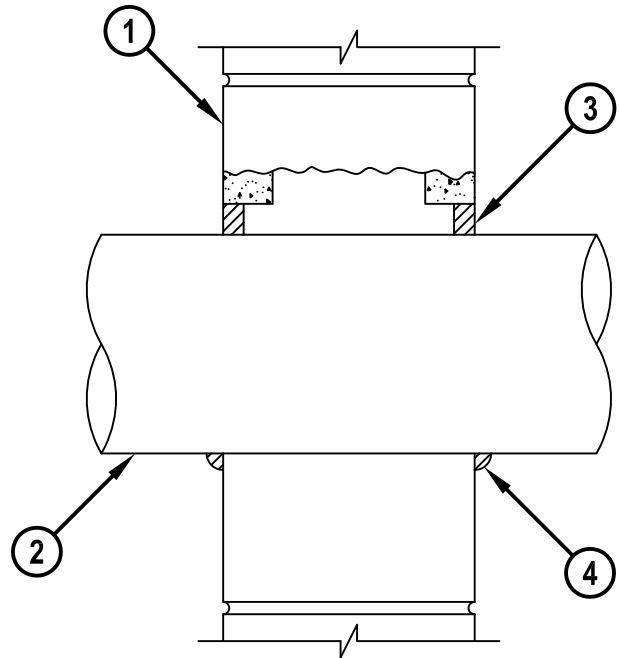
L-RATING AT 400° F = LESS THAN 1 CFM / SQ FT

WJ1067h.010816

FRONT VIEW



SECTION A-A



1. CONCRETE WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MIN. 3-3/4" THICK, FOR 1-HR. FIRE-RATING).
 - B. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MIN. 5" THICK, FOR 2-HR. FIRE-RATING).
 - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
 - A. MAXIMUM 30" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 30" NOMINAL DIAMETER CAST IRON PIPE.
 - C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
 - D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
 - E. MAXIMUM 4" NOMINAL DIAMETER EMT.
3. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.
4. MINIMUM 1/2" BEAD HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 32-1/4".
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-1/4".
 3. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT OF CONTACT.



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Scale	11/64" = 1"
Date	Jan. 08, 2016

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INSULATED PIPE THROUGH CONCRETE WALL OR BLOCK WALL ASSEMBLY

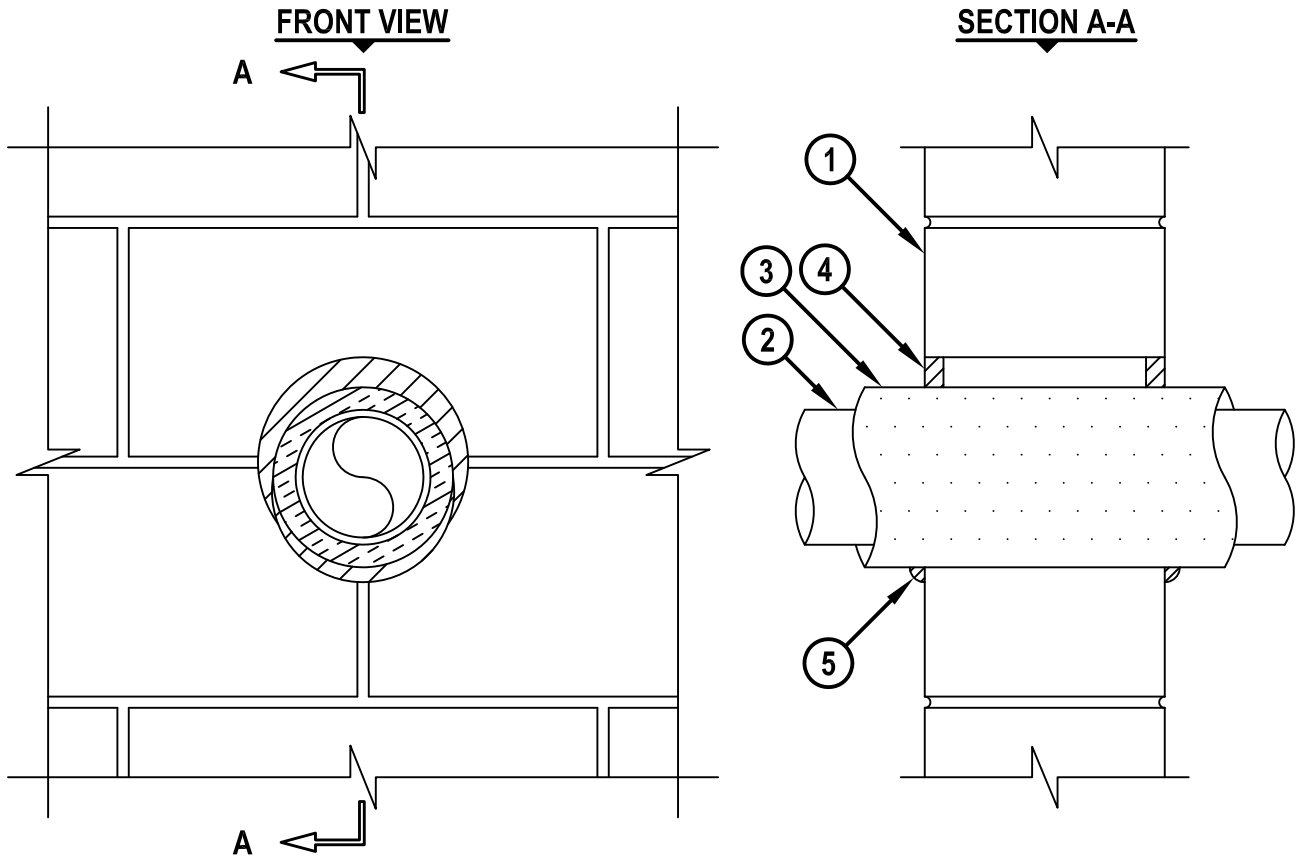
F-RATING = 2-HR.

T-RATING = 0-HR. OR 1-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM/SQ FT

L-RATING AT 400°F = LESS THAN 1 CFM/SQ FT

WJ5136c.010915



1. CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 6" THICK).
 - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
 - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCH 10 OR HEAVIER).
 - B. MAXIMUM 4" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
 - C. MAXIMUM 2" NOMINAL DIAMETER COPPER PIPE OR TUBING.
3. MINIMUM 1/2" TO MAXIMUM 3/4" THICK AB/PVC FOAM PIPE INSULATION.
4. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT OR CP 606 FLEXIBLE FIRESTOP SEALANT.
5. MINIMUM 1/2" BEAD HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT OR CP 606 FLEXIBLE FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 7".
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 7/8".



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Sheet	1 of 1
Scale	5/32" = 1"
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