

UL/cUL SYSTEM NO. W-J-7112

# INSULATED SHEET METAL DUCT THROUGH CONCRETE OR CONCRETE BLOCK WALL

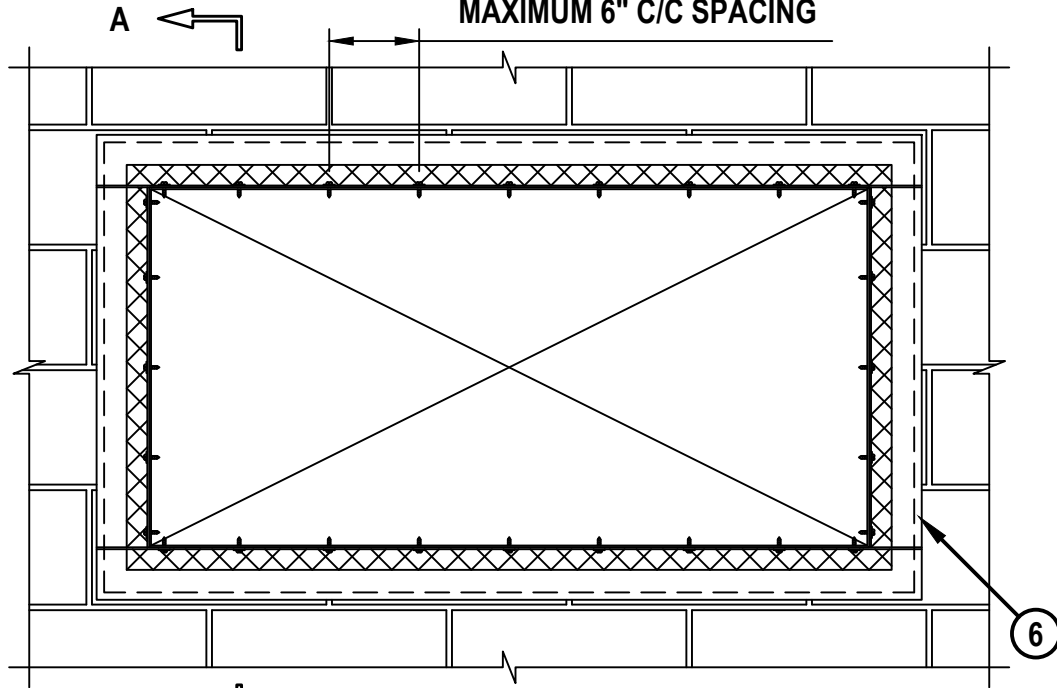
F-RATING = 2-HR.

T-RATING = 0-HR. OR 2-HR.

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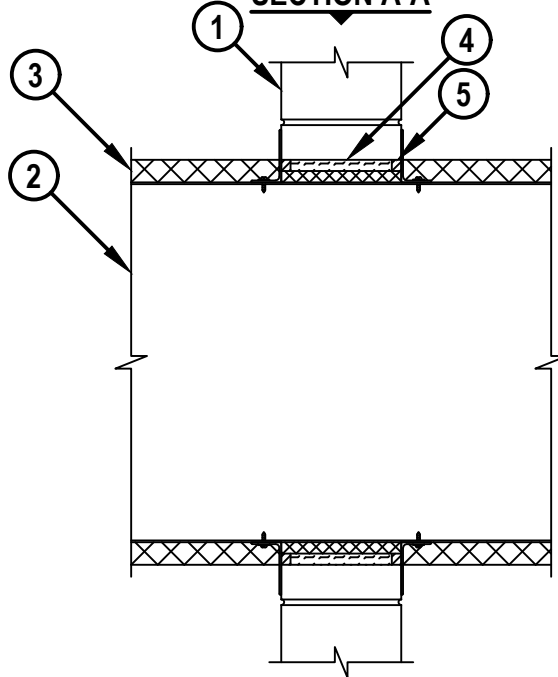
## FRONT VIEW

MAXIMUM 6" C/C SPACING



A ←

## SECTION A-A



HILTI, Inc.  
Tulsa, Oklahoma USA (800) 879-8000

Sheet	1 of 2
Scale	5/64" = 1"
Date	Sep. 19, 2018

Drawing No.  
**WJ**  
**7112d**

*Saving Lives through Innovation and Education*

**INSULATED SHEET METAL DUCT THROUGH CONCRETE OR CONCRETE BLOCK WALL**

F-RATING = 2-HR.

T-RATING = 0-HR. OR 2-HR.

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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. MAXIMUM 100" x 100" RECTANGULAR SHEET METAL DUCT (CONSTRUCTED AND REINFORCED IN ACCORDANCE WITH SMACNA CONSTRUCTION STANDARDS).
3. NOMINAL 1-1/2" OR 2" THICKNESS GLASS-FIBER DUCT INSULATION (MIN. 3/4 PCF) WITH FOIL-SCRIM-KRAFT FACING. INSULATION TO BE SPLIT TO ALLOW STEEL ANGLE TO BE FASTENED DIRECTLY TO DUCT (SEE TABLE AND NOTE NO. 2 BELOW).
4. MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED TO ACCOMMODATE SEALANT.
5. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.
6. STEEL RETAINING ANGLE (SEE TABLE AND NOTE NO. 3 BELOW).

MAXIMUM DUCT DIMENSION	DUCT THICKNESS	MAX. INSULATION THICKNESS (ITEM 4)	ANNULAR SPACE (MIN. - MAX.)	PACKING MATERIAL (ITEM 5) REQUIRED	ANGLE (ITEM 7) REQUIRED	T-RATING
24 IN. **	24 GA. (OR HEAVIER)	1-1/2"	1/4" TO 1"	NO	NO	0
25" BY 45"	24 GA. (OR HEAVIER)	2"	1/4" TO 3-1/2"	YES	NO	2 (SAME AS WALL RATING)

**NOTES :**

1. MAXIMUM SIZE OF OPENING = 105-1/2" x 104".
2. INSULATION TO BE COMPRESSED MINIMUM 50% SUCH THAT THE ANNULAR SPACE = MINIMUM 1/2", MAXIMUM 3-1/2".
3. AFTER SEALING SPACE BETWEEN DUCT AND WALL ASSEMBLY WITH HILTI FIRESTOP SEALANT, FASTEN STEEL ANGLE (MIN. 16 GA.) TO DUCT WITH MINIMUM NO. 10 SHEET METAL SCREWS (SPACED MAXIMUM 1" FROM EACH END OF STEEL DUCT AND SPACED MAXIMUM 6" C/C). STEEL ANGLE TO OVERLAP DUCT BY MINIMUM 1" AND WALL ASSEMBLY BY MINIMUM 2". WHEN DUCT DIMENSION DOES NOT EXCEED 48" AND DUCT AREA DOES NOT EXCEED 1300 SQ. IN., ANGLES MAY BE MIN. 18 GA. ANGLE DOES NOT HAVE TO BE FASTENED TO WALL ASSEMBLY.



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