

**METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

F-RATING = 2-HR. OR 3-HR.

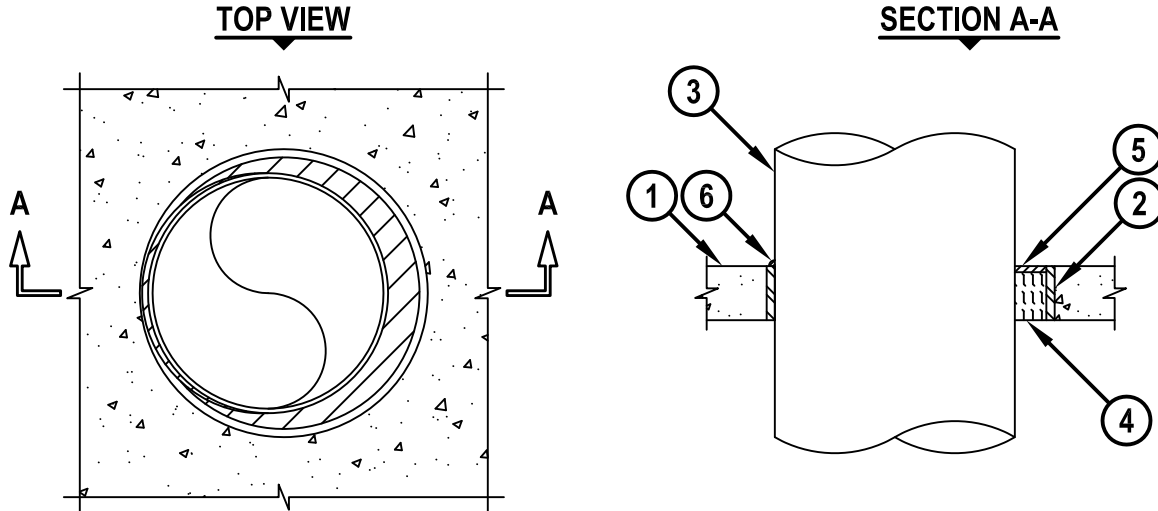
T-RATING = 0-HR.

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

L-RATING AT 400°F = 4 CFM / SQ FT

W-RATING = CLASS 1 (SEE NOTE NO. 5 BELOW)

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1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. OR 3-HR FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
  - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. [OPTIONAL] MAXIMUM 32" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCHEDULE 40 OR HEAVIER).
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 20" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 20" 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.
4. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
5. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
6. MINIMUM 1/2" CROWN HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 32".  
 2. ANNULAR SPACE [FOR 3-HR. F-RATING] = MINIMUM 0", MAXIMUM 2-1/4".  
 3. ANNULAR SPACE [FOR 2-HR. F-RATING] = MINIMUM 0", MAXIMUM 12".  
 4. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.  
 5. FOR W-RATING, MAXIMUM ANNULAR SPACE IS 1-7/8" AND AN ADDITIONAL FILM SHALL BE APPLIED OVER SLEEVE (WHEN USED) LAPPING MINIMUM 1/2" ONTO FLOOR.



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Sheet	1 of 1
Scale	1/16" = 1"
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Drawing No.  
**CAJ  
 1155s**