

MULTIPLE PENETRATING ITEMS THROUGH CONCRETE WALL OR BLOCK WALL

F-RATING = 2-HR.

T-RATING = 0-HR.

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1. CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5" THICK).
 - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. ONE OR MORE OF THE FOLLOWING PIPES, CONDUITS, OR TUBES, AND IN ANY COMBINATION, MAY BE INSTALLED WITHIN THE OPENING :
 - A. MAXIMUM 3" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 3" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
 - C. MAXIMUM 3" NOMINAL DIAMETER COPPER PIPE OR TUBING.
 - D. MAXIMUM 3" NOMINAL DIAMETER STEEL CONDUIT OR EMT.
 - E. MAXIMUM 2" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM) (CELLULAR OR SOLID CORE).
 - F. MAXIMUM 2" NOMINAL DIAMETER CPVC PLASTIC PIPE (SDR 13.5) (CLOSED PIPING SYSTEM ONLY).
 - G. MAXIMUM 2" NOMINAL DIAMETER RIGID NON METALLIC CONDUIT (RNC) (SCHEDULE 40).
 - H. MAXIMUM 1" NOMINAL DIAMETER CROSS-LINKED POLYETHYLENE (PEX) TUBING (CLOSED PIPING SYSTEM ONLY).
3. ONE OR MORE METALLIC PENETRANTS OR TUBES MAY BE INSULATED WITH ANY OF THE FOLLOWING TYPES OF INSULATION :
 - A. MINIMUM 1" TO MAXIMUM 2" THICK GLASS-FIBER PIPE INSULATION.
 - B. MINIMUM 1/2" TO MAXIMUM 3/4" THICK AB/PVC PIPE INSULATION.
 - C. MINIMUM 1" TO MAXIMUM 2" THICK MINERAL FIBER PIPE INSULATION SECURED WITH 18 GA. STEEL WIRE SPACED 12" C/C.
4. MAXIMUM 3" DIAMETER CABLE BUNDLE TO CONSIST OF ANY OF THE FOLLOWING :
 - A. MAXIMUM 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - B. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR WITH PVC JACKET.
 - C. MAXIMUM 1/2" DIAMETER FIBER OPTIC CABLE WITH PVC JACKET.
 - D. MAXIMUM 3/C NO. 8 AWG WITH BARE ALUMINUM GROUND STEEL METAL-CLAD CABLE.
 - E. MAXIMUM 3/C (+GROUND) NO. 12 AWG ROMEX CABLE WITH PVC JACKET.
 - F. RG/U COAXIAL CABLE (MAXIMUM 1/2" DIAMETER) WITH PVC JACKET.
5. MINIMUM 3-3/4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED TO ACCOMMODATE FIRESTOP SEALANT.
6. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
7. MINIMUM 1/4" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES : 1. MAXIMUM SIZE OF OPENING = 30" x 9".

2. ANNULAR SPACE BETWEEN PENETRANTS = MINIMUM 1", MAXIMUM 22".

3. ANNULAR SPACE BETWEEN PENETRANTS AND OPENINGS = MINIMUM 0", MAXIMUM 22".

**Hilti Firestop Systems**

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Scale	-
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Drawing No.

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