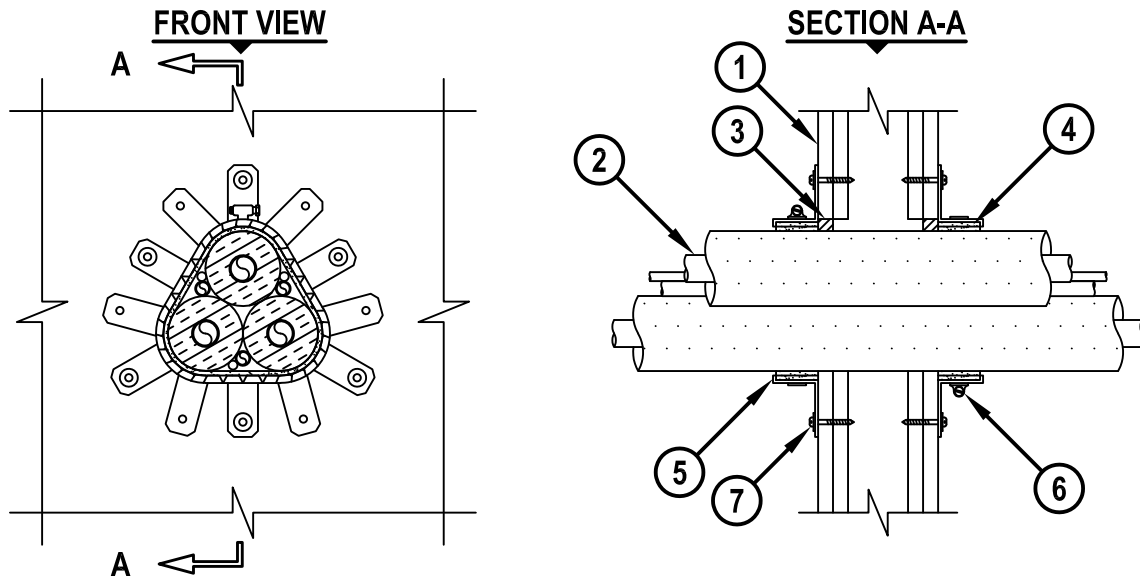


MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 1/2-HR.

WL8081c.011619



1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400 OR V400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN) TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES :
 - A. [NOT SHOWN] WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER (SPACED MAXIMUM 16" OC). STEEL STUDS TO BE MINIMUM 3-1/2" WIDE (SPACED MAXIMUM 24" OC).
 - B. NOMINAL 5/8" THICK GYPSUM WALLBOARD. TYPE, NUMBER OF LAYERS, AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL DESIGN.
2. ONE OR MORE AC LINE SETS INSTALLED WITHIN OPENING. EACH LINE SET SHALL BE TIGHTLY BUNDLED AND CONSIST OF THE FOLLOWING (MAX. QTY. = 3 LINE SETS) :
 - A. MAXIMUM 1" NOMINAL DIAMETER COPPER PIPE.
 - B. MAXIMUM 4 PAIR NO. 18 AWG THERMOSTAT CABLE WITH PVC JACKET.
 - C. MAXIMUM 1" NOMINAL DIAMETER COPPER PIPE WITH NOMINAL 1" THICK AB/PVC PIPE INSULATION.
3. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT (SEE NOTE NO. 4 BELOW).
4. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PENETRANTS, COVERING TWO TIMES, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE.
5. HILTI 1-3/4" RETAINING COLLAR WRAPPED AROUND WRAP STRIP, OVERLAPPING MINIMUM 1".
6. HILTI RETAINING COLLAR CLAMP FASTENED AT MID-HEIGHT OF RETAINING COLLAR.
7. EVERY OTHER TAB OF RETAINING COLLAR SECURED TO WALL WITH 1-1/2" LONG STEEL DRYWALL OR LAMINATE SCREWS IN CONJUNCTION WITH MINIMUM 3/4" DIAMETER STEEL WASHERS.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 6".
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-1/2".
 3. PENETRATING ITEMS NOT TO EXCEED 84% OF THE CROSS-SECTIONAL AREA OF OPENING.
 4. ADDITIONAL HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT FORCED INTO GROUPED PENETRANT INTERSTICES TO MAXIMUM EXTENT POSSIBLE.



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Sheet	1 of 1
Scale	1/8" = 1"
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Drawing No.
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