

UL/cUL SYSTEM NO. W-L-2741

PLASTIC PIPE THROUGH GYPSUM WALL ASSEMBLY

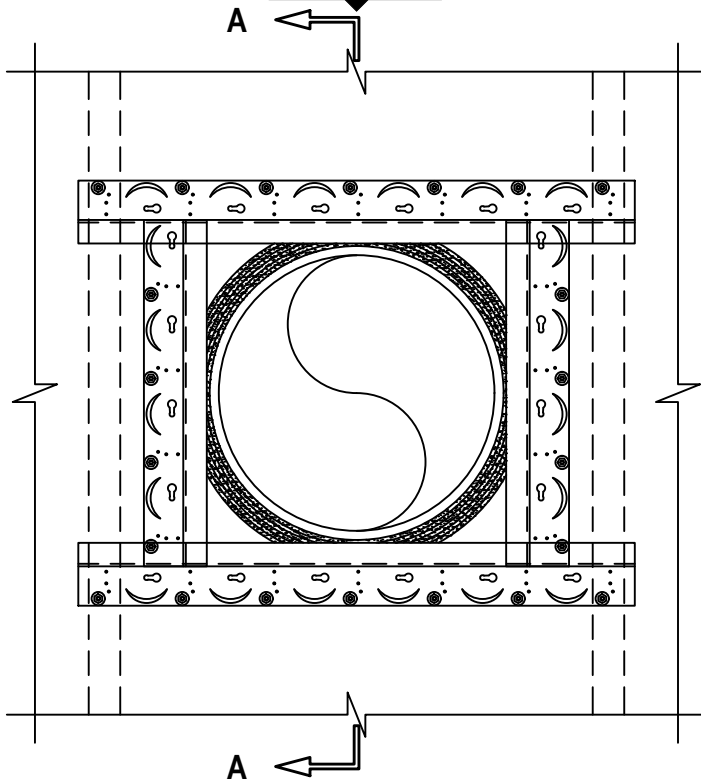
F-RATING = 1-HR. OR 2-HR.

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

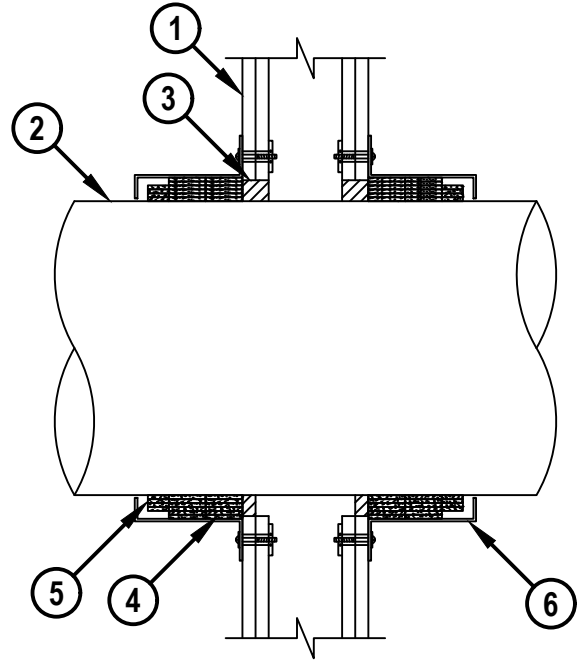
NOTE : TESTED WITH A 2.5 Pa PRESSURE DIFFERENTIAL

WL2741a.092719

FRONT VIEW



SECTION A-A



HILTI, Inc.
Plano, Texas USA (800) 879-8000

Sheet	1 of 2
Scale	7/64" = 1"
Date	Sep. 27, 2019

Drawing No.
**WL
2741a**

Saving Lives through Innovation and Education

PLASTIC PIPE THROUGH GYPSUM WALL ASSEMBLY

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

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1. GYPSUM WALL ASSEMBLY (UL CLASSIFIED U300, U400, V400, OR W400 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. PENETRATING ITEM TO BE ONE OF THE FOLLOWING NONMETALLIC PIPES :
 - A. MAXIMUM 14" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).
 - B. MAXIMUM 14" NOMINAL DIAMETER CPVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).
3. HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT INSTALLED MINIMUM 5/8" DEPTH FOR 1-HR. WALLS AND MINIMUM 1-1/4" DEPTH FOR 2-HR. WALLS.
4. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, COVERING SIX TIMES, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. BUTTED ENDS IN SUCCESSIVE LAYER SHALL BE OFFSET. TWO STACKS OF SIX LAYERS SHALL BE INSTALLED AND BUTTED TIGHTLY TO WALL SURFACES.
5. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1" WIDE) WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, COVERING FOUR TIMES, BUTTED TO OUTER WRAP STRIP (ITEM 4) ON BOTH SIDES OF WALL.
6. HILTI Z-FRAME (2" UPPER LEG, 5" DEEP, 1" LOWER LEG) BUTTED TIGHTLY AGAINST WRAP STRIP MATERIAL. Z-FRAME TO FORM AN ENCLOSURE AROUND WRAP STRIP MATERIAL. 2" LEG BUTTED TIGHTLY TO WALL. EVERY TAB OF Z-FRAME SECURED TO WALL WITH MIN 3/16" HOLLOW WALL ANCHORS IN CONJUNCTION WITH 1" WASHERS THROUGH EACH OF THE ROUND 3/8" DIAMETER PRE-MADE HOLES IN OUTER EDGE OF Z-FRAME. UPPER AND BOTTOM SECTIONS OF Z-FRAME EXTENDED TO OVERLAP ONTO STEEL STUD FRAMING TO ENSURE ANCHORING ONTO THE FRAMING.
7. [NOT SHOWN] ONE HILTI CP 643N ATTACHMENT CLIP USED AT FOUR CORNERS OF Z-FRAME ENCLOSURE (AT MID-HEIGHT OF ENCLOSURE) AND FASTENED TO Z-FRAME AT EACH LEG WITH 3/4" LONG SHEET METAL SCREWS.
8. [NOT SHOWN] STEEL SHEET METAL COVER PLATE (24 GA.) COVERING BOTTOM OF Z-FRAME ENCLOSURE AND CUT TO WITHIN 1/4" OF PIPE. COVER PLATE TO BE TWO PIECES WITH 1" OVERLAP AT THE SEAM. COVER PLATE SECURED TO BOTTOM OF Z-FRAME ENCLOSURE WITH 3/4" LONG SHEET METAL SCREWS (3 SCREWS ON EACH SIDE, EVENLY SPACED, WITH ONE SCREW AT OVERLAP LOCATION OF TWO PIECE COVER PLATE.).

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 16".
 2. ANNULAR SPACE = MINIMUM 1/2", MAXIMUM 1-1/2".
 3. AS AN ALTERNATIVE TO SHEET METAL COVER PLATE (ITEM 8), HILTI CFS-COS COMPOSITE SHEET MAY BE USED AS COVER PLATE MATERIAL.



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