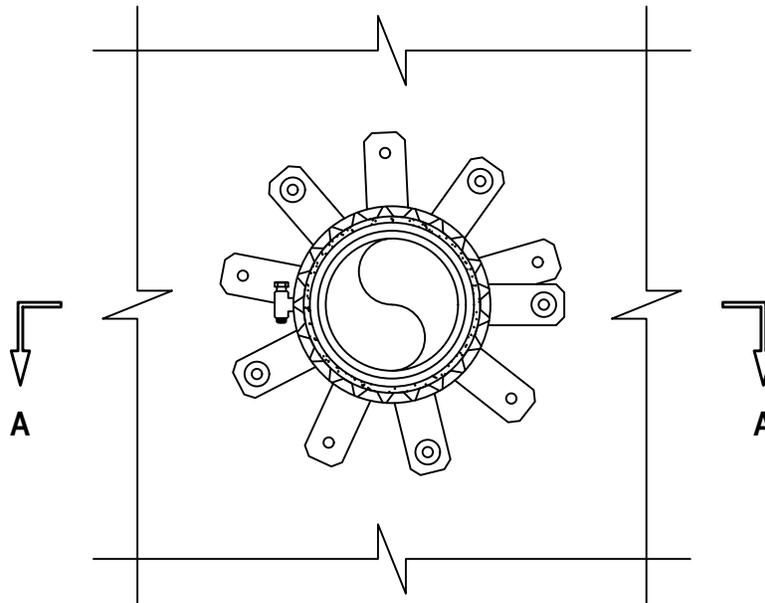


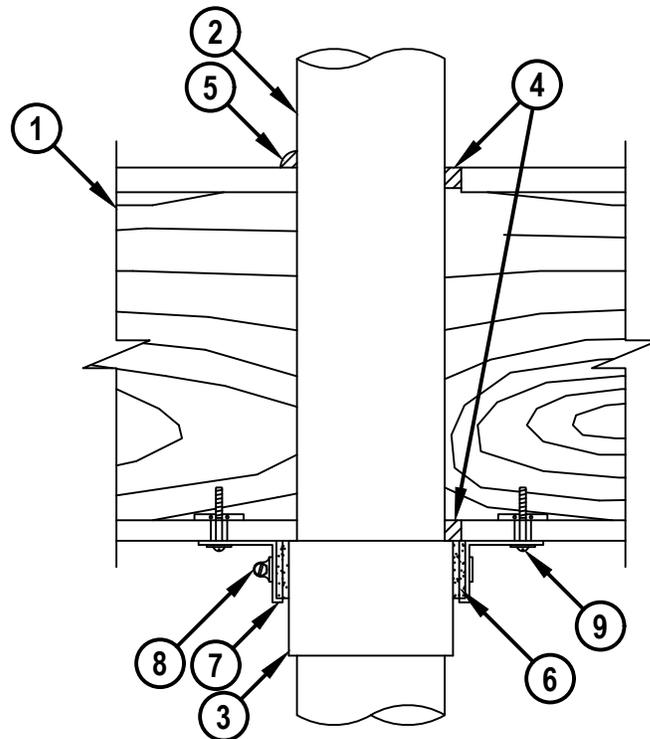
UL SYSTEM NO. F-C-2232  
**PLASTIC PIPE THROUGH WOOD FLOOR/CEILING ASSEMBLY**

F-RATING = 1-HR.  
T-RATING = 3/4-HR. OR 1-HR. (SEE TABLE BELOW)

**BOTTOM VIEW**



**SECTION A-A**



FC2232h.031425



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Sheet	1 of 2
Scale	1 1/64" = 1"
Date	Mar. 14, 2025

Drawing No.  
**FC  
2232h**

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**PLASTIC PIPE THROUGH WOOD FLOOR/CEILING ASSEMBLY**

F-RATING = 1-HR.

T-RATING = 3/4-HR. OR 1-HR. (SEE TABLE BELOW)

FC2232h.031425

1. WOOD FLOOR/CEILING ASSEMBLY (UL CLASSIFIED L500 SERIES) (1-HR. FIRE-RATING).
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 4" NOMINAL DIAMETER PVC PLASTIC PIPE (SCH. 40) (CELLULAR OR SOLID CORE) (CLOSED OR VENTED PIPING SYSTEM).
  - B. MAXIMUM 4" NOMINAL DIAMETER CPVC PLASTIC PIPE (SDR 13.5) (CLOSED PIPING SYSTEM ONLY).
  - C. MAXIMUM 4" NOMINAL DIAMETER ABS PLASTIC PIPE (SCH. 40) (CELLULAR OR SOLID CORE) (CLOSED OR VENTED PIPING SYSTEM).
  - D. MAXIMUM 3" NOMINAL DIAMETER PEX PLASTIC PIPE (SDR 9) (CLOSED PIPING SYSTEM ONLY).
3. [OPTIONAL, FOR PENETRATING ITEMS 2A, 2B, AND 2C] MAXIMUM 4" NOMINAL DIAMETER PIPE COUPLING INSTALLED FLUSH WITH BOTTOM SURFACE OF GYPSUM CEILING AND EXTENDING DOWNWARD.
4. MINIMUM 5/8" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
5. SEE NOTE NO. 3 BELOW.
6. HILTI CP 648E FIRESTOP WRAP STRIP (NOMINAL 3/16" THICK, x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, AS SPECIFIED IN TABLE BELOW, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE.
7. HILTI RETAINING COLLAR WRAPPED OVER WRAP STRIPS, OVERLAPPING MINIMUM 1".
8. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE COLLAR CLAMP FASTENED AT MID-HEIGHT OF HILTI RETAINING COLLAR.
9. EVERY OTHER TAB OF RETAINING COLLAR SECURED TO GYPSUM CEILING WITH 1/4" DIAMETER x 1-1/2" LONG STEEL TOGGLE BOLTS WITH 3/4" DIAMETER WASHERS (EX. HILTI TOGGLER BOLTS).

PENETRATION	MAX. DIAM. OF PIPE	NUMBER OF WRAP STRIPS	ANNULAR SPACE MIN - MAX	T RATING
2A, 2B, 2C	2"	1	0" - 1/4"	1-HR.
2A, 2B, 2C	3"	2	0" - 1/2"	3/4-HR.
2A, 2B, 2C	4"	2	0" - 1/2"	3/4-HR.
2D	3"	3	0" - 1"	1-HR.

- NOTES :**
1. MAXIMUM DIAMETER OF OPENING = 5".
  2. AS AN ALTERNATE TO UTILIZING CP 648E WRAP STRIPS WITH RETAINING COLLAR, HILTI CP 643N FIRESTOP COLLAR MAY BE USED WHEN COUPLING IS NOT INSTALLED. EVERY FASTENING HOOK OF FIRESTOP COLLAR TO BE ATTACHED TO GYPSUM CEILING WITH 1/4" DIAMETER x 1-1/2" LONG STEEL TOGGLE BOLTS WITH 3/4" DIAMETER WASHERS (EX. HILTI TOGGLER BOLTS).
  3. WHEN ABS PIPE IS INSTALLED, APPLY A MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT ON TOP SURFACE OF FLOOR AT POINT OF CONTACT.



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Sheet	2 of 2
Scale	-
Date	Mar. 14, 2025

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