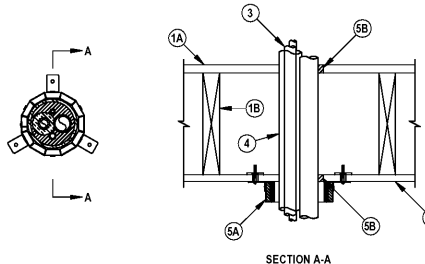


System No. F-C-8009	
ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 1 Hr	FT Rating — 1 Hr
	FH Rating — 1 Hr
	FTH Rating — 1 Hr



System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor-Ceiling Assembly — The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening is 3 in. (76 mm).

B. Wood Joists — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends freestopped.

C. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Max diam of opening in ceiling (where chase wall (Item 2) is not provided) is 3 in. (76 mm).

2. Chase Wall — (Optional, Not Shown) — The through penetrant (Item 3) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Nom 2 by 6 in. (51 by 152 mm) lumber or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

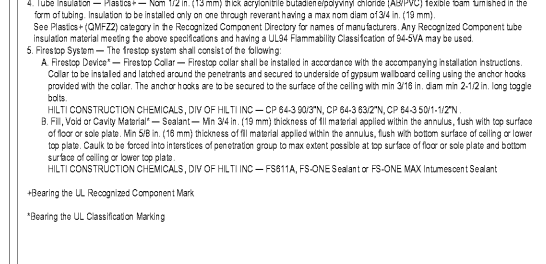
B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) lumber or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening shall be 3 in. (76 mm).

C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) lumber plates or 2 sets of parallel nom 2 by 4 in. (51 by 102 mm) lumber, tightly butted. Max diam of opening is 3 in. (76 mm).

D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.



System No. F-C-8009	
ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 1 Hr	FT Rating — 1 Hr
	FH Rating — 1 Hr
	FTH Rating — 1 Hr



3. Through Penetrants — Pipe, cable and tubing to be bundled and rigidly supported on both sides of floor assembly. A non annular space of min 0 in. (point contact) to max 1/2 in. (13 mm) is required within the firestop system. The following types and sizes of pipe, cable and tubing are to be used in the firestop system in sufficient quantities to fill the firestop device:

A. Cable — Type P, J, T, or R; 18 AWG copper conductor, plastic insulation and jacket.

B. Polyvinyl Chloride (PVC) Pipe — Nom 1/2 in. (38 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

C. Copper Tubing — Nom 3/4 in. (19 mm) diam (or smaller) Type L (or heavier) copper tubing.

D. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L (or heavier) copper tubing.

4. Tube Insulation — Plastazote — Nom 1/2 in. (13 mm) thick acrylonitrile butadiene/styrene (ABS/PVC) flexible foam furnished in the form of tubing. Insulation to be installed only on one through penetrant having a max nom diam of 3/4 in. (19 mm).

See Plastazote (QMFZZ) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL34 Flammability Classification of 94-51A may be used.

5. Firestop System — The firestop system shall consist of the following:

A. Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the penetrants and secured to underside of gypsum wallboard ceiling using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of the ceiling with min 3/16 in. diam min. 2-1/2 in. long toggle bolts.

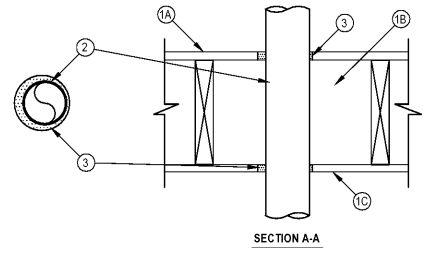
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 84-3 9027N, CP 84-3 8327N, CP 84-3 5011-1/27N.

B. Fill, Void or Cavity Material — Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom surface of ceiling or lower top plate. Caulk to be forced into interstices of penetration group to max extent possible at top surface of floor or sole plate and bottom surface of ceiling or lower top plate.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS811A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.



System No. F-C-7013	
ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 Hr
	FTH Rating — 0 Hr



1. Floor-Ceiling Assembly — The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5-1/4 in. (133 mm).

B. Wood Joist — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends freestopped.

C. Gypsum Board* — Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5-1/4 in. (133 mm).

1.1 Chase Wall — (Not shown, Optional) The through penetrants (Item 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Nom 2 by 6 in. (51 by 152 mm) lumber or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

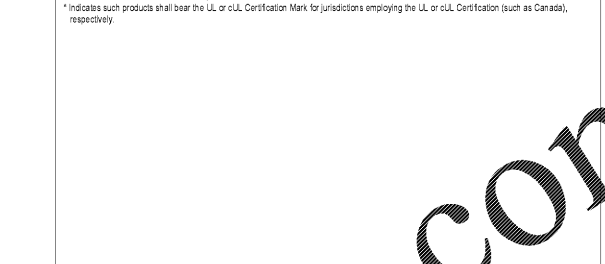
B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) lumber or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening shall be 5-1/4 in.

C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) lumber plates or two sets of parallel nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted. Max diam of opening is 5-1/4 in. (133 mm).

D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.



System No. F-C-7013	
ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 Hr
	FTH Rating — 0 Hr



2. Steel Duct — Nom 4 in. (102 mm) diam (or smaller) No. 28 gauge (or heavier) steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space between duct and periphery of opening shall be min of 1/4 in. (6 mm) to max 3/4 in. (19 mm). Steel duct to be rigidly supported on both sides of floor-ceiling assembly.

3. Fill, Void or Cavity Material — Sealant — Min 3/4 in. (19 mm) thickness of sealant applied within the annular space, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of sealant applied within annular space, flush with bottom surface of gypsum board or lower top plate.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

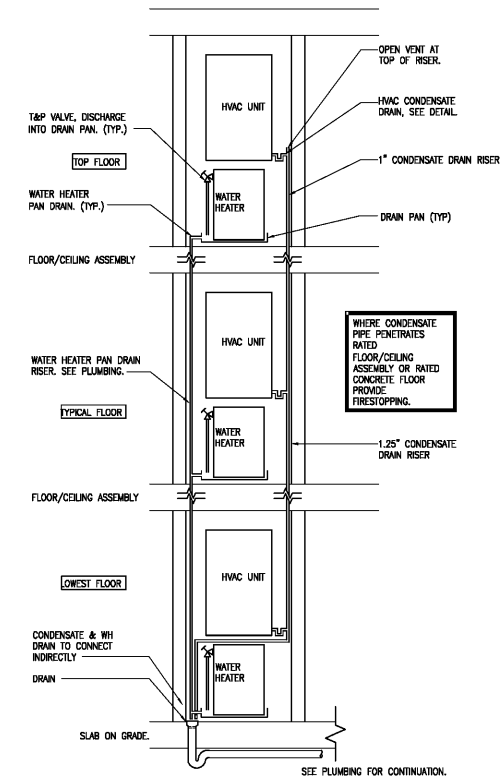
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1 REFRIGERANT LINE SET & CONDENSATE DRAIN PIPE PENETRATION
Scale: None

2 DRYER DUCT PENETRATION
Scale: None

Order Plans @



NOTES:
1. SEE BUILDING PLANS FOR THE EXACT NUMBER OF FLOORS. DIAGRAM SHOULD BE CONSIDERED SCHEMATIC AND ADJUSTMENTS IN THE FIELD MAY BE REQUIRED.
2. FOR HWY PIPE (BY PLUMBING) SEE PLUMBING DRAWINGS. CONDENSATE DRAIN BY MECHANICAL.
3. SEE HVC GENERAL NOTE FOR CONDENSATE PIPE MATERIAL.

3 CONDENSATE & WATER HEATER PAN DRAIN RISER
Scale: None

Seal

6-14-2020

ZPA

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Project: 1928
CADD File:
Drawn By: NT
Checked By: CB

Permit Release:
May 15, 2020
Construction Release Set:
May 15, 2020

Revisions
No. Date Description

ASI / RFI Revisions
No. Date Description

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The bearing, use, placement, utility and dimensions do not constitute a professional engineering or architectural opinion. The drawings are prepared in accordance with the standards of the International Building Code and the International Mechanical Code. The drawings are prepared in accordance with the standards of the International Building Code and the International Mechanical Code. The drawings are prepared in accordance with the standards of the International Building Code and the International Mechanical Code.

Borough 33
an Apartment Community by
33 Broad MF, LLC
in Chattanooga, Tennessee

Drawing Title:
Mechanical Detail

M0.4