

System No. W-L-1440

ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Rating — 0 Hr

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
- B. Gypsum Board — 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening to be min 1 1/2 in. (38 mm) larger than outside diam of through penetrant. Max diam of opening is 2-1/4 in. (57 mm).

2. Pull or Junction Box — Min 16 ga steel pull or junction box mounted flush with or max 1/4 in. (6 mm) from surface of wall. See Junction and Pull Boxes (BGJZ) category in the Electrical Construction Material Directory for names of manufacturers.

3. Conduit — One nom 1 in. (25 mm) diam (or smaller) steel conduit or steel electrical metallic tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. (point contact) to max 1-1/8 in. (29 mm). Conduit or EMT to be secured to back surface of pull or junction box with steel connector and rigidly supported on both sides of wall assembly.

4. Fill, Void or Cavity Material — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with surfaces of wall opposite the pull or junction box. A min 1/2 in. (13 mm) diam bead of fill material shall be applied to the point contact location between the conduit and wall. A min 1/2 in. (13 mm) diam bead of fill material shall be applied around the entire perimeter of the pull or junction box at its interface with the wall surface. The fill material shall lap min 1/2 in. (13 mm) onto both the wall and sides of the pull or junction box.

HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI 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.

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System No. BW-S-0001

ANSI/UL 2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width - 3/4 in.	FT Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/in Ft	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400° F — Less than 1 CFM/in Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
	Nominal Joint Width - 3/4 in.
	L Rating at Ambient — Less than 1 CFM/in Ft
	L Rating at 400° F — Less than 1 CFM/in Ft

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units. See Precast Concrete Units category in the Fire Resistance Directory for names of manufacturers.

2. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features:

- A. Steel Floor Runner — Floor runners of wall assembly shall consist of min No. 25 galv steel channels sized to accommodate steel studs (Item 2B). Floor runners to be provided with min 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners spaced max 24 in. (610 mm) OC.
- B. Studs — Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom resting in, nesting on and fastened to floor runner with sheet metal screws. Stud spacing not to exceed 24 in. (610 mm).
- C. Gypsum Board — Gypsum board installed to a min total thickness of 5/8 or 1-1/4 in. (16 or 32 mm) on each side of wall. For 1 or 2 hr rating, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 3/4 in. (19 mm) gap shall be maintained between the bottom of gypsum board and top of concrete floor. The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. Fill, Void or Cavity Material — Sealant — Max separation between top of floor and bottom of gypsum board is 3/4 in. (19 mm). For 1 or 2 hr rated wall assembly, min 5/8 in. or 1-1/4 in. (16 or 32 mm) thickness of fill material to be applied between each side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with each surface of the wall.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — CP801S Elastomeric Compound Sealant, CP81S Flexible Firestop Sealant, CFS-S SIL OG, 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.

HILTI Firestop Systems
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System No. W-L-1054

ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/ft	FH Ratings — 1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/ft
	L Rating at 400 F — Less Than 1 CFM/ft

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
- B. Gypsum Board — 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
- C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) diam steel conduit.
- D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
- E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a max 1/8 in. (3 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI 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.

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System No. C-J-D-0008

**Joint Rating — 1 Hr
 Nominal Joint Width — 2 in.**

Class II or III Movement Capabilities — 100% Compression and Extension

1. Wall Assembly — The minimum 1 hr fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

- A. Ceiling Deflection Channel — U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1C) and provided with min 5 in. (127 mm) flanges. Deflection channel installed parallel with and aligned with web of purlin and secured to bottom flange of purlin with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws spaced max 24 in. (610 mm) OC.
- B. Steel Floor and Ceiling Runners — Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 25 ga galv steel channels sized to accommodate steel studs (Item 1C). The floor runner of cripple wall aligned with and resting atop flange of purlin. Ceiling runner of cripple wall installed to compress insulation (Item 2C) to a thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1C) between the runners. Steel studs of cripple wall attached to web of purlin with steel screws driven through opposite side of purlin web.
- C. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height with bottom resting in and resting on the floor runner and with top nesting in ceiling deflection channel without protruding into ceiling. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to be max 1/8 in. (3 mm) less in length than floor runner and with top nesting in ceiling deflection channel without protruding into ceiling. Stud spacing not to exceed 24 in. (610 mm) O.C.
- D. Gypsum Board — (CKNX) — Min 5/8 in. (16 mm) thick gypsum board sheets installed on ceiling of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) gap shall be maintained between the gypsum board of the wall assembly below the purlin and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel. Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel. Screws securing gypsum board to steel studs of wall assembly to be spaced 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel. Screws securing gypsum board of cripple wall to steel studs into web of purlin and into studs and runners of cripple wall. No screws are to be driven into flange of ceiling deflection channel.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual Roof Deck Constructions (Guide TG0X) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

- A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual Roof Deck Construction.
- B. Lateral Bracing — (Not Shown) — As required.
- C. Batts and Blankets — Insulation — Any faced compressible glass-fiber blanket insulation having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (96 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm). See Batts and Blankets (BZLZ) category in the UL Fire Resistance Directory or Batts and Blankets (BKNV) category in the UL Building Materials Directory for names of manufacturers.
- D. Metal Roof Deck Panels — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, cantared over purlins with min 3 in. (76 mm) panel overlap as specified in the individual Roof Deck Construction. A line of lube sealant or tape sealant may be used at panel end and side laps.
 See Metal Roof Deck Panels (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
- E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual Roof Deck Construction.
- F. Roof Deck Fasteners — Panel Clips — (Not Shown) — Panel clips used for panel-to-purlin connections to be secured to purlin through insulation as specified in the individual Roof Deck Construction.
 See Roof Deck Fasteners (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
- G. Thermal Spacer Blocks — (Not Shown) — Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual Roof Deck Construction. Thermal spacer blocks, when used, are to be installed between insulation (Item 2C) and metal roof deck panels (Item 2D) over purlins.

3. Fill, Void or Cavity Material (XHW) — Caulk — Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board and insulation (Item 2C) or purlin flange on each side of the wall.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — CP801S Elastomeric Compound Sealant, CP81S Flexible Firestop Sealant, CFS-S SIL OG, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

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HILTI Firestop Systems
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System No. W-L-2084

**F Ratings - 1 & 2 Hr (See Item 1)
 T Ratings - 0 & 1-1/2 Hr (See Item 1)**

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the construction features noted below.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 1-1/2 Hr when installed in 2 hr fire-rated wall, 0 hr when installed in 1 hr fire-rated wall.

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
- B. Gypsum Board — 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 8 in.

2. Through-Penetrants — One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 1/4 in. to max 1-1/4 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

- A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. Metallic Sleeve — Nom 6 in. diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surface.

4. Metal Cover Plate — Min. 18 ga. steel with max 1/4 in. dia. in. larger than O.D. of pipe. Min. O.D. of cover plate to be 2-1/2 in. larger than O.D. of pipe. Installed between collar and wall surface.

5. Firestop Device — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. diam pipes, 3 anchor hooks for 3 and 4 in. diam pipes, and 4 anchor hooks for 6 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 to 2-1/2 in. long toggle bolts along with washers. An alternate for pipe sizes of 3 in. diam or less, min No. 10 by 1-1/2 in. long drywall or laminate screws with min 3/4 in. steel washers may be used.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — CP 943 5011 57N, CP 643 6327N, CP 943 9037N, CP 643 11047N or CP 643 16037N Firestop Collar

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System No. W-L-1054

Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
- C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) diam steel conduit.
- D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
- E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a max 1/8 in. (3 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.
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System No. C-J-D-0008

E. Gypsum Board — (CKNX) — Min 5/8 in. (16 mm) thick "tip strip" of gypsum board installed to cover first layer of gypsum board on cripple wall and to lap min 3 in. (76 mm) onto gypsum board of wall assembly on each side of wall. The "tip strip" of gypsum board is to be the same material used for the wall assembly and is to be secured to the web of purlin and into studs and runners of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel. Joints of "tip strip" to be offset from joints of gypsum board on wall assembly. Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual Roof Deck Constructions (Guide TG0X) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

- A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual Roof Deck Construction.
- B. Lateral Bracing — (Not Shown) — As required.
- C. Batts and Blankets — Insulation — Any faced compressible glass-fiber blanket insulation having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (96 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm). See Batts and Blankets (BZLZ) category in the UL Fire Resistance Directory or Batts and Blankets (BKNV) category in the UL Building Materials Directory for names of manufacturers.
- D. Metal Roof Deck Panels — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, cantared over purlins with min 3 in. (76 mm) panel overlap as specified in the individual Roof Deck Construction. A line of lube sealant or tape sealant may be used at panel end and side laps.
 See Metal Roof Deck Panels (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
- E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual Roof Deck Construction.
- F. Roof Deck Fasteners — Panel Clips — (Not Shown) — Panel clips used for panel-to-purlin connections to be secured to purlin through insulation as specified in the individual Roof Deck Construction.
 See Roof Deck Fasteners (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
- G. Thermal Spacer Blocks — (Not Shown) — Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual Roof Deck Construction. Thermal spacer blocks, when used, are to be installed between insulation (Item 2C) and metal roof deck panels (Item 2D) over purlins.

3. Fill, Void or Cavity Material (XHW) — Caulk — Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board and insulation (Item 2C) or purlin flange on each side of the wall.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — CP801S Elastomeric Compound Sealant, CP81S Flexible Firestop Sealant, CFS-S SIL OG, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

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System No. W-L-2084

**F Ratings - 1 & 2 Hr (See Item 1)
 T Ratings - 0 & 1-1/2 Hr (See Item 1)**

1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the construction features noted below.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 1-1/2 Hr when installed in 2 hr fire-rated wall, 0 hr when installed in 1 hr fire-rated wall.

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
- B. Gypsum Board — 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 8 in.

2. Through-Penetrants — One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 1/4 in. to max 1-1/4 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

- A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. Metallic Sleeve — Nom 6 in. diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surface.

4. Metal Cover Plate — Min. 18 ga. steel with max 1/4 in. dia. in. larger than O.D. of pipe. Min. O.D. of cover plate to be 2-1/2 in. larger than O.D. of pipe. Installed between collar and wall surface.

5. Firestop Device — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. diam pipes, 3 anchor hooks for 3 and 4 in. diam pipes, and 4 anchor hooks for 6 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 to 2-1/2 in. long toggle bolts along with washers. An alternate for pipe sizes of 3 in. diam or less, min No. 10 by 1-1/2 in. long drywall or laminate screws with min 3/4 in. steel washers may be used.
 HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC — CP 943 5011 57N, CP 643 6327N, CP 943 9037N, CP 643 11047N or CP 643 16037N Firestop Collar

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SHEET DATES

SHEET ISSUE	DATE
MAY 29, 2019	

REVISIONS

NO.	DATE	DESCRIPTION

JOB NUMBER

1931400

SHEET NUMBER

A6.2