

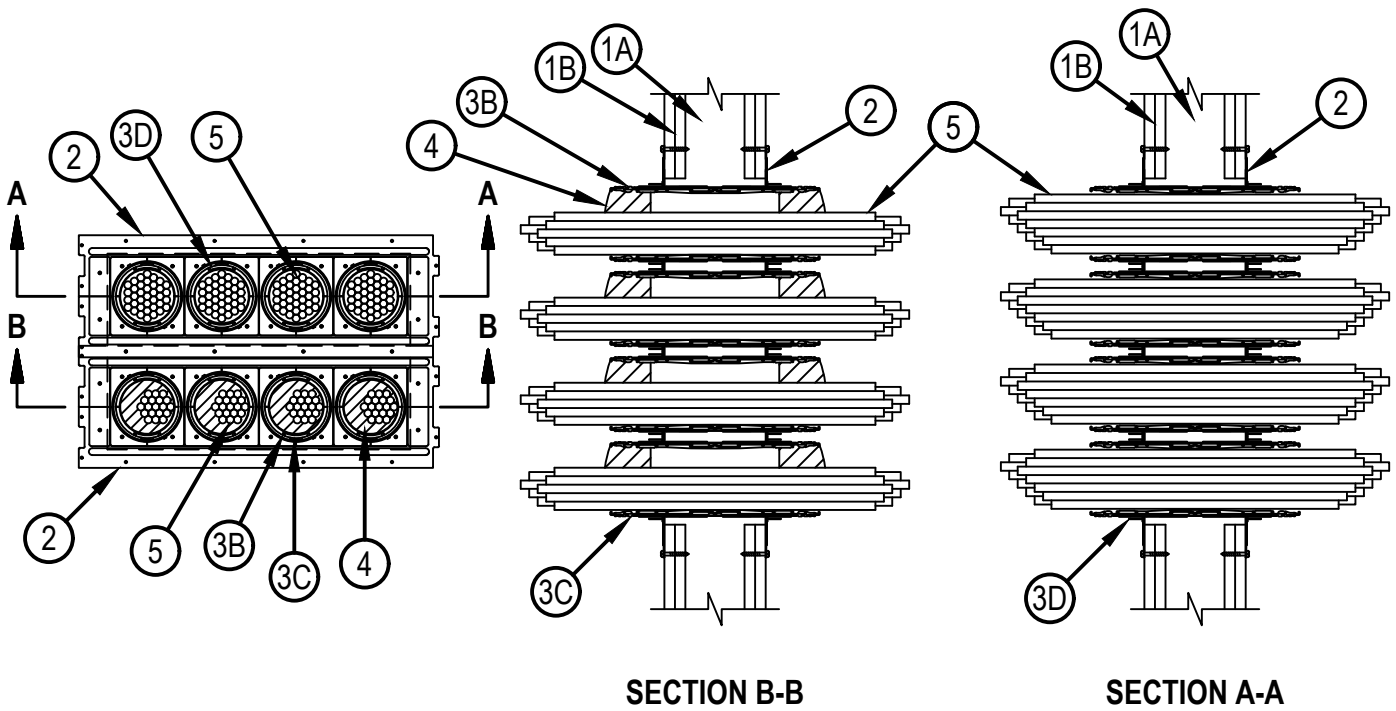


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-3395

WL 3395

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Items 1 and 2)	F Ratings - 1 and 2 Hr (See Items 1 and 2)
T Rating - 1/4 Hr	FT Rating - 1/4 Hr
L Rating At Ambient - See Item 5	FH Ratings - 1 and 2 Hr (See Items 1 and 2)
L Rating At 400F - See Item 5	FTH Ratings - 1/4 Hr
	L Rating At Ambient - See Item 5
	L Rating At 400°F - See Item 5



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 described within the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:

- A. Studs — Wall framing shall consist of steel channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
- B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Maximum size of opening in gypsum board is dependent on the mounting of the gangplate firestop device (Item 2). Openings for gangplates that are surface mounted to the gypsum board may be oriented vertically or horizontally. Openings for gangplates that are stud mounted direct to the wall studs prior to gypsum board layers are oriented horizontally. Maximum opening sizes are specified in Table below.



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Firestop Device (Item 2)	Maximum Opening Size, in. (mm) Gangplate Mounting			
	Surface Mounted		Stud Mounted	
27" CFS-SL GP 5-sleeve				
·Single	25-1/4 x 5-3/4	(641 x 146)	25-1/4 x 5-3/4	(641 x 146)
24" Gangplate:				
·Single	20-1/2 x 5-1/2	(521 x 140)	23 x 6-3/4	(584 x 171)
·Double (Stacked)	20-1/2 x 13-1/4	(521 x 337)	23 x 14-1/4	(584 x 362)
16" Gangplate:				
·Single	15 x 5-1/2	(381 x 140)	15-3/16 x 6-3/4	(386 x 171)
·Double (Stacked)	15 x 13-1/4	(381 x 337)	15-3/16 x 14-1/4	(386 x 362)

The hourly F and FH Ratings of the firestop system are dependent upon the hourly rating of the wall in which it is installed.

2. Firestop Device* — The firestop device consists of a steel plate sandwich construction with three (16" device size), four (24" device size) or five (27" CFS-SL GP 5-sleeve) circular opening ports which are each nom 4 in. (102 mm) diam. The firestop device is intended to be oriented vertically or horizontally and mounted to the face of the opening on both sides of wall. The 16" and 24" firestop devices when oriented horizontally are attached to the 16 in. (406 mm) and 24 in. (610 mm), respectively, center to center spaced wall studs at each side of opening, over the gypsum board. The 27" CFS-SL GP 5-sleeve shall be installed in completely framed out opening only. As an option, for 16" and 24" devices, up to two devices may be installed adjacent to each other with a nom 13/16 in. (2 cm) overlap to protect larger sized openings (see Item 1B, double device). As an option, single and double 16" and 24" gang plates may be attached directly against the studs prior to installation of the gypsum board layers. When 16" gang plate is installed horizontally in 24" stud cavity, attachment of plate to wall studs is optional. As an option, two devices may be installed end to end in adjacent stud cavities, over the gypsum board layers or directly attached to the wall studs when installed in accordance with the Hilti Installation Instructions and min one layer of gypsum board each side of wall is continuous across the two stud cavities. Each device shall be secured to gypsum board with min No. 10 by 1-1/2 in. (38 mm) steel drywall screws through prepunched holes around periphery of steel device plates; min three (16" gang plate) or four (24" gang plate) screws are used at each long dimension and three screws at each end. When device is secured direct to studs prior to installation of gypsum board layers, the fasteners along each long dimension of opening are spaced max 2-1/2 in. (64 mm) from corners and max 6 in. (152 mm) on center unless otherwise noted in Hilti Installation Instructions. Min screw length is 3/4 in. (19 mm) where device is secured direct to studs and at the overlapping plate to plate joint for double devices. The device shall be installed in accordance with the accompanying installation instructions. When the hourly rating of the wall assembly is 1 hr, blank gang plates (no cables) may be installed vertically or horizontally for single gang plate openings only, and double gang plates are limited to installation horizontally with fasteners at ends of plates penetrating into wall studs.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SL GP 16" and 24" Firestop Gangplate, CFS-SL GP 5-sleeve

3. Firestop Device — Within each circular opening port of the CFS-SL GP firestop gang plates (Item 2), one of the following firestop devices shall be installed. Any combination of these firestop devices may be used within each gang plate.

3A. Firestop Device* — Rectangular steel plate designed to close port openings with no penetrants. Plate is field installed in accordance with Hilti Installation Instructions. Flanges of gang plate over port opening are removed by loosening GP nuts, the steel plate cap installed with prepunched holes aligned with GP fasteners, and the flanges of GP then reinstalled and nuts reinstalled to tighten the plates in position.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SL GP CAP Firestop Gangplate CAP

3B. Firestop Device* — Firestop device consists of a corrugated steel tube. The device flanges are removed by spinning counterclockwise and are not used. Device tube slid into gang plate port opening and centered within wall such that ends of device tube project an approximate equal distance from the gang plate on each side of wall. The two integral screws within the flange of the gang plate port at each side of wall are tightened to firmly bear against the device sleeve to retain it in position. Device is designed to allow installation before or after the cable penetrants (if employed) are in place. Device is used in combination with the firestop plugs described in Item 4.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SL RK 4" Firestop Sleeve



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3C. Firestop Device* — Firestop device consists of a corrugated steel tube. The device flanges are removed by spinning counterclockwise and are not used. Device tube slid into gang plate port opening and centered within wall such that ends of device tube project an approximate equal distance from the gang plate on each side of wall. The two integral screws within the flange of the gang plate port at each side of wall are tightened to firmly bear against the device sleeve to retain it in position. Device is used in combination with the firestop plugs described in Item 4.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SL SK 4" Firestop Retrofit Sleeve

3D. Firestop Device* — Firestop device consists of a corrugated steel tube with an inner plastic housing, intumescent material rings and twisted inner fabric smoke seal. The device flanges are to be spun counterclockwise and removed since they are not used. Device tube slid into gang plate port opening and centered within wall such that ends of device tube project an approximate equal distance from the gang plate on each side of wall. The two integral screws within the flange of the gang plate port at each side of wall are tightened to firmly bear against the device sleeve to retain it in position. The inner fabric seal shall be twisted to completely close off any unused opening within the device. As an option, the inner fabric seal within each device may remain open except that, for all blank devices (no cables), the inner fabric seal shall be twisted to completely close the device. In addition, to attain the L Rating, the inner fabric seal must also be twisted to completely close the opening within each device.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 653 and CP 653 BA 4" Speed Sleeve

4 Fill, Void or Cavity Material* - Plug — Plugs are required to be used with the CFS-SL RK and SK firestop devices (Items 3B and 3C). Nom 4" diam plug friction fit within the device sleeve flush with each end of the device on both sides of wall. Plug cut to fit around the cable bundle (if used) and installed tightly within the device sleeve.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-PL Firestop Plug 4"

5. Cables — Within the loading area for each firestop device (Items 3B through 3D), a tightly bundled cable may be installed. The aggregate cross-sectional area of cables shall be min 0 to max 60 percent fill for each CFS-SL RK and CFS-SL SK firestop device (Items 3B and 3C). For the CP 653 Speed Sleeve firestop device (Item 3D), the cables can be used for a 0 to 100 percent visual fill. Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:

A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

C. Max 4/0 AWG Type RHH ground cable.

D. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.

E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.

F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).

G. Max 3/C No 12 AWG MC Cable.

H. Through Penetrating Product* — Any Cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category.

See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.

I. Max 3/C No 12 AWG MC Cable.

The L Ratings apply to the 16" and 24" Gangplates and are dependent on the type and number of devices within the gang plate and the cable type and fill. For devices with cable bundle, the cable bundle shall be nominally centered within the device to attain the L Ratings. The L Ratings in CFM per GP device (Table 1) and in CFM per ft²/ of opening (Table 2) are specified below:



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Table 1 - CFM per CFS-SL GP Gangplate Device at Ambient and 400F

	Type and Number of Devices in CFS-SL GP (CAP - Item 3A; Devices - Any combination of Items 3B through 3D except as noted)				
	Cap(S) Only	Cap(S) and One Device	Cap(S) and Two Devices	Cap (Opt) and Three Devices	Four Devices
Blank Opening (no cables):	Less Than 1	1	2	2.5	3.5
Openings with any combination of Item 5 cables for max 33% aggregate fill in device types 3B and 3C, and/or max 100% visual cable fill in device type 3D	-	2	4	6	8
	Cap(S) only	Cap(S) and one CP 653 Device (Item 3D)	Cap(S) and Two CP 653 Devices (Item 3D)	Cap (Opt) and Three CP 653 Devices (ITEM 3D)	Four CP 653 Devices (Item 3D)
Openings with max 100% visual cable fill with cable type 5D only and CP 653 only	-	1.5	3	4	5.5

Table 2 - CFM per FT2 of Opening at Ambient and 400F

	Type and Number of Devices in CFS-SL GP (CAP - Item 3A; Devices - Any combination of Items 3B through 3D except as noted)				
	Cap(S) only	Cap(S) and One Device	Cap(S) and Two Device	Cap(Opt) and Three Device	Four Devices
Blank Opening (no cables)	1.2	1.3	2.6	3.2	4.5
Openings with any combination of Item 5 cables for max 33% aggregate fill in device types 3B and 3C, and/or max 100% visual cable fill in device type 3D.	-	2.6	5.1	7.7	10.2
	Cap(S) only	Cap(S) and One CP 653 Device (Item 3D)	Cap(S) and Two CP 653 Ddevices (Item 3D)	Cap (Opt) and Three CP 653 Devices (Item 3D)	Four CP 653 Devices (Item 3D)
Openings with max 100% visual cable fill with cable type 5D only and CP 653 only	-	1.9	3.8	5.1	7.0

* 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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