

Firestop Submittal Package

Project:

Date:

Submitted by:

*This submittal is auto-generated based on user-selected inputs.
Therefore, Hilti makes no representation as to the suitability of these systems for their intended use.*

Hilti. Outperform. Outlast.



Hilti Firestop
Saving lives
through innovation
and education

Table Of Contents

UL Listings

C-AJ-2095 (US Only).....	1
C-AJ-2109 (US Only).....	2
C-AJ-2110 (US Only).....	4
C-AJ-2141 (US Only).....	6
F-A-2053 (US Only).....	7
F-A-2054 (US Only).....	9
W-L-2251 (US Only).....	11

CFS-S SIL GG

Product Data Sheet for CFS-S SIL GG Firestop Silicone Sealant.....	12
Material Safety Data Sheet (MSDS) for CFS-S SIL GG Firestop Silicone Sealant.....	13
LEED information for CFS-S SIL GG Firestop Silicone Sealant.....	15

CFS-S SIL SL

Product Data Sheet for CFS-S SIL SL Firestop Silicone Sealant.....	16
Material Safety Data Sheet (MSDS) for CFS-S SIL SL Firestop Silicone Sealant.....	17
LEED information for CFS-S SIL SL Firestop Silicone Sealant.....	19

CP

UL Certificate of Compliance for Mineral Wool.....	20
Material Safety Data Sheet (MSDS) for Mineral Wool.....	21
LEED information for Mineral Wool.....	23

CP 606

Product Data Sheet for CP 606 Flexible Firestop Sealant.....	24
UL Certificate of Compliance for CP 606 Flexible Firestop Sealant.....	25
Material Safety Data Sheet (MSDS) for CP 606 Flexible Firestop Sealant.....	26
LEED information for CP 606 Flexible Firestop Sealant.....	28

CP 643 N

Product Data Sheet for CP 643N Firestop Collar.....	29
UL Certificate of Compliance for CP 643N Firestop Collar.....	30
Material Safety Data Sheet (MSDS) for CP 643N and CP 644 Firestop Collar.....	31
LEED information for CP 643N and CP 644 Firestop Collars.....	33

CP 644

Product Data Sheet for CP 644 Firestop Collar.....	34
UL Certificate of Compliance for CP 644 Firestop Collar.....	35

Material Safety Data Sheet (MSDS) for CP 643N and CP 644 Firestop Collar.....	36
LEED information for CP 643N and CP 644 Firestop Collars.....	38

CP 680-P

Product Data Sheet for CP 680-P and CP 680-M Cast-in Firestop Devices.....	39
UL Certificate of Compliance for CP 680-P and CP 680-M Cast-in Firestop Devices and CP 681 Tub Box Kit.....	40
Material Safety Data Sheet (MSDS) for CP 680-P and CP 680-M Cast-in Firestop Device.....	41
LEED information for CP 680-P and CP 680-M Cast-In Firestop Device.....	43

FS-ONE

Product Data Sheet for FS-ONE High Performance Intumescent Firestop Sealant.....	44
UL Certificate of Compliance for FS-ONE High Performance Intumescent Firestop Sealant.....	45
Material Safety Data Sheet (MSDS) for FS-ONE Intumescent Firestop Sealant.....	46
LEED information for FS-ONE Intumescent Firestop Sealant.....	48

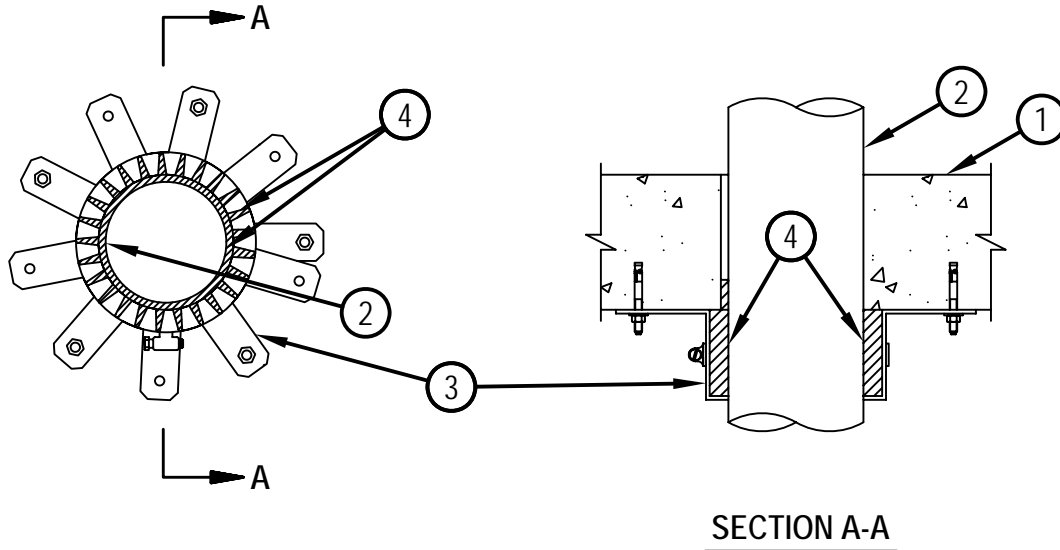


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-2095

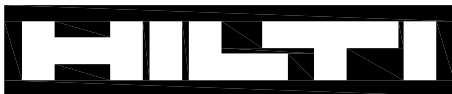
F Rating - 3 Hr
T Rating - 2-1/2 Hr

CAJ2095



1. Floor or Wall Assembly -- Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 5 in.
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Nonmetallic Pipe -- Nom 4 in. diam (or smaller) Schedule 40 solid-core polyvinyl chloride (PVC) or SDR 17 chlorinated polyvinyl chloride (CPVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. One pipe to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. (point contact) to max 1/2 in. Pipe to be rigidly supported on both sides of floor or wall assembly.
3. Steel Collars -- Collar fabricated from coils of precut min 0.017 in. thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1-3/4 in. deep with 1 in. wide by 2 in. long anchors tabs on 2 in. centers for securement to floor or wall assembly. The opposite side incorporates retainer tabs, 1/2 in. wide by 3/16 in. long, prebent toward the pipe surface. Collar shall be wrapped around pipe maintaining a 1 in. distance between pipe and collar, and overlapping min 1 in at seam. Collar secured to concrete slab with 1/4 in. diam by 1-3/4 in. long steel expansion type masonry fasteners or 0.145 in. diam by 1-1/4 in. long powder actuated fasteners utilizing a 1-7/16 in. diam by 1/16 in. thick steel washer. In floor assemblies, one collar to be used at the bottom of the concrete floor only. In wall assemblies, a collar is used on both surfaces. After sealant is installed (Item 4), the collar shall be compressed around the pipe using a 1/2 in wide by 0.028 in. thick stainless steel band clamp fastened at the collar mid-height.
4. Fill, Void or Cavity Material* -- Sealant -- Min 1-1/2 in. thickness of fill material applied within the annulus, flush with bottom surface of floor or with both surfaces of wall and applied to completely fill the steel collar.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS611A or FS-ONE Sealant

*Bearing the UL Classification Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
July 27, 2005



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-2109

F Ratings — 2 and 3 Hr (See Item 3)

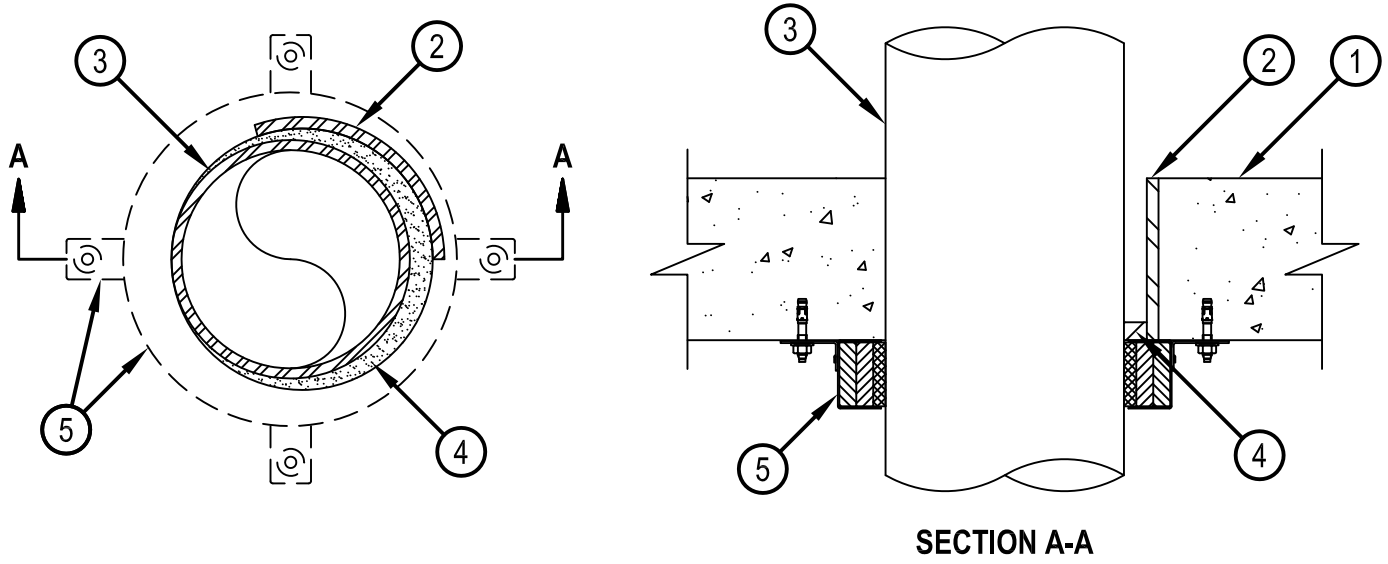
T Ratings — 0, 2 and 3 Hr (See Items 2 and 3)

W Rating - Class 1 (See Items 2, 3 and 4)

L Rating at Ambient — Less Than 1 CFM/sq ft (See Item 4)

L Rating at 400 F — Less Than 1 CFM/sq ft (See Item 4)

CAJ 2109



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 12 in. (305 mm).
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — (Optional) - Nom 12 in. (305 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces a max of 3 in. (76 mm) above the floor. If the steel sleeve extends above the floor, the T Rating of the firestop system is 0 Hr and a min 1/2 in. (13 mm) annular space is required between the through penetrant (Item 3) and the periphery of the opening. The W Rating does not apply when the steel sleeve is used.
3. Through Penetrants — One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. For max 6 in. (152 mm) diam pipes, the annular space between the pipe and the periphery of opening shall be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm). For nom 8 in. (203 mm) and 10 in. (254 mm) diam pipes, the annular space between the pipe and the periphery of opening shall be min 0 in. (0 mm, point contact) to max 1-1/4 in. (32 mm). If the steel sleeve extends above the floor (Item 2), a min 1/2 in. (13 mm) annular space is required between the through penetrant (Item 3) and the periphery of the opening. Pipe to be rigidly supported on both sides of floor or wall assembly. For systems with a W Rating, the max annular space is 1/2 in. (13 mm). The T Ratings are dependent on the size and/or type of pipe as shown in the table below. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom 10 in. (254 mm) 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 systems. For systems with a W Rating, the nom diam of pipe shall not exceed 6 in. (152 mm).
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 10 in. (254 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems. For systems with a W Rating, the nom diam of pipe shall not exceed 6 in. (152 mm).
 - C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. (152 mm) 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 system.
 - D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
December 23, 2013

Pipe Type	Nom Pipe Diam, In. (mm)	F Rating Hr
PVC, CPVC	Greater than 6 (152)	2
PVC, CPVC, ABS, FRPP	6 (152) or smaller	3
Pipe Type	Nom Pipe Diam, In. (mm)	T Rating Hr
PVC, CPVC, ABS, FRPP	1-1/2, 2, 3 (38, 51, 76)	2
PVC, CPVC, ABS, FRPP	4 (102)	3
PVC, CPVC, ABS+, FRPP	6 (152)	3
PVC, CPVC	Greater than 6 (152)	0
ABS++	6 (152)	0

+ - Indicates solid core ABS only.

++ - Indicates cellular core ABS only.

4. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top or bottom surface of floor or both surfaces of wall. Sealant is optional for pipes having a max diam of 6 in. (152 mm) in unsleeved openings. For systems with W Rating and/or L Rating, min 1/2 in. (13 mm) thickness of CP 601S, CFS-S SIL GG, CFS-S SIL SL (floors only) or CP 604 Sealant shall be applied within the annulus, flush with top or bottom surface of floor.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP 601S Sealant, CFS-S SIL GG, CFS-S SIL SL (floors only) or CP 604 Sealant

4A. Packing Material (not shown) — Min 1/2 in. (13 mm) thickness of 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into annular space and recessed from the top surface of floor to accommodate the required thickness of fill material. Required only when CP 604 Sealant is used.

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 underside of floor or both sides of wall using the anchor hooks provided with the collar. Minimum two anchor hooks for nom 1-1/2 and 2 in. (38 and 51 mm) diam pipes. Minimum three anchor hooks required for nom 3 and 4 in. (76 and 102 mm) diam pipes. Minimum four anchor hooks required for nom 6 in. (152 mm) diam pipes. Minimum ten anchor hooks required for nom 8 in (203 mm) diam pipes. Minimum twelve anchor hooks required for nom 10 in. (254 mm) diam pipes. The anchor hooks are to be secured with min 1/4 in. (6 mm) diam by min 1-1/4 in. (32 mm) long steel expansion bolts or min 0.145 in. (3.7 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a 1-7/16 in. (37 mm) diam by 1/16 in. (1.6 mm) thick steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (45 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti X-DNI 27 P8 S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam washer may be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643N 50/1.5", CP 643N 63/2", CP 643N 90/3", CP 643N 110/4", CP 643 160/6", CP 644 200/8" or CP 644 250/10" Firestop Collar

*Bearing the UL Classification Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
December 23, 2013



Classified by
Underwriters Laboratories, Inc.
to UL 1479

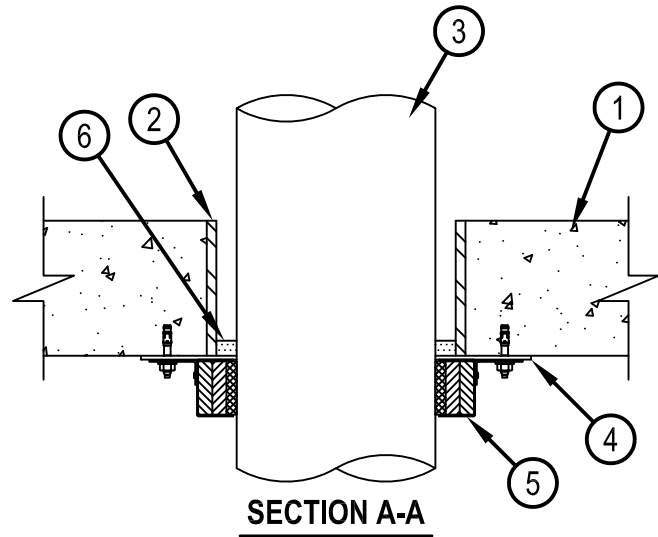
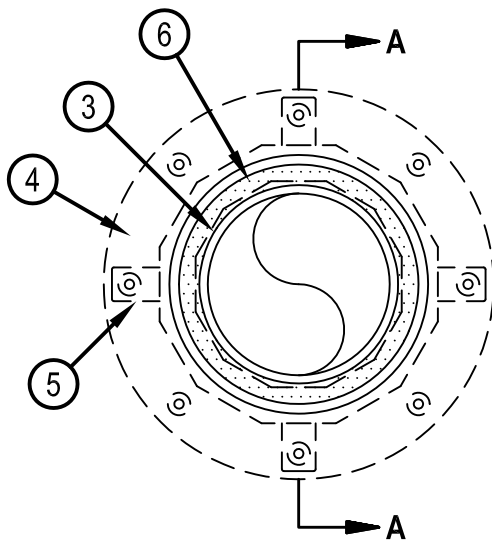
System No. C-AJ-2110

F Rating — 3 Hr

T Rating — 0 Hr

W Rating - Class 1 (See Items 2, 3 and 6)

CAJ 2110



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow core Precast Concrete Units*. Max diam of opening is 8 in. (203 mm). For hollow core Precast Concrete Unit floors, max diam of opening is 7 in. (178 mm).

See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. Steel Sleeve — (Optional) Nom 8 in. (203 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces. The W Rating does not apply when the steel sleeve is used.
3. Through Penetrants — One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and sleeve (Item 3) shall be min 1/4 in. (6 mm) to max 1-1/4 in. (32 mm). For systems with a W Rating, the max annular space is 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom. 6 in. (152 mm) 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. (152 mm) 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. (152 mm) 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. (152 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
4. Metal Cover Plate — Min 18 ga. steel with max I.D. 1/4 in. (6 mm) larger than O.D. of pipe. Min. O.D. of cover plate to be sized to provide min 1-1/2 in. (38 mm) overlap of plate to floor or wall around periphery of opening. Cover plate can be two pieces with a min 2 in. (51 mm) overlap at the seam. Installed between underside of floor or both sides of wall between collar and floor or wall surfaces. When packing material (Item 7) is used, min thickness of cover plate is 28 ga. Secure cover plate to underside of floor or both sides of wall with same fasteners as specified in Item 5 below such that max distance between fasteners around periphery of cover plate is 5 in. (152 mm). One fastener required at each seam location in plate.



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
December 20, 2013

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 underside of floor or both sides of wall floor using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. (38 and 51 mm) diam pipes, 3 anchor hooks for 3 and 4 in. (76 and 102 mm) diam pipes, and 4 anchor hooks for 6 in. (152 mm) diam pipes). The anchor hooks are to be secured with min 1/4 in. (6 mm) diam by min 1-1/4 in. (32 mm) long steel expansion bolts or min 0.145 in. (3.7 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a 1-7/16 in. (36 mm) diam by 1/16 in. (1.6 mm) thick steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, or Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti X-DNI 27 P8 S15 powder actuated floor pin with integral nom 9/16 in. (14 mm) diam washer may be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP 643 90/3"N, CP 643 110/4"N or CP 643 160/6"N Firestop Collar.

6. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with bottom surface of floor or both surfaces of wall assembly. Additionally, nom 1/4 in. (6 mm) beads of fill material applied between concrete and cover plate and between cover plate and firestop device. W Rating applies only when CP601S, CFS-S SIL GG, CFS-S SIL SL (floors only), Sealant is used. W Rating does not apply when hollow core precast concrete unit floors are used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CFS-S SIL GG, CFS-S SIL SL (floors only), CP606 or FS-One Sealant

7. Packing Material (Not Shown. Optional) — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from bottom surface of floor or both surfaces of wall to accommodate the required thickness of fill material (Item 6).

*Bearing the UL Classification Mark





Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-2141

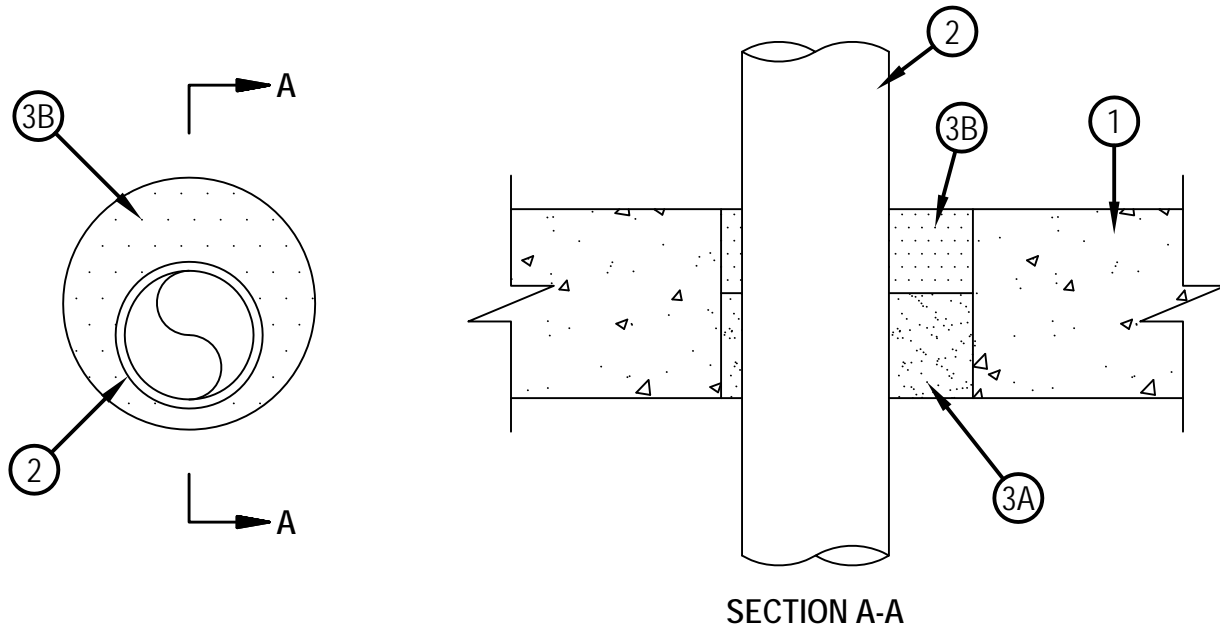
F Rating -- 3 Hr

T Rating -- 2 Hr

L Rating At Ambient -- Less Than 1 CFM/Sq Ft

L Rating At 400 F -- 4 CFM/Sq ft

CAJ 2141



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).
See Concrete Blocks* (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe or conduit and the periphery of the opening shall be min 1/2 in. (13 mm) to max 2 in. (51 mm). The pipe or conduit to be rigidly supported on both sides of floor or wall. The following types and sizes of pipes or conduits may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC pipe for use in closed (process or supply) piping systems.
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 3 in. (76 mm) diam (or smaller) SDR 17 CPVC pipe for use in closed (process or supply) piping systems.
3. Firestop System — The firestop system shall consist of the following:
 - A. Forming Material* — Min 2-1/2 in. (64 mm) thickness of forming material foamed into opening as a permanent form. Forming material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CF812 or CF-AS CJP Foam Sealant
 - B. Fill, Void or Cavity Material* — Sealant — Min 2 in. (51 mm) thickness of fill material applied with annulus flush with top surface of floor or within both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.

April 20, 2012



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2053

F Rating — 2 Hr

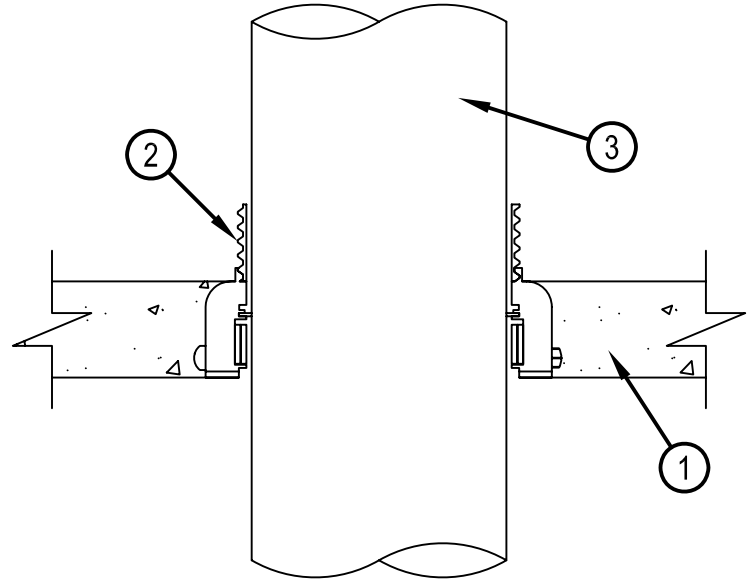
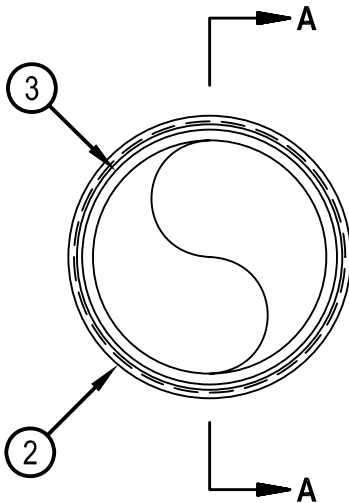
T Rating — 0 Hr

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)

W Ratings — Class 1 (See Items 3, 4 and 4A)

FA 2053



SECTION A-A

1. Floor Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - 1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:
 - A. Concrete — Min 2-1/2 in (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - B. Steel Floor and Form Units* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
 2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete assembly in accordance with accompanying installation instructions. The 3, 4 and 6 in. devices may extend a max 2 in. (51 mm) above the top surface of the concrete. The max extension above the slab for the 2 and 2.5 in. devices is not restricted.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-160/6"N, CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6"



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
February 27, 2008



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2053

F Rating — 2 Hr

T Rating — 0 Hr

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)

W Ratings — Class 1 (See Items 3, 4 and 4A)

FA 2053

3. Through Penetrants — One nonmetallic pipe or conduit to be installed within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. For W Rating with Water Barrier Module, pipe shall be installed from bottom of device. The following types and sizes of nonmetallic pipes or conduits may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR11 or SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

C. Rigid Nonmetallic Conduit+ — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).

The firestop devices and nonmetallic penetrants shall be sized as follows:

Nom Pipe Diameter	Firestop Device
1/2 in. to 2 in. (19 mm to 51 mm)	CP 680-75/2.5"N CP 680-P 2"
3 in. (76 mm)	CP 680-P 3"
3 in. to 4 in. (76 mm to 102 mm)	CP 680-110/4"N CP 680-P 4"
6 in. (152 mm)	CP 680-160/6"N CP 680-P 6"

++ L Rating applies only to CP 680-P devices and only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.) L Rating does not apply to CP 680N devices.

4. Firestop Device* — (Not shown) -Top seal plug for use with CP 680-75/2.5"N devices and nom pipe or conduit sizes 3/4 in. (19 mm) to 2 in. (51 mm), installed in accordance with the manufacturer's instructions. The top seal plug is optional for nom 1-1/2 in. (38 mm) pipes and conduits. Top seal plugs are required for all pipes and conduits less than nom 1-1/2 in. (38 mm). W Rating applies only when the CPS or IPS Top Seal Plugs are used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CPS and IPS Top Seal Plugs

4A. Firestop Device* - Water Barrier Module — (Optional, Not Shown) - Applies to nom 2", 3" and 4" water barrier modules used in combination with the CP 680-P 2", CP 680-P 3" and CP 680-P 4" devices, respectively, and supplied by device manufacturer. Module is threaded onto top of device. W Rating applies only when water barrier module is used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

*Bearing the UL Classification Mark

+Bearing the UL Listing Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
February 27, 2008



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2054

F Rating — 3 Hr

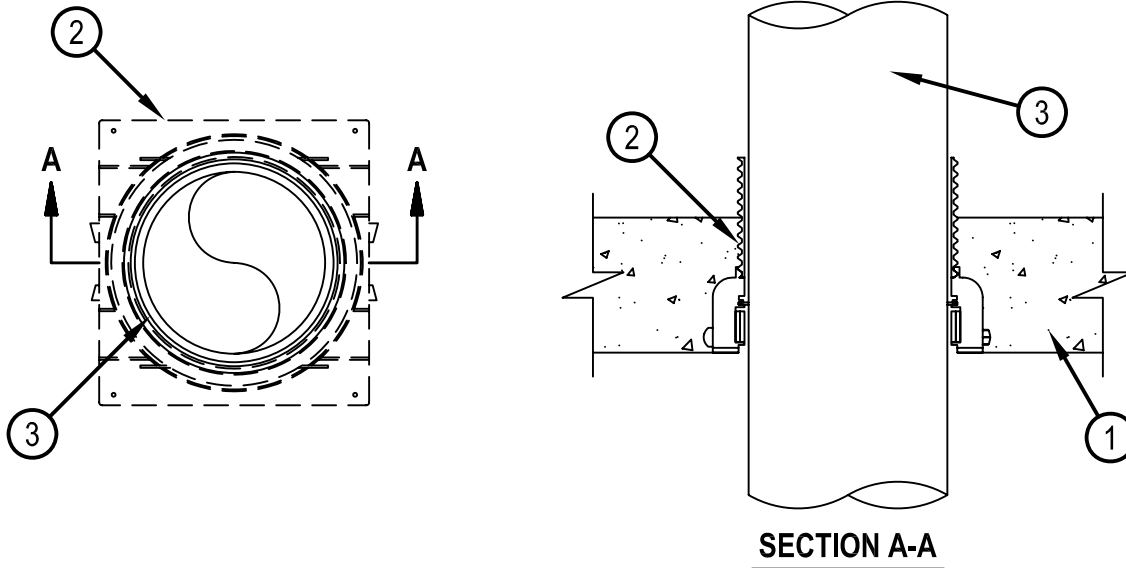
T Ratings — 0 and 3 Hr (See Item 3)

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)

W Rating — Class 1 (See Items 3, 4 and 4A)

FA 2054



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
- 1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:
 - A. Concrete — Min 4-1/2 in (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - B. Steel Floor and Form Units* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete assembly in accordance with accompanying installation instructions. The devices may extend a max 2 in. (51 mm) above the top surface of the concrete.
 HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-160/6"N, CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6"



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
February 27, 2008



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2054

F Rating — 3 Hr

T Ratings — 0 and 3 Hr (See Item 3)

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)

W Rating — Class 1 (See Items 3, 4 and 4A)

FA 2054

3. Through Penetrants — One nonmetallic pipe or conduit to be installed within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. For W Rating with Water Barrier Module, pipe shall be installed from bottom of device. The following types and sizes of nonmetallic pipes or conduits may be used:

- A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Pipe-Nom 6 in. (152 mm) diam (or smaller) SDR11 or SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
- C. Rigid Nonmetallic Conduit+ — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).

The firestop devices and nonmetallic penetrants shall be sized as follows:

Nom Pipe Diameter	Firestop Device	T Rating-Hr
1/2 in. to 2 in. (19 mm to 51 mm)	CP 680-75/2.5"N CP 680-P 2"	3
3 in. (76 mm)	CP 680-110/4"N CP 680-P 3", CP 680-P 4"	0 and 3+
4 in. (102 mm)	CP 680-110/4"N CP 680-P 4"	3
6 in. (152 mm)	CP 680-160/6"N CP 680-P 6"	0

+3 hr T Rating applies when CP 680-P 3" and CP 680-P 4" devices are used. 3 hr T Rating also applied when CP 680-110/4"N device is used provided that min 4 in. (102 mm) thickness of nom 4 pcf (64 kg.m3) mineral wool batt insulation tightly packed within annulus between pipe and wall of CP 680-110/4"N device.

++ L Rating applies only to CP 680-P devices and only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.) L Rating does not apply to CP 680N devices.

4. Firestop Device — Top seal plug for use with CP 680-P 2" device installed in accordance with the manufacturer's instructions. The Top Seal Plug is optional for nom 1-1/2 in. (38 mm) pipes and conduits. Top Seal Plugs are required for all pipes and conduits less than nom 1-1/2 in. (38 mm). W Rating applies only to the IPS Top Seal Plug and nom 2 in. diam penetrants and CPS Top Seal Plug for nom 1/2 to 2 in. (13 to 51 mm) diam penetrants.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — IPS and CPS Top Seal Plugs

4A. Firestop Device* - Water Barrier Module — (Optional, Not Shown) - Alternate to Top Seal Plug (Item 4). Applies to nom 2", 3", 4" and 6" water barrier modules used in combination with the CP 680-P 2", CP 680-P 3", CP 680-P 4" and CP 680-P 6" devices, respectively, and supplied by device manufacturer. Module is threaded onto top of device. W Rating applies only when water barrier module is used and nom diam of penetrant equals size of device.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

*Bearing the UL Classification Mark

+Bearing the UL Listing Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
February 27, 2008



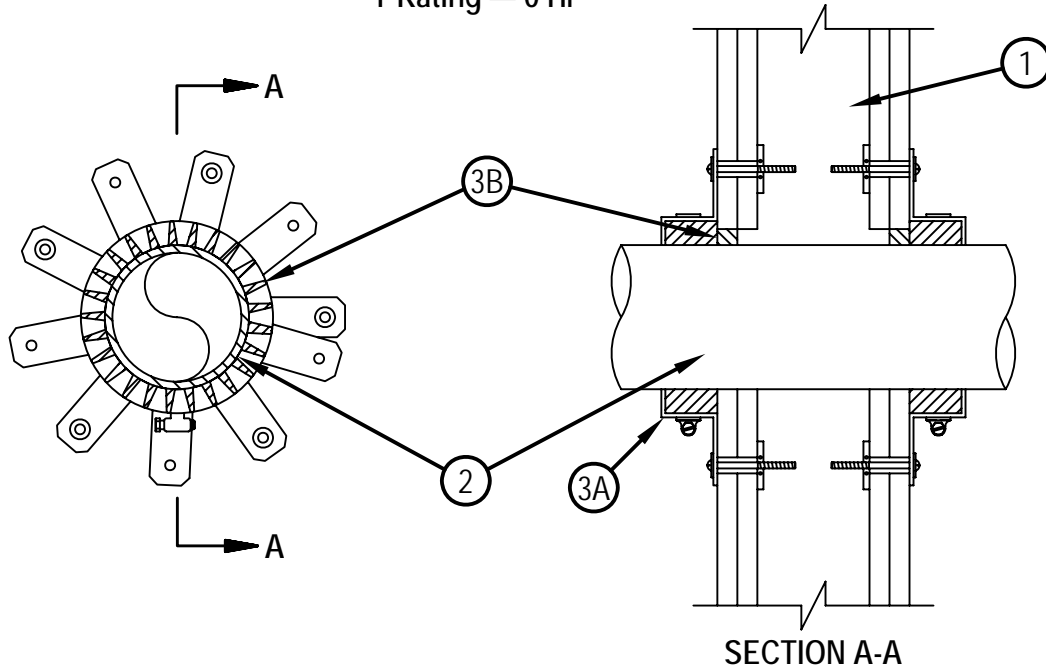
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. W-L-2251

F Ratings — 1 and 2 Hr (See Item 1)

T Rating — 0 Hr

WL 2251



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 in the individual U300 or U400 Series Wall or Partition Design 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. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.

B. Gypsum Board* — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through-Penetrant — One nonmetallic pipe installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min of 0 in. (point contact) to a max 1/2 in. Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used.

A. Polyvinyl Chloride (PVC) Pipe — Nom 4 in. diam (or smaller) solid or cellular core Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. diam (or smaller) SDR 13.5 chlorinated polyvinyl chloride (CPVC) pipe for use in closed (process or supply) piping system.

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

A. Steel Collar — Collar fabricated from coils of precut min 0.017 in. thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1-3/4 in. deep with 1 in. wide by 2 in. long anchors tabs on 2 in. centers for securement to wall assembly. The anchor tabs shall be bent 90 degree outward for securement to the wall assembly. The opposite side incorporates retainer tabs, 1/2 in. wide by 3/16 in. long, prebent toward the pipe surface. Collar shall be wrapped around pipe maintaining a 1 in. distance between pipe and collar, and overlapping min 2 in at seam. Steel collar is slid along the pipe until it butts the surface of the wall. The collar shall be attached to the gypsum board with 1/4 in. toggler bolts on every other tab. After sealant (Item 3B) is installed, the collar shall be compressed around the pipe using a 1/2 in wide by 0.028 in. thick stainless steel band clamp fastened at the collar mid-height. Collars are installed on each side of wall.

B. Fill, Void or Cavity Material* — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall. Additionally, the steel collars shall be completely filled with sealant, maintaining a 1 in. space between collar and pipe.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.

July 27, 2005

Firestop Gun Grade Silicone Sealant CFS-S SIL GG

Product description

- A silicone based firestop sealant that provides maximum movement in fire-rated joints, and seals through-penetration applications

Product features

- Halogen and solvent free
- Asbestos free
- Simple to use and apply
- Good adhesion without use of a primer
- Smoke, fume, water and UV resistant
- Excellent movement capability, meets 500 cycle requirements (ASTM E 1966 and UL 2079)
- Meets Class I W-rating requirements
- Meets LEED™ requirements for indoor environmental quality credit 4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings

Areas of application

- Sealing construction/expansion joints
- Top-of-wall joints
- Metal pipes
- Cable bundles
- HVAC penetrations

For use with

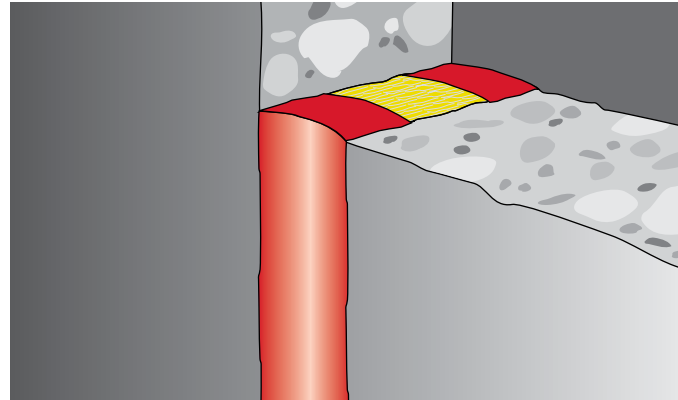
- Various base materials such as masonry, concrete, metal, etc.
- Wall and floor assemblies rated up to 4 hours

Examples

- Where a gypsum wall assembly meets the underside of a metal or concrete deck
- Sealing expansion joints to impede the passage of fire, smoke and toxic fumes
- Sealing around penetrations through fire-rated assemblies

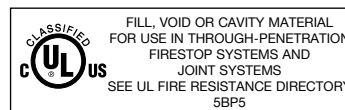
Installation instructions

- Refer to what is included in the package, the MSDS, and the applicable listing.



Technical Data*	CFS-S SIL GG
Chemical basis	Neutral elastic silicone
Density	Approx. 1.4 g/cm ³
Color	Available in red, white, and gray
Application temperature	40°F to 104°F (5°C to 40°C)
Skin-forming time	Approx. 15 min.
Curing time	Approx. 2 mm / 3 days
Volume shrinkage	Approx. 0 – 5%
Movement capability (UL 2079)	Approx. 33%
Temperature resistance	-40°F to 300°F (-40°C to 149°C)
Surface burning characteristics (ASTM E84-12)	Flame spread: 0 Smoke development: 25
Sound transmission classification (ASTM E 90-09)	59 (Relates to specific construction)
Tested in accordance with	UL 2079 ASTM E 814 ASTM E 1966 ASTM C 920 UL 1479 ASTM E 84 ASTM G21

*At 73°F (23°C) and 50% relative humidity





MATERIAL SAFETY DATA SHEET

Product name: CFS-S SIL GG Firestop Silicone Sealant
Description: Flexible silicone sealant for firestopping through penetrations and construction joints where movement is expected.
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Amorphous silica	7631-86-9	3 mg/m ³ (R)	NE	NE
Calcium carbonate	000471-34-1	NE	5mg/m ³ (R)	NE
Quartz silica	14808-60-7	0.025mg/m ³ (R)	10 mg/ m ³ (R) % SiO ₂ + 2	
Titanium dioxide	13463-67-7	10 mg/m ³	3 mg/m ³	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable. R = Respirable Particle

PHYSICAL DATA

Appearance:	Red or white paste.	Odor:	Negligible.
Vapor Density: (air = 1)	Not applicable.	Vapor Pressure @ 68° F:	Not determined
Boiling Point:	Not applicable.	VOC Content:	48 g/l
Evaporation Rate:	Not applicable.	Solubility in Water:	Insoluable
Specific Gravity:	1.38	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	412° F	Flammable Limits:	Not applicable.
Extinguishing Media:	Water, CO ₂ , Dry Chemical, Foam.		
Special Fire Fighting Procedures:	A NIOSH-approved self-contained breathing apparatus (SCBA) should be worn when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Product serves as a fire stopping material.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong oxidizing agents, acids, alkaline hydroxides, and water.		
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	Acute: Irritation is possible. Chronic: None known or anticipated.		
Signs and Symptoms of Exposure:	Eyes – Strong irritant with danger of eye injury. Skin – No irritant effects. Inhalation - No effects expected. Ingestion - Not a likely route of exposure.		
Routes of Exposure:	Dermal, eyes..		
Carcinogenicity:	Product contains quartz silica which is classified as a carcinogen by IARC, NTP, and OSHA. However, since the product is a wet paste, exposure is unlikely.		
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Contact a physician.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	If ill effects occur, move victim to fresh air. Contact a physician.
Ingestion:	Do not induce vomiting. If conscious, give plenty of water to drink. Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Nitrile gloves are recommended.
Respiratory Protection:	None required under normal conditions of use.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area away from direct sunlight. Avoid temperature extremes; recommended storage temperature is between 40° and 77° F. For industrial use only. Keep out of reach of children. Use with adequate ventilation. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures:	Allow to cure and place in a container for proper disposal in accordance with all applicable local, state, or federal requirements. Not regulated as a hazardous waste according to federal EPA definitions.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 2, Flammability 1, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated
IATA / ICAO Shipping Name:	Not regulated
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any ingredients which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x1003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



March 20, 2014

To Whom It May Concern:

Re: Hilti CFS-S SIL GG Firestop Sealant - LEED Info.

The Hilti CFS-S SIL GG Firestop Sealant is manufactured in Toronto, Ontario.

There is no post-consumer or post-industrial content in CFS-S SIL GG and it cannot be recycled. The CFS-S SIL GG does not contain any Rapidly Renewable Materials. The VOC content for CFS-S SIL GG is 48.0 grams/liter.

CFS-S SIL GG is not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink, reading "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Sr. Mgr. Safety/Environmental
Hilti Inc.
918 872 3704
jerry.metcalf@hilti.com

Rev. Date: 3/20/14

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

Firestop Self Leveling Silicone Sealant CFS-S SIL SL

Product description

- Self-leveling, single-component, silicone-based firestop sealant for use with through-penetrations as well as construction joints in floors.

Product features

- Self-leveling—requires no tooling
- Excellent elongation/compression properties
- Meets 500 cycle requirements (ASTM E 1966 and UL 2079)
- Smoke, fume, water and UV resistant
- Meets Class I W-rating requirements
- Meets LEED™ requirements for indoor environmental quality credit 4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings

Areas of application

- Sealing construction/expansion joints
- Metal pipes
- Cable bundles
- Sealing multiple penetrations in small or large openings

For use with

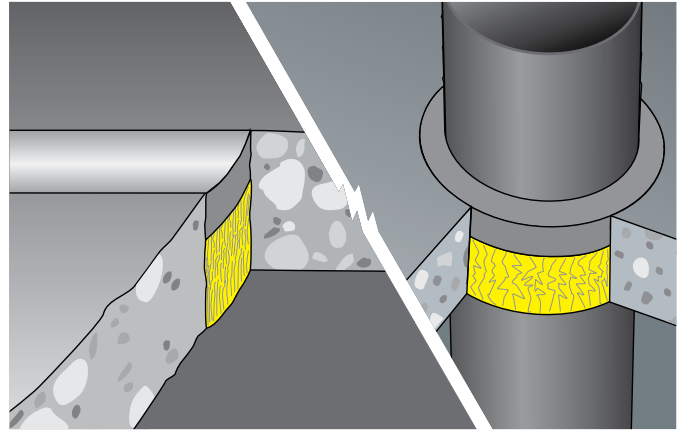
- Concrete floors rated up to 4 hours

Examples

- Penetrations for metal pipes between floor levels
- Construction joints and expansion joints in floors

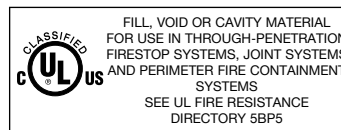
Installation instructions

- Refer to what is included in the package, the MSDS, and the applicable listing.



Technical Data*	CFS-S SIL SL
Chemical basis	Neutral elastic silicone
Density	Approx. 1.4 g/cm ³
Color	Gray
Application temperature	40°F to 104°F (5°C to 40°C)
Skin forming time	Approx. 15 min
Curing time	Approx. 2 mm/3 days
Volume shrinkage	Approx. 0 – 5%
Joint movement capability (UL 2079)	Approx. 33%
Temperature resistance	–40°F to 300°F (–40°C to 149°C)
Surface burning characteristics (ASTM E 84-12)	Flame Spread: 0 Smoke Development: 50
Sound transmission classification (ASTM E 90-09)	53 (Relates to specific construction)
Tested in accordance with	UL 1479 ASTM E 1966 UL 2079 ASTM E 814 ASTM E 2307 ASTM E 84 ASTM G21

*At 73°F (23°C) and 50% relative humidity





MATERIAL SAFETY DATA SHEET

Product name: CFS-S SIL SL Firestop Silicone Sealant
Description: Self-leveling, flexible silicone sealant for firestopping through penetrations and construction joints where movement is expected.
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Amorphous silica	7631-86-9	3 mg/m ³ (R)	NE	NE
Calcium carbonate	000471-34-1	NE	5mg/m ³ (R)	NE
Quartz silica	14808-60-7	0.025mg/m ³ (R)	10 mg/ m ³ (R) % SiO ₂ + 2	
Titanium dioxide	13463-67-7	10 mg/m ³	3 mg/m ³	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable. R = Respirable Particle

PHYSICAL DATA

Appearance:	Red or white paste.	Odor:	Negligible.
Vapor Density: (air = 1)	Not applicable.	Vapor Pressure @ 68° F:	Not determined
Boiling Point:	Not applicable.	VOC Content:	50 g/l
Evaporation Rate:	Not applicable.	Solubility in Water:	Insoluable
Specific Gravity:	1.38	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	412° F	Flammable Limits:	Not applicable.
Extinguishing Media:	Water, CO ₂ , Dry Chemical, Foam.		
Special Fire Fighting Procedures:	A NIOSH-approved self-contained breathing apparatus (SCBA) should be worn when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Product serves as a fire stopping material.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong oxidizing agents, acids, alkaline hydroxides, and water.		
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	Acute: Irritation is possible. Chronic: None known or anticipated.		
Signs and Symptoms of Exposure:	Eyes – Strong irritant with danger of eye injury. Skin – No irritant effects. Inhalation - No effects expected. Ingestion - Not a likely route of exposure.		
Routes of Exposure:	Dermal, eyes..		
Carcinogenicity:	Product contains quartz silica which is classified as a carcinogen by IARC, NTP, and OSHA. However, since the product is a wet paste, exposure is unlikely.		
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Contact a physician.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	If ill effects occur, move victim to fresh air. Contact a physician.
Ingestion:	Do not induce vomiting. If conscious, give plenty of water to drink. Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Nitrile gloves are recommended.
Respiratory Protection:	None required under normal conditions of use.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area away from direct sunlight. Avoid temperature extremes; recommended storage temperature is between 40° and 77° F. For industrial use only. Keep out of reach of children. Use with adequate ventilation. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures:	Allow to cure and place in a container for proper disposal in accordance with all applicable local, state, or federal requirements. Not regulated as a hazardous waste according to federal EPA definitions.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 2, Flammability 1, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated
IATA / ICAO Shipping Name:	Not regulated
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any ingredients which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x1003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



March 20, 2014

To Whom It May Concern:

Re: Hilti CFS-S SIL SL Firestop Sealant – LEED Info.

The Hilti CFS-S SIL SL Firestop Sealant is manufactured in Toronto, Ontario.

There is no post-consumer or post-industrial content in CFS-S SIL SL and it cannot be recycled. The CFS-S SIL SL does not contain any Rapidly Renewable Materials. The VOC content for CFS-S SIL SL is 50 grams/liter.

CFS-S SIL SL is not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink, reading "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Sr. Mgr. Safety & Environmental
Hilti Inc.
918 872 3704
jerry.metcalf@hilti.com

Rev. Date: 3/20/14

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

CERTIFICATE OF COMPLIANCE

CERTIFICATE NUMBER: 20040809-R10905

ISSUE DATE: August 9, 2004

Page 1 of 1

Issued to: Thermafiber Inc.
3711 W Mill St Ext
Wabash, IN 46992

Report Reference: R10905


**This is to Certify that
representative samples of:** Forning Material, designated as Type SAF mineral wool batts.

**Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated
on this Certificate.**

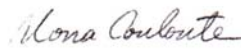
Standard(s) for Safety: ANSI/UL 1479, Fire Tests of Through-Penetration Firestops. ANSI/UL 2079,
Test for Fires Resistance of Building Joint Systems. ASTM E2307-04, Standard
Test Method for Determining Fire Resistance of Perimeter Fire Barrier Systems
Using Intermediate-Scale, Multi-story Test Apparatus


Additional Information: Type SAF mineral wool batts for use as a forming material for use in various
Through-Penetration FireStop Systems, Joint Systems and Perimeter Fire Barrier
Systems as Specified in UL's Fire Resistance Directory Volume 2.

**Only those products bearing the UL Classification Marking should be considered as being
covered by UL's Classification and Follow-Up Service.**

The UL Classification Marking includes: UL in a circle symbol:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and, the product category name (product identity) as indicated in the appropriate UL Directory.

LOOK FOR THE UL CLASSIFICATION MARKING ON THE PRODUCT!

Engineer:
Mona Couloute 
Underwriters Laboratories Inc.

Review Engineer: 
Chris Johnson
Underwriters Laboratories Inc.





MSDS No.: 270
Revision No.: 005
Revision Date: 11/29/12
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: Mineral wool
Description: Synthetic vitreous fiber
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Slag wool fiber	65997-17-3	NE	1 fiber / cc	NE
Phenolic resin	09003-35-4	NE	NE	NE
Polyvinyl alcohol	09002-89-5	NE	NE	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable.

PHYSICAL DATA

Appearance:	2' x 4' x 4" sheets.	Odor:	Negligible.
Boiling Point:	Not applicable.	Vapor Pressure:	Not applicable.
Melting Point:	Approx. 2400° F	VOC Content:	< 1% w/w
Evaporation Rate:	Not applicable.	Solubility in Water:	Insoluble.
pH:	Not applicable.	Specific Gravity:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	Flammable Limits:	Not applicable.
Extinguishing Media:	As appropriate for surrounding fire; material does not burn.		
Special Fire Fighting Procedures:	Soak cartons to help prevent the spread of fire. Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong acids.		
Hazardous Decomposition Products:	Thermal decomposition products can be formed at temperatures exceeding 2000° F. Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	Acute: Eye, skin and respiratory irritation. Chronic: Respiratory impairment.		
Routes of Exposure:	Inhalation, Dermal.		
Signs and Symptoms of Exposure:	Eyes: Mechanical irritation. Skin: Itching, irritation. Inhalation: Nose, throat and upper respiratory tract irritation.		
Carcinogenicity:	Slag wool has been classified by the IARC as Group 3 – Unclassifiable as to Carcinogenicity in Humans.		
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water while holding eyelids apart. Avoid rubbing the eyes as mechanical abrasions can occur. Call a physician if symptoms persist.
Skin:	Wash with soap and water. Launder clothing before reuse.
Inhalation:	Move to fresh air.
Ingestion:	No ill effects expected.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety goggles recommended to prevent particulates from irritating the eyes.
Skin Protection:	Cloth gloves and long sleeves to protect skin from irritating fibers.
Respiratory Protection:	Use local exhaust and/or a NIOSH-approved dust respirator when air movement is inadequate to control dusts / fibers below recommended exposure levels.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Avoid generating dusts. Local exhaust may be required to control dusts if power tools are used for cutting / trimming. Wear appropriate personal protective equipment. Store away from moisture; keep dry.
Spill Procedures:	Not applicable.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B (Gloves, Goggles)
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any toxic chemicals which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x1003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



August 13, 2010

To Whom It May Concern:

Re: Hilti Mineral Wool-LEED Info.

The Hilti Mineral Wool is manufactured in Waubash Indiana.

The post-consumer recycled content in the Hilti Mineral Wool is 0%. The pre-consumer recycled content in the Hilti Mineral Wool is 90%. There is no detectable VOC content in this product.

Hilti Mineral Wool is not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink that reads "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc.
918 872 3704
jerry.metcalf@hilti.com

Rev. Date: 8/13/10

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

Flexible Firestop Sealant (CP 606)

Product description

- An acrylic based firestop sealant that provides movement capability in fire rated joints and seals through-penetrations applications

Product features

- Silicone free
- Halogen, asbestos and solvent free
- Paintable
- Tested up to 33% movement with 500 cycles in accordance to UL 2079 and ASTM 1966
- Smoke and fume resistant
- Easy clean up with water
- Single component systems available
- Meets LEED™ requirements for indoor environmental quality credit 4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings

Areas of application

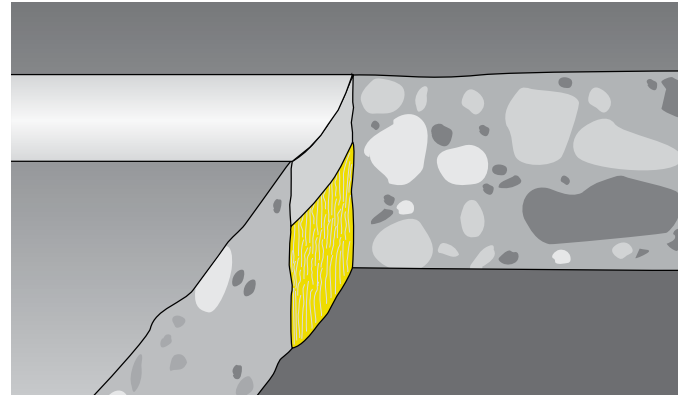
- Sealing construction/expansion joints
- Top-of-wall joints
- Metal pipes
- Cable bundles
- HVAC penetrations

For use with

- Various base materials such as masonry, concrete, gypsum, etc.
- Wall and floor assemblies rated up to 3 hours

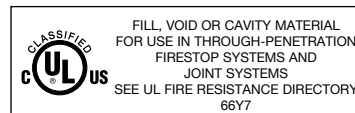
Examples

- Where a gypsum wall assembly meets the underside of a metal or concrete deck
- Sealing expansion joints to impede the passage of fire, smoke and toxic fumes
- Sealing around HVAC penetrations through fire-rated assemblies



Technical Data*	CP 606
Chemical basis	Acrylic based firestop sealant
Color	Available in red, white and gray
Application temperature	40°F to 104°F (5°C to 40°C)
Skin-forming time	Approx. 15 min
Curing time	Approx. 3 mm / 3 days
Average volume shrinkage (ASTM C1241)	22.2%
Movement capability	Approx. 10%
Temperature resistance	-22°F to 176°F (-30°C to 80°C)
Surface burning characteristics (ASTM E 84-96)	Flame Spread: 10 Smoke Development: 0
Sound transmission classification (ASTM E 90-99)	56 (Relates to specific construction)
Tested in accordance with	<ul style="list-style-type: none"> • UL 2079 • ASTM E 814 • ASTM E 1966 • ASTM E 84 • UL 1479 • ASTM G21

*At 73°F (23°C) and 50% relative humidity



Installation instructions for CP 606

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information
- The use of backing material is recommended to control the sealant depth and help ensure assembly seal is complete

Opening

1. Clean the opening. Surfaces to which CP 606 will be applied should be cleaned of loose debris, dirt, oil, wax and grease. The surface should be moisture and frost free.

Application of firestop

2. Insert fill of mineral wool or backer (as required).
3. Apply firestop over backer.
4. Smooth firestop sealant with a trowel before the skin forms. Once cured, CP 606 can only be removed mechanically.
5. For maintenance reasons, a penetration seal can be

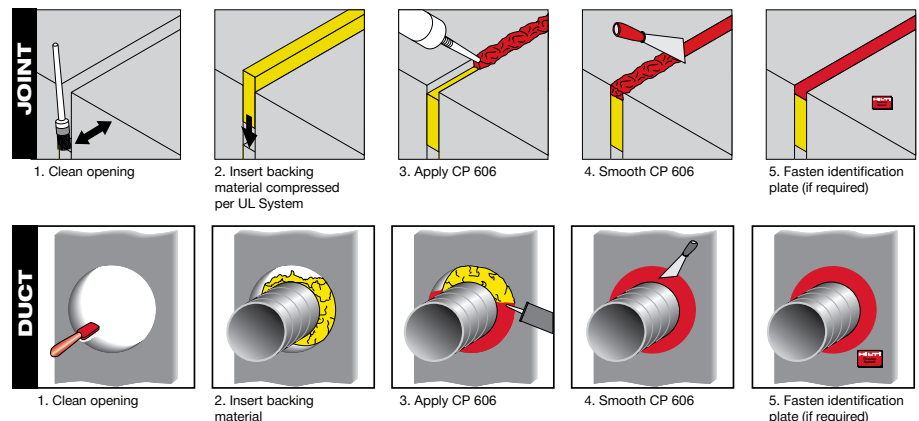
permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

- On areas immersed in water

Storage

- Store only in the original packaging in a location protected from moisture at a temperature of 40°F to 77°F (5°C to 25°C)
- Observe expiration date on package



Certificate of Compliance

Certificate Number **20060214-R13240B**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Page 1 of 1



Issued to: **Hilti, Inc.**
5400 S 122ND East Ave
Tulsa, OK 74146 USA


This is to certify that representative samples of **Fill, Void or Cavity Materials CP606**

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety: ANSI/UL 1479, ANSI/UL 2079, CAN/ULC-S115-05

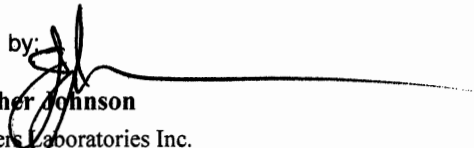
Additional Information: CP606 Sealant for use in Joint Systems and CP606 Sealant for use in Through-Penetration Firestop Systems as currently described in the UL Fire Resistance Directory.

Only those products bearing the UL Classification Mark should be considered as being covered by UL's Classification and Follow-Up Service.

The UL Classification Mark includes: UL in a circle symbol:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and, the product category name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

Issued by:

Mona Couloute
Underwriters Laboratories Inc.

Reviewed by:

Christopher Johnson
Underwriters Laboratories Inc.



MATERIAL SAFETY DATA SHEET

Product name: CP 606 Flexible Firestop Sealant
Description: Fire resistant sealant
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Calcium carbonate	01317-65-3	NE	5 (R) mg/m ³	NE
Ethylene glycol	00107-21-1	C: 100 mg/m ³ (A)	NE	NA
Pigments:		NE	NE	NE
• Titanium dioxide	13463-67-7 ¹	10 mg/m ³	15 (T) mg/m ³	NE
• Red iron oxide	1309-37-1 ²	5 (R) mg/m ³	10 (fume) mg/m ³	NE
• Black Iron oxide	1317-61-9 ³	NE	NE	NE

¹ CP 606 white; ² CP 606 red, ^{1,3} CP 606 grey

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. NE = None Established. (R) = Respirable dust (T) = Total dust (A) = Aerosol

PHYSICAL DATA

Appearance:	White, red, or grey paste.	Odor:	Negligible.
Boiling Point:	Not applicable.	Vapor Pressure:	Not applicable.
Melting Point:	Not determined.	VOC Content:	71.0 g/L
Evaporation Rate:	Not applicable.	Solubility in Water:	Miscible.
pH:	Not determined.	Specific Gravity:	1.55

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	Flammable Limits:	Not applicable.
Fire / Explosion Hazards:	None known.		
Extinguishing Media:	As appropriate for surrounding fire; material itself does not burn.		
Special Fire Fighting Procedures:	As appropriate for surrounding fire.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong oxidizing agents.		
Hazardous Decomposition Products:	Not applicable.		
Conditions to Avoid:	Avoid temperature extremes that could shorten the shelf life of this product. See handling and storage requirements.		

HEALTH HAZARD DATA

Known Hazards:	Acute: Product is slightly alkaline; minor irritation is possible. Chronic: None known.		
Signs and Symptoms of Exposure:	Eyes - Can cause slight irritation but injury is unlikely. Skin - Can cause irritation with some individuals. Inhalation - No effects expected. Ingestion - Not considered to be a route of exposure. Effects of ingestion have not been determined.		
Routes of Exposure:	Inhalation, Dermal.		
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.		
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water. Contact a Physician if symptoms occur.
Skin:	Wash with soap and water.
Inhalation:	Move victim to fresh air. Call a Physician if symptoms occur.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed by a Physician.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves are recommended.
Respiratory Protection:	Not normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. Never enter a confined space without an appropriate air supplied respirator.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area. Keep from freezing. Shelf life is one year from date of manufacture if stored between 40° and 77° F (5 - 25° C). For industrial use only. Keep out of reach of children. Keep container sealed when not in use to prevent curing of the product. Avoid contact with the eyes and skin. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures:	Allow to cure and place in a container for proper disposal in accordance with all applicable local, state, or federal requirements. Not regulated as a hazardous waste according to federal EPA definitions.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B (Gloves, Glasses)
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product contains approximately 3% ethylene glycol which is subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x1003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



February 26, 2010

To Whom It May Concern:

Re: Hilti CP 606 Flexible Firestop – LEEDs Info.

The Hilti CP 606 Flexible Firestop Sealant is manufactured in Germany.

The CP 606 pail is made of polyethylene and can be completely recycled. There is no post-consumer or post-industrial content in CP 606 and it cannot be recycled. The CP 606 does not contain any Rapidly Renewable Materials. The VOC content for CP 606 is 71.0 grams/liter.

CP 606 is not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink, reading "Jerry Metcalf". The signature is written in a cursive, flowing style.

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc.
918 872 3704
jerry.metcalf@hilti.com

Rev. Date: 2/26/10

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

Firestop Collar (CP 643N)

Product description

- A ready-to-use firestop collar, made of a galvanized steel housing and intumescent inserts for firestopping combustible pipes

Product features

- Ready-to-use collar
- No construction required
- Fast installation time
- Adjustable mounting tabs
- Low profile for tight installations

Areas of application

- Firestopping combustible pipes up to 6" diameter in penetrations through fire walls and floors
- Suitable for the following pipe materials:
- PVC, CPVC, ABS, PVDF, PP and FRPP

For use with

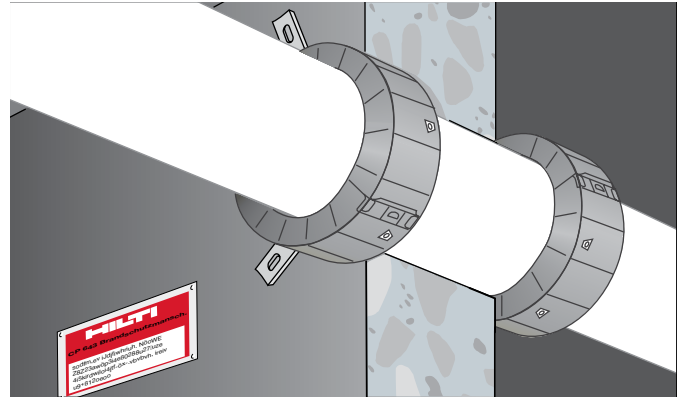
- Concrete, masonry, wood floor and gypsum wall assemblies
- Wall and floor assemblies rated up to 4 hours

Types of installation

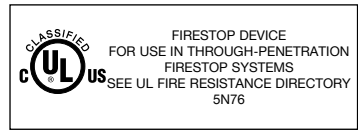
- Wall: two collars, one on each side
- Floor: one collar on underside (bottom)

Example

- Waste water pipes
- Fresh water pipes



Technical Data		CP 643N		
Description	Pipe outside dia. (in.)	Collar outside dia. (in.)	Collar Height (in.)	No. of hooks and fasteners
CP 643-50/1.5"N	1.4-2.0	2.8	0.9	2
CP 643-63/2"N	2.0-2.5	3.4	1.3	2
CP 643-90/3"N	2.6-3.6	4.9	1.7	3
CP 643-110/4"N	3.6-4.5	6.0	1.9	3
CP 643-160/6"N	6.6	9.8	1.9	4
Temperature resistance		-40°F to 140°F (-40°C to 60°C)		
Intumescent activation		Approx. 392°F (200°C)		
Expansion ratio (unrestricted)		Up to 1:10		
Tested in accordance with				
• UL 1479 • ASTM E 814 • ASTM G21				



Installation instructions for CP 643N

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information

Opening

1. Clean the plastic pipes. Expansion of the intumescent material during a fire acts to close the plastic pipe. Very dirty pipes (ie: with remains of mortar) may lead to a delay in this closing action. Soiled plastic pipes should, therefore, be cleaned in the area where the CP 643N Firestop Collar is to be installed.

Application of firestop system

2. Seal the opening if required. Gaps may be closed with FS-ONE. The approved methods vary and are given in the specific UL system.
3. Close the CP 643N Firestop Collar. Place the CP 643N Firestop Collar around the plastic pipe and lock the closure by applying firm pressure until it latches.
4. Attach fastening hooks. The fastening hooks can be attached to various points on the metal housing. This allows the fastening points to be made to suit the space available in each case. The hooks must be positioned as symmetrically as possible. The required number of fastening hooks is indicated on the packaging.

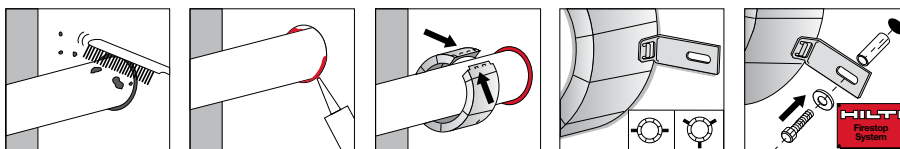
5. Fastening the CP 643N Firestop Collar. Only when fastened properly can CP 643N offer protection against fire.
 - a. Mark the fastening points.
 - b. Drill holes with a Hilti rotary hammer drill (i.e. TE 4-A18) or, depending on base material, fasten using Hilti powder-actuated tool.
 - c. To secure the CP 643N Firestop Collar, use Hilti anchors/fasteners.
 - d. For maintenance reasons, a penetration can be permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

- With metal pipes
- In highly corrosive surroundings
- With unapproved anchors/fasteners

Storage

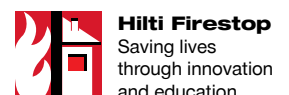
- Store only in the original packaging in a location protected from moisture



1. Clean plastic pipe.
2. Close remaining gap to provide smoke and gas resistant seal.
3. Close collar.
4. Attach fastening hooks.
5. Fasten collar and identification plate (if required).

Hilti. Outperform. Outlast.

Hilti, Inc. (U.S.) 1-800-879-8000 • www.us.hilti.com • en español 1-800-879-5000 • Hilti Firestop Systems Guide



Certificate of Compliance

Certificate Number **20069214-R15431**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Page 1 of 1



Issued to: **Hilti, Inc.**
5400 S 122ND East Ave
Tulsa, OK 74146 USA

*This is to certify that
representative samples of*


Firestop Devices
CP643N 50/1.5 in., CP643N 63/2 in., CP643N 90/3 in. and CP643N
110/4 in., CP643N 160/6 in., CP644 200/8 in. and CP644 250/10 in.

*Have been investigated by Underwriters Laboratories Inc.® in
accordance with the Standard(s) indicated on this Certificate.*


Standard(s) for Safety: ANSI/UL 1479, CAN/ULC-S115-05

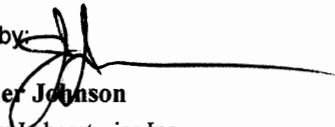
Additional Information: CP 643N and CP 644 Firestop Collar for use in Through-Penetration Firestop
Systems as currently described in the UL Fire Resistance Directory.

**Only those products bearing the UL Classification Mark should be considered as being
covered by UL's Classification and Follow-Up Service.**

The UL Classification Mark includes: UL in a circle symbol:  with the word
"CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a
statement to indicate the extent of UL's evaluation of the product; and, the product category
name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

Issued by:

Mona Couloute
Underwriters Laboratories Inc.

Reviewed by:

Christopher Johnson
Underwriters Laboratories Inc.



MATERIAL SAFETY DATA SHEET

Product name: CP 643N Firestop Collar/ CP 644 Firestop Collar
Description: Galvanized metal housing containing black polymer-bonded intumescent firestop material
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Not applicable. This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard 29 CFR 1910.1200 / 1926.59.

PHYSICAL DATA

Appearance:	Metal collar/ black firestop material	Odor:	None
Vapor Density: (air = 1)	Not applicable	Vapor Pressure:	Not applicable
Boiling Point:	Not applicable	VOC Content:	7.6 g/l
Evaporation Rate:	Not applicable	Solubility in Water:	Not determined
Specific Gravity:	Not determined	pH:	Not applicable

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	Flammable Limits:	Not applicable
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known.		
Unusual Fire and Explosion Hazards:	None known. Product serves as a Firestop; intumescent material inside the collar expands when exposed to temperatures > 160° C / 320° F.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	None known	Decomposition Products:	None known
Conditions to Avoid:	None known		

HEALTH HAZARD DATA

Known Hazards:	None known	Routes of Exposure:	None known
Signs and Symptoms of Exposure:	None expected from routine use/installation according to manufacturer's specifications and technical guides.		
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.		
Medical Conditions Aggravated by Exposure:	None known		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Call a physician if symptoms occur.
Skin:	Not applicable. Practice good hygiene; i.e. wash hands during breaks, before eating or smoking, and after work.
Inhalation:	Not applicable.
Ingestion:	Not a potential route of exposure
Other:	Referral to a physician is recommended if there is any question about the seriousness of any injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Not required, however, safety glasses should be worn in most industrial settings.
Skin Protection:	None required; however, (cotton) gloves recommended.
Respiratory Protection:	No respiratory protection is needed for normal application of this product.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area. Follow installation instructions.
Spill Procedures:	No special requirements.

REGULATORY INFORMATION

Hazard Communication:	This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard.
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is classified as an "article" and is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



August 5, 2009

To Whom It May Concern:

Re: The CP 643N/644 Firestop Collars – LEEDs Info.

The Hilti CP 643N/644 Firestop Collars are manufactured in Italy.

The Hilti CP 643N/644 Firestop Collars have a VOC content of 7.6 grams/liter.

The amount of post-consumer or post-industrial content in CP 643N/644 Firestop Collars is not known. The metal portions of the collars are recyclable. The CP 643N/644 Firestop Collars do not contain any Rapidly Renewable Materials.

The CP 643N/644 Firestop Collars are not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink, reading "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc.
(918) 872 3704
jerry.metcalf@hilti.com

Rev. Date: 8/5/09

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

Firestop Collar (CP 644)

Product description

- A ready-to-use firestop collar, made of galvanized steel housing and intumescent inserts for firestopping large combustible pipes

Product features

- Ready-to-use collar
- No construction required
- Fast installation time
- Adjustable/moveable fastening tabs

Areas of application

- Sealing of penetrations for combustible pipes from 8" to 10" in diameter
- Vented or closed pipe
- PVC or CPVC pipe

For use with

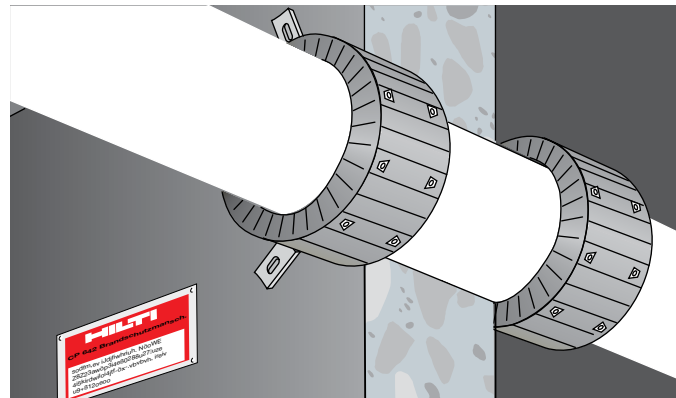
- Concrete, masonry, and gypsum walls
- Wall and floor assemblies rated up to 2 hours

Types of installation

- Wall: two collars, one on each side
- Floor: one collar on underside (bottom)

Examples

- Waste water pipes
- Fresh water pipes

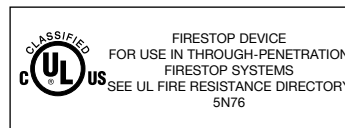


Technical Data

Description	Pipe outside dia (in.)	CP 644		
		Collar outside dia. (in.)	Collar Height (in.)	No. of hooks and fasteners
CP 644-200/8"	8.8	10.0	6.9	10
CP 644-250/10"	10.8	12.4	9.1	12
Temperature resistance		-40°F to 140°F (-40°C to 60°C)		
Intumescent Activation		Approx. 392°F (200°C)		
Expansion ratio (unrestricted)		Up to 1:10		

Tested in accordance with

- UL 1479
- ASTM E 814
- ASTM G21



Installation instructions for CP 644

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information

Opening

1. Clean the plastic pipes. Expansion of the intumescent material during a fire acts to close the plastic pipe. Very dirty pipes, (ie: with remains of mortar) may lead to a delay in this closing action. Soiled plastic pipes should, therefore, be cleaned in the area where the CP 644 Firestop Collar is to be installed.

Application of firestop system

2. Seal the opening. Gaps must be closed with FS-ONE. The approved methods vary and are given in the specific UL system.
3. Close the CP 644 Firestop Collar. Place the CP 644 Firestop Collar around the plastic pipe and lock the closure by applying firm pressure until it latches.
4. Attach fastening hooks. The fastening hooks can be attached to various points on the metal housing. This allows the fastening points to be made to suit the space available in each case.

The hooks must be positioned as symmetrically as possible. The required number of fastening hooks is indicated on the packaging.

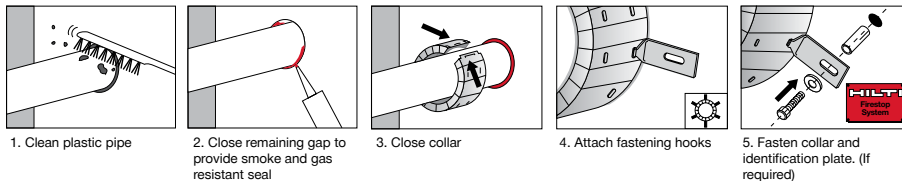
5. Fastening the CP 644 Firestop Collar. Only when fastened properly can CP 644 offer protection against fire passing through.
 - a. Mark the fastening points.
 - b. Drill holes with a Hilti rotary hammer drill (i.e. TE 4-A18) or, depending on base material, fasten using Hilti powder-actuated tool.
 - c. To secure the CP 644 Firestop Collar, use Hilti anchors/fasteners.
 - d. For maintenance reasons, a penetration can be permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

- With metal pipes
- In highly corrosive surroundings
- With unapproved anchors/fasteners

Storage

- Store only in the original packaging in a location protected from moisture



Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number **20069214-R15431**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Page 1 of 1



Issued to: **Hilti, Inc.**
5400 S 122ND East Ave
Tulsa, OK 74146 USA

*This is to certify that
representative samples of*


Firestop Devices
CP643N 50/1.5 in., CP643N 63/2 in., CP643N 90/3 in. and CP643N
110/4 in., CP643N 160/6 in., CP644 200/8 in. and CP644 250/10 in.

*Have been investigated by Underwriters Laboratories Inc.® in
accordance with the Standard(s) indicated on this Certificate.*


Standard(s) for Safety: ANSI/UL 1479, CAN/ULC-S115-05

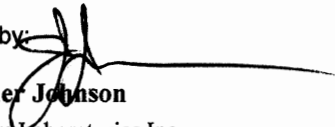
Additional Information: CP 643N and CP 644 Firestop Collar for use in Through-Penetration Firestop
Systems as currently described in the UL Fire Resistance Directory.

**Only those products bearing the UL Classification Mark should be considered as being
covered by UL's Classification and Follow-Up Service.**

The UL Classification Mark includes: UL in a circle symbol:  with the word
"CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a
statement to indicate the extent of UL's evaluation of the product; and, the product category
name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

Issued by:

Mona Couloute
Underwriters Laboratories Inc.

Reviewed by:

Christopher Johnson
Underwriters Laboratories Inc.



MATERIAL SAFETY DATA SHEET

Product name: CP 643N Firestop Collar/ CP 644 Firestop Collar
Description: Galvanized metal housing containing black polymer-bonded intumescent firestop material
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Not applicable. This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard 29 CFR 1910.1200 / 1926.59.

PHYSICAL DATA

Appearance:	Metal collar/ black firestop material	Odor:	None
Vapor Density: (air = 1)	Not applicable	Vapor Pressure:	Not applicable
Boiling Point:	Not applicable	VOC Content:	7.6 g/l
Evaporation Rate:	Not applicable	Solubility in Water:	Not determined
Specific Gravity:	Not determined	pH:	Not applicable

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	Flammable Limits:	Not applicable
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known.		
Unusual Fire and Explosion Hazards:	None known. Product serves as a Firestop; intumescent material inside the collar expands when exposed to temperatures > 160° C / 320° F.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	None known	Decomposition Products:	None known
Conditions to Avoid:	None known		

HEALTH HAZARD DATA

Known Hazards:	None known	Routes of Exposure:	None known
Signs and Symptoms of Exposure:	None expected from routine use/installation according to manufacturer's specifications and technical guides.		
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.		
Medical Conditions Aggravated by Exposure:	None known		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Call a physician if symptoms occur.
Skin:	Not applicable. Practice good hygiene; i.e. wash hands during breaks, before eating or smoking, and after work.
Inhalation:	Not applicable.
Ingestion:	Not a potential route of exposure
Other:	Referral to a physician is recommended if there is any question about the seriousness of any injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Not required, however, safety glasses should be worn in most industrial settings.
Skin Protection:	None required; however, (cotton) gloves recommended.
Respiratory Protection:	No respiratory protection is needed for normal application of this product.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area. Follow installation instructions.
Spill Procedures:	No special requirements.

REGULATORY INFORMATION

Hazard Communication:	This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard.
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is classified as an "article" and is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



August 5, 2009

To Whom It May Concern:

Re: The CP 643N/644 Firestop Collars – LEEDs Info.

The Hilti CP 643N/644 Firestop Collars are manufactured in Italy.

The Hilti CP 643N/644 Firestop Collars have a VOC content of 7.6 grams/liter.

The amount of post-consumer or post-industrial content in CP 643N/644 Firestop Collars is not known. The metal portions of the collars are recyclable. The CP 643N/644 Firestop Collars do not contain any Rapidly Renewable Materials.

The CP 643N/644 Firestop Collars are not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink that reads "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc.
(918) 872 3704
jerry.metcalf@hilti.com

Rev. Date: 8/5/09

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

Cast-In Firestop Devices (CP 680-P and CP 680-M)

For use in

- Dust and fiber free environments such as hospitals, computer centers and laboratories
- Concrete floor assemblies rated up to 4 hours

Product description

- A one-step cast-in firestop device for a variety of pipe materials and diameters
- Helps reduce labor costs and increase productivity
- Ready-to-use out of the package
- Internationally tested and approved by UL and FM
- Reduces the chance of project delays due to failed inspections

Product features

- Quick and simple installation
- SpeedLine Alignment system promotes faster layout
- QuickTurn System creates fast, simple vertical connections
- Integrated moisture and smoke seal
- Innovative adapter for metal deck applications

Installation and applications

- Concrete floors from 2.5" (63 mm) thickness for either flat concrete or concrete over metal deck

CP 680-M:

- Insulated and non-insulated metal pipes
- EMT and electrical conduits
- Cable bundles
- Multiple pipes

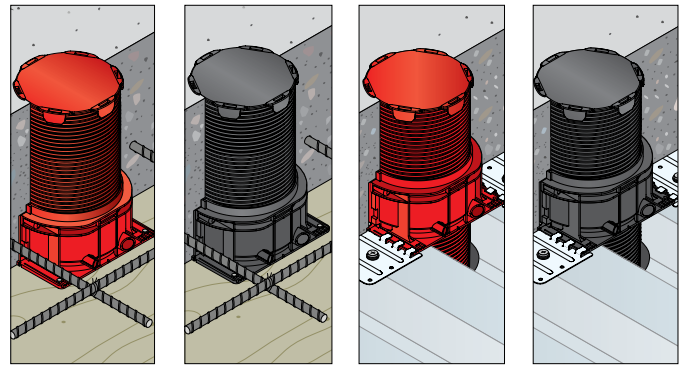
CP 680-P:

Addresses all applications for CP 680-M as well as the following:

- Plastic pipes such as PVC, CPVC, ABS, ENT and FRPP
- Fresh and waste water pipes

Not suited for

- Areas with high condensation
- Outdoor areas
- Wall applications



CP 680-P in concrete over wood forms

CP 680-M in concrete over wood forms

CP 680-P over metal deck

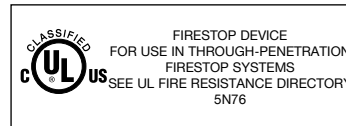
CP 680-M over metal deck

Technical Data		CP 680-P and CP 680-M
ID	Footprint	Opening required thru metal deck
2"	3-3/4" x 4-1/2"	3-1/2" diameter
3"	4-3/4" x 5-5/8"	4-1/2" diameter
4"	6-3/8" x 6-3/4"	5-1/2" diameter
6"	9" x 9-1/2"	7-1/4" diameter
Expansion temperature		392°F (200°C)
Expansion rate		1:50 (unrestrained) 1:30 (Load expansion, Load = 20g/cm³)
Standard height		8"
Temperature resistance		Maximum 212°F (100°C)
Color		CP 680-P: red CP 680-M: black

Tested in accordance with

- UL 1479 • ASTM E 814 • ASTM G21

Internationally tested and approved



Installation instructions

Notice

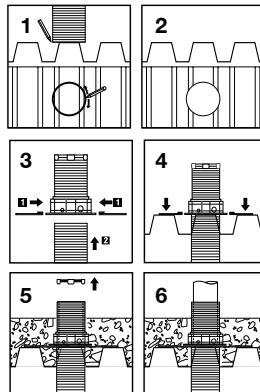
- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information

Instructions for use

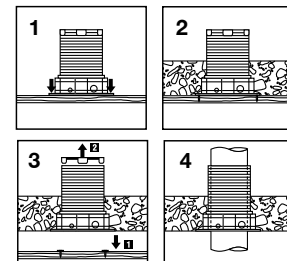
- Before pouring concrete, secure the cover cap in place, thereby preventing the flow of concrete into the cast-in device
- Do not use for wall applications

Concrete floor with metal decking

For concrete floor with metal decking applications use the correct size CP 680 Metal Deck Adapter for installed cast-in device and follow the illustrations.

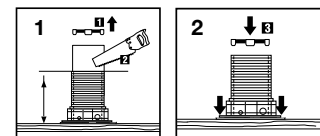


Concrete floor



Installation option

Follow the illustrations if CP 680 has to be cut to slab thickness before installation, or when riser clamps are used.

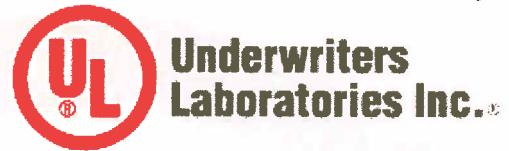


Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number **20061214-R15431**
Report Reference **2006 December 14**
Issue Date **2006 December 14**

Page 1 of 1



Issued to: **Hilti, Inc.**
5400 S 122ND East Ave
Tulsa, OK 74146 USA


This is to certify that representative samples of **Firestop Devices**
CP 680-M 2 in., CP 680-M 3 in., CP 680-M 4 in., CP 680-M 6 in.,
CP 680-P 2 in., CP 680-P 3 in., CP 680-P 4 in., CP 680-P 6 in., and CP 681

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/UL 1479, CAN/ULC-S115-05

Additional Information: CP 680-M 2 in., CP 680-M 3 in., CP 680-M 4 in., CP 680-M 6 in., CP 680-P 2 in., CP 680-P 3 in., CP 680-P 4 in., CP 680-P 6 in., and CP 681 for use in Through-Penetration Firestop Systems as currently described in the UL Fire Resistance Directory.

Only those products bearing the UL Classification Mark should be considered as being covered by UL's Classification and Follow-Up Service.

The UL Classification Mark includes: UL in a circle symbol:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and, the product category name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

Issued by
Mike Cristofari
UL Classified Solutions Group, Inc.

Reviewed by
Steve Johnson
UL Classified Solutions Group, Inc.



MATERIAL SAFETY DATA SHEET

Product name: CP 680-P / CP 680-M - Cast-in Firestop Devices
Description: CP 680-P - Black intumescent material enclosed in a red plastic housing
CP 680-M - Black intumescent material enclosed in a black plastic housing
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Not applicable. This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard 29 CFR 1910.1200 / 1926.59.

PHYSICAL DATA

Appearance:	Red plastic sleeve (CP 680-P) Black plastic sleeve (CP 680-M)	Odor:	None.
Vapor Density: (air = 1)	Not applicable.	Vapor Pressure:	Not applicable.
Boiling Point:	Not applicable.	VOC Content:	1.4 g/l
Evaporation Rate:	Not applicable.	Solubility in Water:	Not determined.
Specific Gravity:	Not determined.	pH:	Not applicable.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	Flammable Limits:	Not applicable.
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known.		
Unusual Fire and Explosion Hazards:	None known. Product serves as a firestop; intumescent material inside plastic collar expands when exposed to temperatures > 160° C / 320° F.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.	Decomposition Products:	None known.
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	None known.	Routes of Exposure:	None known.
Signs and Symptoms of Exposure:	None expected from routine use/installation according to manufacturer's specifications and technical guides.		
Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.		
Medical Conditions Aggravated by Exposure:	None known.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Call a physician if symptoms occur.
Skin:	Not applicable. Practice good hygiene; i.e. wash hands during breaks, before eating or smoking, and after work.
Inhalation:	Not applicable.
Ingestion:	Not a potential route of exposure.
Other:	Referral to a physician is recommended if there is any question about the seriousness of any injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Not required, however, safety glasses should be worn in most industrial settings.
Skin Protection:	None required; however, (cotton) gloves recommended.
Respiratory Protection:	No respiratory protection is needed for normal application of this product.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry area. Follow installation instructions.
Spill Procedures:	No special requirements.

REGULATORY INFORMATION

Hazard Communication:	This product is considered to be an "article" as defined in the federal OSHA Hazard Communication Standard.
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is classified as an "article" and is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



May 12, 2011

To Whom It May Concern:

Re: The CP 680-M/P Cast-In Firestop Devices – LEEDs Info.

The Hilti CP 680-M/P Cast-In Firestop Devices are manufactured in Malaysia.

The Hilti CP 680-M/P Cast-In Firestop Devices have a VOC content of 1.4 grams/liter.

The amount of post-consumer or post-industrial content in CP 680-M/P Cast-In Firestop Devices is not known. Both the plastic and metal portions of the Devices are recyclable. The CP 680-M/P Cast-In Firestop Devices do not contain any Rapidly Renewable Materials.

The CP 680-M/P Cast-In Firestop Devices are not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink, reading "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Sr. Manager Safety, Environmental, & Facilities
Hilti Inc.
(918) 872 3704
jerry.metcalf@hilti.com

Rev. Date: 5/12/11

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com

FS-ONE High Performance Intumescent Firestop Sealant

Product description

- Intumescent (expands when exposed to fire) firestop sealant that helps protect combustible and non-combustible penetrations for up to 4 hours fire rating

Product features

- Smoke, gas and water resistant after material has cured
- Contains no halogen, solvents or asbestos
- High fire rating properties
- Water based, easy to clean
- Protects most typical firestop penetration applications
- Paintable
- Single component systems available
- Meets LEED™ requirements for indoor environmental quality credit 4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings

Areas of application

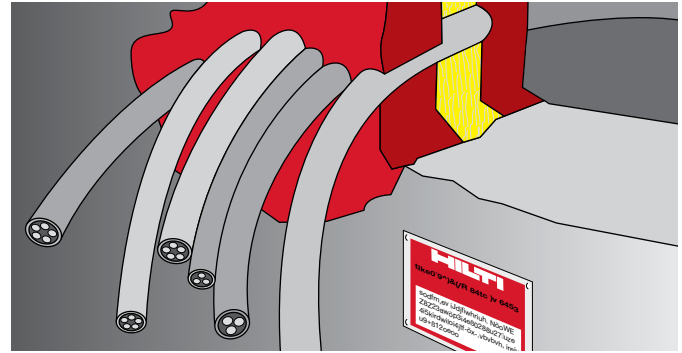
- Steel, copper and EMT pipes
- Insulated steel and copper pipes
- Cable bundles
- Closed or vented plastic pipes
- HVAC penetrations

For use with

- Concrete, masonry, drywall and wood floor assemblies
- Wall and floor assemblies rated up to 4 hours

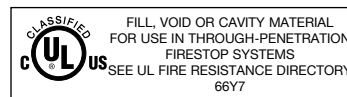
Examples

- Sealing around combustible pipe penetrations in fire rated construction
- Sealing around non-combustible penetrations in fire rated construction



Technical Data*	FS-ONE
Chemical basis	Water-based intumescent acrylic dispersion
Color	Red
Application temperature	40°F to 104°F (5°C to 40°C)
Skin forming time	Approx. 20-30 min.
Curing time	Approx. 2 mm / 3 days
Average volume shrinkage (ASTM C1241)	24.1%
Movement capability	Approx. 5%
Expansion rate (unrestricted)	Up to 3-5 times original volume
Temperature resistance (cured)	-40°F to 212°F (-40°C to 100°C)
Surface burning characteristics (ASTM E 84-96)	Flame Spread: 0 Smoke Development: 5
Sound transmission classification (ASTM E 90-99)	56 (Relates to specific construction)
Tested in accordance with	• UL 1479 • ASTM E 814 • ASTM E 84 • ASTM G21

*At 73°F (23°C) and 50% relative humidity



Installation instructions for FS-ONE

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information

Opening

- Clean the opening. Surfaces to which FS-ONE will be applied should be cleaned of loose debris, dirt, oil, moisture, frost and wax. Structures supporting penetrating items must be installed in compliance with local building and electrical standards.

Application of firestop sealant

- Install the prescribed backfilling material type and depth to obtain the desired rating (if required). Leave sufficient depth for applying FS-ONE.
- Application of firestop sealant: Apply FS-ONE to the required depth in order to obtain the desired fire rating. Make sure FS-ONE contacts all surfaces to provide maximum adhesion. For application of FS-ONE use a standard caulking gun, foil pack gun, bulk loader and bulk gun. With FS-ONE buckets, Graco type sealant pumps may be used. (Contact pump manufacturer for proper selection).

- Smoothing of firestop sealant: To complete the seal, tool immediately to give a smooth appearance. Excess sealant, prior to curing, can be cleaned away from adjacent surfaces and tools with water.
- Leave completed seal undisturbed for 48 hours.
- For maintenance reasons, a penetration seal could be permanently marked with an identification plate. In such a case, mark the identification plate and fasten it in a visible position next to the seal.

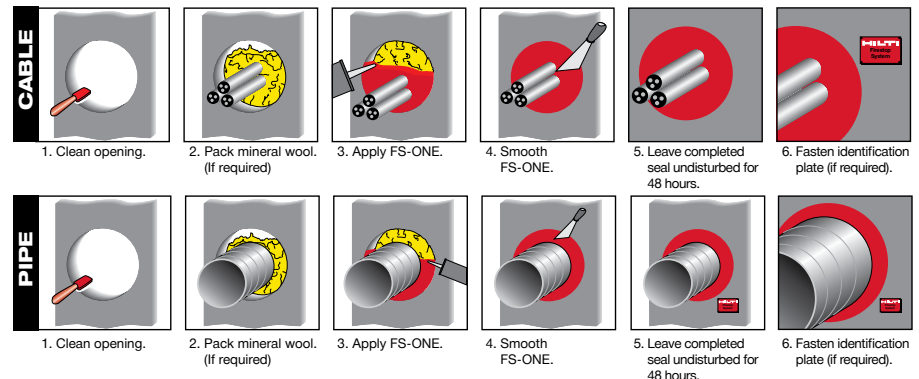
Not for use

- High movement expansion joints
- Underwater

- On materials where oil, plasticizers or solvents may bleed i.e. impregnated wood, oil based seals, green or partially vulcanized rubber
- In any penetration other than those specifically described in this manual or the test reports

Storage

- Store only in the original packaging in a location protected from moisture at temperatures between 40°F (5°C) and 86°F (30°C)
- Observe expiration date on the package



Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number 20100512-R13240

Report Reference 2010 May 12

Issue Date 2010 May 12

Page 1 of 1



**Underwriters
Laboratories Inc.®**

Issued to: **Hilti, Inc.**

54 S 122ND East Ave
Tulsa, OK 74146 USA

*This is to certify that
representative samples of*

**Fill, Void or Cavity Materials
FS-ONE**

*Have been investigated by Underwriters Laboratories Inc.® (UL) or any authorized
licensee of UL in accordance with the Standard(s) indicated on this Certificate.*


Standard(s) for Safety:

ANSI/UL 1479, ANSI/UL 2079, CAN/ULC-S115-05
Third Edition, revised March 1, 2010

Additional Information:

FS-ONE Sealant for use in Joint Systems and FS-ONE for use in
Through-Penetration Firestop Systems as currently described in the UL Fire
Resistance Directory.

Only those products bearing the UL Classification Mark should be considered as being covered by UL's Classification and Follow-Up Service.

The UL Classification Mark includes: UL in a circle symbol:  with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and, the product category name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

Issued by:

Mona Couloute
Mona Couloute

Underwriters Laboratories Inc.

Reviewed by:

Chris J. Johnson
Chris J. Johnson

Underwriters Laboratories Inc.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.



MSDS No.: 259
Revision No.: 011
Revision Date: 02/29/12
Page: 1 of 2

MATERIAL SAFETY DATA SHEET

Product name: FS-ONE High Performance Intumescent Firestop Sealant
Description: One-part acrylic-based sealant
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Polyacrylate dispersion	Mixture	NE	NE	NE
Calcium carbonate	001317-65-3	5 mg/m ³ (R)	NE	NE
Zinc borate	138265-88-0	NE	NE	NE
Talc	014807-96-6	20 mppcf	2 mg/m ³ (R)	NE
Ethylene glycol	000107-21-1	NE	NE	C:100 mg/m ³ (A)
Iron oxide	001309-37-1	10 mg/m ³ (F)	5 mg/m ³ (R)	NE

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. C = Ceiling. STEL = Short Term Exposure Limit. NE = None Established. NA = Not Applicable. (T) indicates "as total dust". (R) indicates "as respirable fraction". (A) indicates "as an aerosol". mppcf = million particles per cubic foot. F = Fume

PHYSICAL DATA

Appearance:	Red paste.	Odor:	Odorless.
Vapor Density: (air = 1)	Not determined.	Vapor Pressure:	23mbar @ 20C / 68F
Boiling Point:	Not applicable.	VOC Content:	75.0 g/L.
Evaporation Rate:	Not applicable.	Solubility in Water:	Soluble.
Specific Gravity:	1.5	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Non-flammable.	Flammable Limits:	Not applicable.
Extinguishing Media:	Not applicable. Use extinguishing media as appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known. Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed such as oxides of carbon, sulfur and phosphorous.		

REACTIVITY DATA

Stability:	Stable.	Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong acids, peroxides, and oxidizing agents.		
Decomposition Products:	Thermal decomposition can yield CO and CO ₂ .		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	None known.		
Signs and Symptoms of Exposure:	Possibly irritating upon contact with the eyes or upon repeated contact with the skin.		
Medical Conditions Aggravated by Exposure:	Eye and skin conditions.		
Routes of Exposure:	Dermal.		
Carcinogenicity:	No ingredients are classified as carcinogens.		

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Immediately wipe off material and wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	Move victim to fresh air if discomfort develops. Contact a physician if symptoms occur. persist.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed by a physician.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves. Other protective clothing as required to prevent skin contact.
Respiratory Protection:	None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. Never enter a confined space without an appropriate air-supplied respirator.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 40° and 77° F. Keep from freezing. Do not store in direct sunlight. Avoid contact with the eyes or skin. Practice good hygiene; i.e. always wash thoroughly after handling and before eating or smoking. For industrial use only. Keep out of reach of children. Follow label/use instructions.
Spill Procedures:	Immediately wipe away spilled material before it hardens. Place in a container for proper disposal in accordance with all applicable local, state, or federal requirements.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product contains < 3% ethylene glycol (CAS 107-21-1) and < 15% zinc borate (re: zinc compounds) which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x71003704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



February 26, 2010

To Whom It May Concern:

Re: Hilti FS-ONE Intumescent Firestop – LEED Info.

The Hilti FS-ONE Intumescent Firestop is manufactured in Germany.

The FS-ONE pail is made of polyethylene and can be completely recycled. There is no post-consumer or post-industrial content in FS-ONE and it cannot be recycled. The VOC content for FS-ONE is 75 grams/liter.

FS-ONE is not regulated as a hazardous waste by the Federal EPA Standards. The regulations for the disposal of non-regulated industrial waste can vary from state to state and even city to city. For this reason, you should consult your local and state regulatory agencies for direction on disposal.

Please feel free to contact me at (918) 872-3704 if you have questions.

Sincerely,

A handwritten signature in black ink that reads "Jerry Metcalf". The signature is written in a cursive style.

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc
(918) 872 3704
jerry.metcalf@hilti.com

Rev. Date: 2/26/10

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com