CABLING SUPPORT STRUCTURE PRICING ADDENDUM

Description	Ref. No.	Mfg. Model No.	Equip. Unit Price	+	Install Unit Price	=	Total Unit Price	x	Est. Qty.	=	Total Bid Price
Conduits											
CP 618 Putty Stick, ea.	CS-334	00314721	45.88		44.53		90.41		1		$90.41
CP 658T Fire Stop Plug 2in., ea.	CS-335	2030021	57.44		44.53		101.97		1		$101.97
CP 658T Fire Stop Plug 4in., ea.	CS-336	2030022	76.50		44.53		121.03		1		$121.03
FS-ONE 10.1 oz. Tube Red, ea.	CS-337	00259580	20.06		44.53		64.59		1		$64.59
Mineral Wool, ea.	CS-338	236993	25.83		44.53		70.36		1		$70.36
						Sub-Total: Cabling and support Structures					**$448.36**

Description	Ref. No.	Rate	x	Sub-Total: Cabling and Support Structures	Total Bid Price
Regulatory Fees/Charges and Taxes					
Hawaii General Excise Tax	GET	0.04712		$448.36	**$21.13**
Others					
				Sub-Total: Regulatory Fees/Charges and Taxes	**$21.13**
				Total: Cabling and Support Structures-Addendum	**$469.49**

CS-334

Firestop Putty Stick (CP 618)

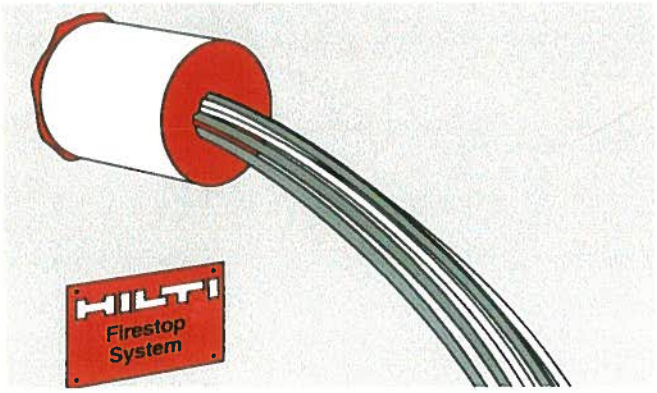
Product description
- An intumescent, non-hardening, firestop putty for cable and pipe penetrations

Product features
- Contains no volatile solvents or asbestos
- Easy to re-penetrate
- Reusable
- Easy to add or remove cables
- Fast installation

Areas of application
- Single or bundled cables
- Non-combustible pipe
- Blank openings

For use with
- Concrete, masonry and gypsum wall assemblies
- Wall and floor assemblies rated up to 3 hours

Examples
- Where telecommunication and data lines penetrate gypsum wall assemblies
- Where steel conduit and EMT penetrate concrete and block wall assemblies
- Where blank openings exist in concrete and block wall assemblies



Technical Data*	CP 618
Volume	18 in³
Consistency	Moldable putty
Color	Red
Application temperature	40°F to 95°F (5°C to 35°C)
Curing time	Non-curing
Density	Approx. 1.48 g/cm³
Surface burning characteristics (ASTM E84-96)	Flame Spread: 15 Smoke development: 10
Sound transmission classification (ASTM E 90-97)	49 (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

CLASSIFIED c UL us
FILL, VOID OR CAVITY MATERIAL
FOR USE IN THROUGH-PENETRATION
FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
66Y7

FM APPROVED

Installation instructions for CP 618

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 opening: Surfaces to which CP 618 will be applied should be cleaned of loose debris, dirt, oil, moisture, frost and wax.

Application of firestop putty

2. Install the prescribed backing material, if required.
3. Install CP 618 Firestop Putty to the required depth, making sure that the putty contacts all surfaces to provide the greatest adhesion.
4. Smooth CP 618 putty.
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.
6. Re-installation (not shown): Remove and re-install CP 618 Firestop Putty as needed.

Not for use
- In areas exposed to water

Storage
- Store only in the original packaging at temperatures 40°F to 104°F (5°C to 40°C)

1. Clean opening
2. Slice CP 618 to be packed into opening from stick (optional sleeve)
3. Pack in CP 618
4. Smooth CP 618
5. Fasten installation plate (if required)

Hilti Firestop
Saving lives through innovation and education

Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number **20060214-R13240H**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Underwriters Laboratories Inc.®

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**
CP 618

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 618 Firestop Putty Stick 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:
Christopher Johnson
Underwriters Laboratories Inc.

MATERIAL SAFETY DATA SHEET

Product name:	**CP 617 Firestop Putty Pad, CP 618 Firestop Putty Stick, CP 619T Firestop Putty Roll**
Description:	Firestopping putty
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	1317-65-3	NE	5 mg/m^3(R)	NE
Talc	14807-96-6	2 mg/m^3	20 mppcf	NE
Silica	14808-60-7	0.025 mg/m^3(R)	$\frac{30\ mg/m^3}{\%SiO_2 + 5}$ (R)	NE
Boron oxide	1303-86-2	10 mg/m^3	15 mg/m^3(T)	NE
Iron oxide	1309-37-1	5 mg/m^3(R)	10 mg/m^3(f)	NE

Abbreviations: **PEL** = OSHA Permissible Exposure Limit. **TLV** = ACGIH Threshold Limit Value. **STEL** = Short Term Exposure Limit. **NE** = None Established. **R** = Respirable dust. **mppcf** = million particles per cubic foot. **T** = Total dust. **F** = as fume.

PHYSICAL DATA

Appearance:	Red colored putty	**Odor:**	Negligible
Vapor Density: (air = 1)	Not applicable	**Vapor Pressure:**	Not applicable
Boiling Point:	Not applicable	**VOC Content:**	Not determined
Evaporation Rate:	Not applicable	**Solubility in Water:**	Slightly soluble
Specific Gravity:	1.45	**pH:**	Not determined

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	**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 chemical products.		
Unusual Fire and Explosion Hazards:	Fire conditions will activate product causing it to intumesce.		

REACTIVITY DATA

Stability:	Stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Decomposition Products:	Thermal decomposition can yield CO and CO_2.
Conditions to Avoid:	Avoid temperature extremes that could shorten the shelf-life or affect product performance (See handling and storage requirements).

HEALTH HAZARD DATA

Known Hazards:	Irritation of the eyes and skin is possible.
Signs and Symptoms of Exposure:	**Eyes** - Can cause irritation and watering but injury is unlikely. **Skin** - May cause irritation. **Inhalation** - No effects expected. Not considered to be a route of exposure. **Ingestion** – Not known.
Routes of Exposure:	Contact
Carcinogenicity:	IARC classifies crystalline silica as a Group I carcinogen based upon evidence among workers in industries where there has been long term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery. This product does not pose a dust hazard; therefore, this classification is not relevant.

Medical Conditions Aggravated by Exposure:	None known.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	No effects expected.
Ingestion:	Do not induce vomiting unless directed by a physician. 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:	Impermeable gloves recommended.
Respiratory Protection:	Not required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 41° and 77° F. For industrial use only. Keep out of reach of children. Avoid prolonged or repeated contact with the skin. Do not rub the eyes after contact with the hands. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures:	No special 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 does not contain any ingredients that 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 (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.

CS-335; CS-336

Firestop Plug (CFS-PL)

Product description

- Ready-to-use intumescent and reusable plug for small openings

Product features

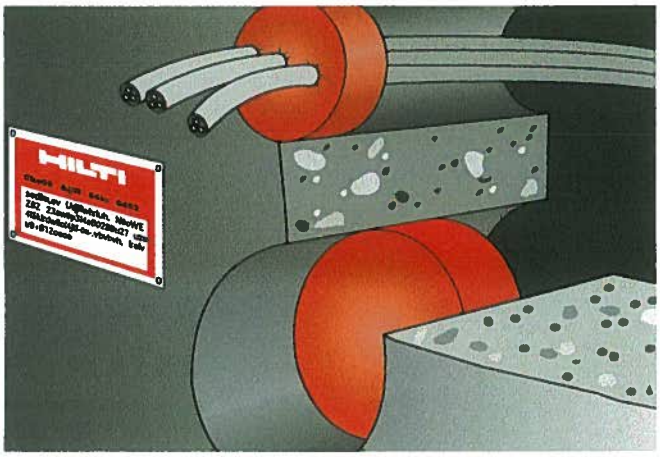
- Fast and easy installation — no special tools required, helps reduce installation time and costs
- Immediately functional after installation
- Suitable for laying new cables later
- Versatile in use (temporary or permanent protection)
- Smoke resistant
- One-sided installation wall systems available
- Halogen and solvent free
- Paintable

Areas of application

- Walls and floors
- Temporary or permanent sealing of cables — single or bundled cables

Examples

- Dust and fiber free rooms and places where electrical installations are frequently changed such as computer centers, hospitals and laboratories
- New buildings in the construction phase and during renovation
- Office buildings, production bays, warehouses



Technical Data*	CFS-PL
Density	Approx. 0.27 g/cm³
Color	Red
Application temperature	40°F to 104°F (5°C to 40°C)
Temperature resistance	5°F to 140°F (-15°C to 60°C)
Intumescent activation	Approx. 392°F (200°C)
Expansion ratio (unrestricted)	Approx. 1:3
Surface burning characteristics (ASTM E 84-10b)	Flame Spread Index: 10 Smoke Development Index: 15
Sound Transmission Classification (ASTM E 90)	STC Rating: 55
Tested in accordance with • UL 1479 • ASTM E 814 • ASTM E 84 • ASTM E 90 • CAN/ULC S115	

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

CLASSIFIED C UL US
FILL, VOID OR CAVITY MATERIALSFOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
66Y7

FM APPROVED

Installation instructions for Firestop Plug CFS-PL

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 opening. surfaces Firestop Plug CFS-PL will be in contact with, should be cleaned of loose debris, dirt, oil, moisture, frost and wax.

Application of firestop plug

2. If there are no penetrations, install Firestop Plug CFS-PL within opening and bead with Hilti CP 618 Putty Stick where firestop plug interfaces with inside of sleeve (when required).

3a. If there are penetrations, cut Firestop Plug CFS-PL to fit around cables.

3b. Insert firestop plug into sleeve. Optional: seal cables by forcing CP 618 into interstices of cables.

4. For maintenance reasons, a penetration seal can be permenantly marked with an identification plate and fastened in a visible position next to the seal.

Re-installing cables

- Remove firestop plug from opening
- Install the penetrant and re-install the firestop plug in compliance with the appropriate UL system.
- If single cables are installed, a hole can be drilled through the firestop plug and a cable passed through.

Not for use

- In wet rooms or outdoors exposed to the weather or UV radiation

Storage

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


1. Clean opening


2. Blank opening: Install plug and CP 618 Putty Stick


3a. With cables: Cut plug to fit around cables


3b. Install plug around cables (optional: CP 618 Putty Stick forced into interstices of cables)


4. Fasten installation plate in place (if required)

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Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number 20120103-R13240
Report Reference File R13240
Issue Date 2012 January 03

Underwriters Laboratories

Issued to: Hilti Construction Chemicals, Div of Hilti Inc.
5400 S 122nd East Ave
Tulsa, OK 74146

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

CFS-PL Firestop Plug

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

Standard(s) for Safety: ANSI/UL 1479, "Fire Tests of Through-Penetration Firestops," Edition 3 - Revision Date 2010/03/01
CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems." Fourth Edition revised June 06, 2011

Additional Information: See UL On-line Certification Directory at WWW.UL.COM for additional information.

CFS-PL Firestop Plug 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

William R. Carney
Director, North American Certification Programs

MATERIAL SAFETY DATA SHEET

Product name:	**CFS -BL Firestop Block; CFS-PL Firestop Plug**
Description:	Intumescent polyurethane foam
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

These products are regarded as "articles" by definition under OSHA Regulation 29 CFR 1910.1200 (c). CFS-PL / CFS-BL can best be described as a sponge-like polyurethane materials, which expand when exposed to excessive heat/fire conditions. The physical form of the products preclude exposure to workers under normal conditions of use or any foreseeable emergency.

PHYSICAL DATA

Appearance:	Rust colored foam block	**Odor:**	None
Vapor Density: (air = 1)	Not applicable	**Vapor Pressure:**	Not applicable
Ignition Point:	420° C / 788° F	**VOC Content:**	CFS - BL = 5.4 g/l CFS - PL = 4.9 g/l
Evaporation Rate:	Not applicable	**Solubility in Water:**	Not soluble
Specific Gravity:	0.24 -.30 g/cm^3	**pH:**	Not applicable

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	**Flammable Limits:**	Not applicable
Extinguishing Media:	Not applicable		
Special Fire Fighting Procedures:	Not applicable		
Unusual Fire and Explosion Hazards:	None known		

REACTIVITY DATA

Stability:	Stable.	**Hazardous Polymerization:**	Will not occur.
Incompatibility:	None known; see special handling and storage instructions		
Decomposition Products:	If heated to decomposition, can yield CO_x, NO_x, HCN, HCl, and/or HF		
Conditions to Avoid:	See handling and storage requirements.		

HEALTH HAZARD DATA

Known Hazards:	None known	**Routes of Exposure:**	None expected
Signs and Symptoms of Exposure:	None expected		
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

Skin:	No effects expected	**Inhalation:**	Not a route of exposure
Eyes:	No effects expected.		
Ingestion:	Not a likely 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:	As appropriate for the work area or the work being done.
Skin Protection:	Not required.
Respiratory Protection:	Not applicable.

PRECAUTIONS FOR SAFE HANDLING AND USE	
Handling and Storing Precautions:	For industrial use only. Keep out of reach of children. Observe good hygiene practices; i.e. wash after using and before eating or smoking. Store in a cool dry area out of direct sunlight. Storage above 140 F may degrade product.
Spill Procedures:	Not applicable

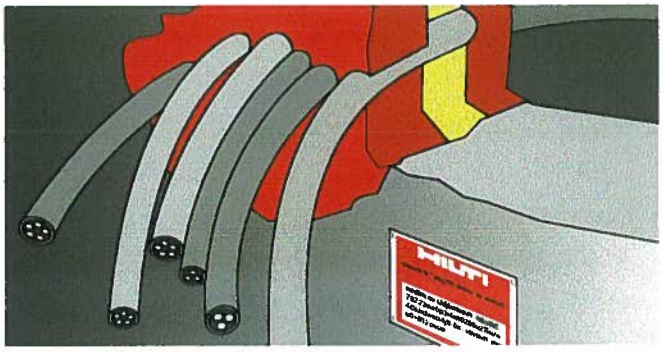
REGULATORY INFORMATION	
Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard. 29 CFR 1910.1200.
HMIS Codes:	Health 0, Flammability 0, Reactivity 0, PPE A
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory 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 (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.

CS–337

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

CLASSIFIED C UL US — FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 66Y7

FM APPROVED

FBC SYSTEM COMPATIBLE — Visit fbcsystemcompatible.com. FBC™ is a trademark of the Lubrizol Corporation.

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

1. 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

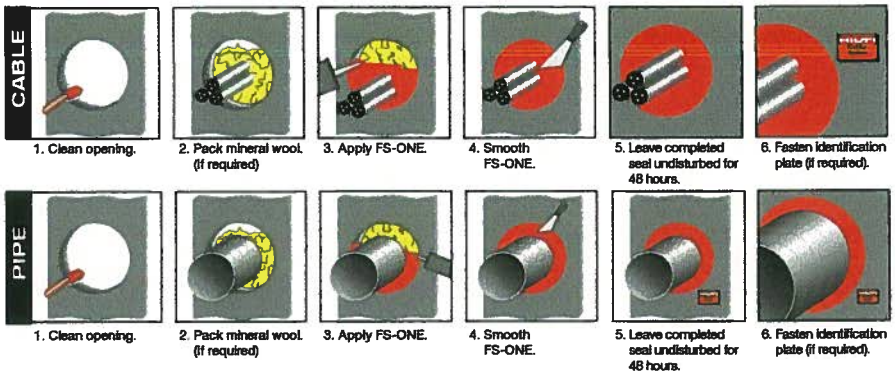
2. Install the prescribed backfilling material type and depth to obtain the desired rating (if required). Leave sufficient depth for applying FS-ONE.
3. Application of firestop sealant: Apply FS-ONE to the required depth in order to obtain the desired fire rating. Make sure FS-ONE contacts all surfaces 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).
4. 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.
5. Leave completed seal undisturbed for 48 hours.
6. 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 packag



Hilti. Outperform. Outlast.

Certificate of Compliance

Certificate Number **20100512-R13240**
Report Reference **2010 May 12**
Issue Date **2010 May 12**

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
Underwriters Laboratories Inc.

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.

Underwriters Laboratories Inc.®

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CS-338

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: Forming 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 Intermediae-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.

COPY OF THE UL CLASSIFICATION MARKING ON THE PRODUCT

Engineer:
Mona Couloute
Underwriters Laboratories Inc.

Review Engineer:
Chris Johnson
Underwriters Laboratories Inc.

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)		

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