Transmittal

Timberland Drywall, Inc.
626 Main Street
Gorham, ME 04038
phone (207) 856-1247 / fax (207) 856-1248
www.timberlanddrywall.com

December 23, 2014

Jason Blais **Opechee Construction Corporation** **11 Corporate Drive** **Belmont, NH 03220**	Project:	**Marriott Hotel** **South Portland, ME**
		Product Submittals: **Top of Wall Firestopping**

Submittal	Quantity		Spec. #	Description
				STI SpecSeal Series AS200 Elastomeric Spray
				Hilti CP767 Speed Strips & CP777 Speed Plugs
				Roxul Safe Fibrous Fire Safing
				Hilti System No. HW-D-0042

These are transmitted as checked below

√	For Approval	☐	For Your Use	☐	As Requested

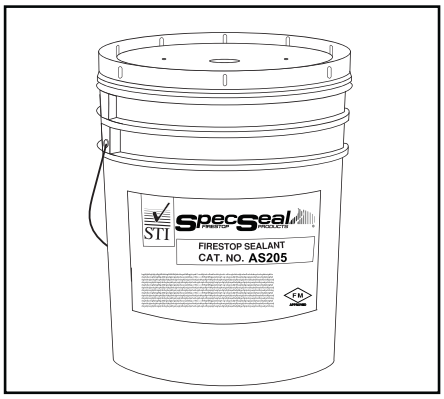
Copy to:

	Submitted by: Richard Fifield rfifield@timberlanddrywall.com

SERIES AS200 ELASTOMERIC SPRAY

APPLICATIONS

SpecSeal® Elastomeric Spray is designed primarily for the protection of construction joints, curtainwall safing gaps, and certain through-penetrations.



PRODUCT DESCRIPTION

SpecSeal® Elastomeric Spray is a non-halogenated latex-based, highly elastomeric coating designed to provide passive smoke and fire protection in construction joints.

SpecSeal® Elastomeric Spray is engineered to adhere to virtually all construction surfaces and may be applied using airless spray equipment or with a brush (for small applications or touch ups).

SpecSeal® Elastomeric Spray dries to form a flexible shield against the propagation of fire. Its premium latex binder system is totally resistant to water and will not re-emulsify after drying. SpecSeal® Elastomeric Spray contains no inorganic fibers, asbestos, solvents.

FEATURES

- **Water-Based** for easy installation and cleanup
- **Non-halogenated.**
- **Thixotropic** for high-build application.
- **Auto Bonding.**
- **Safe**... no solvents! No asbestos!
- **Flexible!**
- **Water Resistant!**
- **Low Abrasion** for longer pump life and less maintenance.
- **UL Classified.**
- **Tested** with spray applied fire resistive materials (SFRM).
- **Paintable**

PERFORMANCE

When applied to a wet film thickness of 1/8" (3.2 mm) over appropriate backing materials, SpecSeal® AS200 Elastomeric Spray has been successfully tested in one, two, three and four hour joints tested in accordance with ASTM E1966 (ANSI/UL2079). This product has also been tested for use in Perimeter Fire Barrier Systems in accordance with ASTM E2307-04. Consult factory for individual system designs and application requirements.

LIMITATIONS: Use product as per manufacturer's instructions. Use only in applications per the manufacturer's tested and published designs or specific recommendations. End user must ultimately determine the suitability of the product and designs to his specific requirement and assumes responsibility for its use. PRODUCT CONTAINS WATER AND IS CONDUCTIVE UNTIL DRY. DO NOT APPLY IN THE PRESENCE OF EXPOSED OR ENERGIZED ELECTRICAL CONDUCTORS.

CLASSIFIED C UL US 3L73

CLASSIFIED FORMING MATERIALS FOR USE IN JOINT SYSTEMS SEE UL DIRECTORY OF PRODUCTS CERTIFIED FOR CANADA AND UL FIRE RESISTANCE DIRECTORY

FM APPROVED

PHYSICAL PROPERTIES

PROPERTIES:	SERIES AS SPRAY
Color	Pale Blue and Red
Odor	Mild Latex
Specific Gravity	1.1
Solids	75%
Flame Spread	0*
Smoke Developed	25*
Movement	±33%**
Coverage	12.8 sq ft/gal @ 1/8˝ (0.31 sq m/L @ 3.2 mm)
Viscosity	110,000 cps
pH	7.5

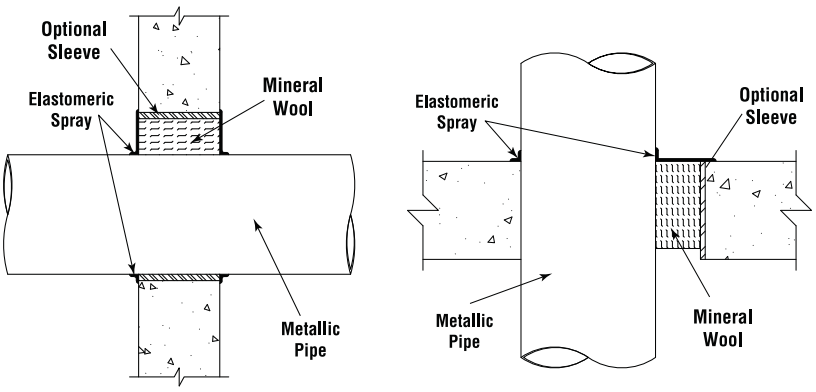
PROPERTIES:	SERIES AS SPRAY
Solvent Content	None
In-Service Temp.	≤120° F (49° C)
Drying Time	Tack Free 2 Hours
	Dry Through 24-48 Hours[A]
STC Rating	61
VOC Content[B]	0.16 lb/gal (20.0 g/L)
Shelf Life	1 yr.

* Tested to ASTM E84 (UL723) @ 14% coverage.

**500 Cycles per UL2079, AC30 (ICBO) and ASTM E1399

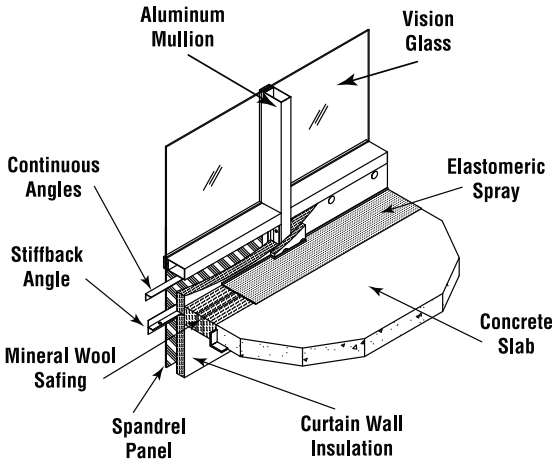
[A] Dependent on temperature and humidity.
[B] Per ASTM D3960 EPA Fed. Reference Method 24

FIG. 1: METALLIC PIPE PENETRATIONS - CONCRETE/MASONRY FLOORS & WALLS



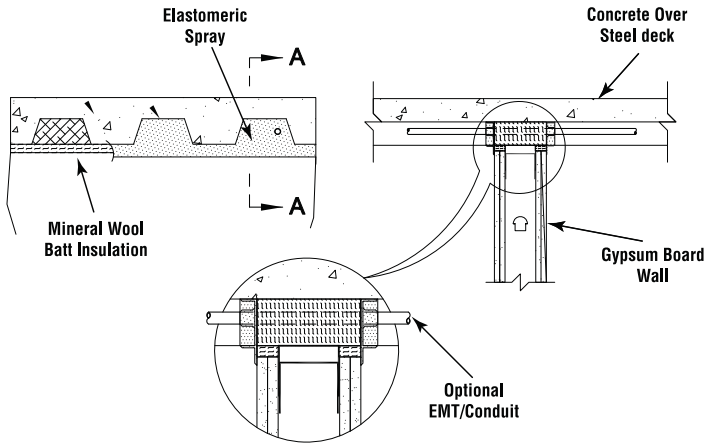
UL System No. C-AJ-1318
F Rating – 2 Hr • T Rating – 0 Hr
Steel or Iron Pipe: <12", Copper Pipe: <6"
Annulus: Point Contact to 2"
Forming Material: Nom 4 pcf mineral wool to 4" depth
Spray Depth: 1/8" wet depth (+1/2" overlap)

FIG. 2: SLAB-EDGE SAFING GAP APPLICATIONS



UL System No. CW-S-2061
F Rating – 2 Hr • T Rating – 1/4 Hr
Linear Opening Width - 8 In Max
L Rating At Ambient - Less than 1 CFM/Lin Ft
L Rating At 400° F - Less Than 1 CFM/Lin Ft

FIG. 3: HEAD-OF-WALL APPLICATIONS



UL System No. HW-D-0043
Assembly Ratings - 1,2,3 and 4 Hr.
Nominal Joint Widths - 1 and 2 In.
L Rating At Ambient - Less than 1 CFM/Lin Ft.
L Rating At 400° F - Less Than 1 CFM/Lin Ft.
Class II Movement Capabilities - 19% and 25% Compression and extension.

SPECIFICATIONS

The fire protective joint coating shall be a water-based, non-halogenated elastomeric coating and shall contain no solvents, inorganic fibers, nor asbestos. The coating shall dry to form a flexible, moisture resistant film and shall adhere to all common construction surfaces. The coating shall be thixotropic and shall be capable of being applied by brush or by airless spray. The approved coating shall be SpecSeal® Elastomeric Spray.

SPECIFIED DIVISIONS

DIV. 7	07 84 00	Through-Penetration Firestopping
DIV. 4	04 22 00	Concrete Unit Masonry
DIV. 7	07 21 00	Thermal Insulation
DIV. 8	08 44 00	Curtain Wall and Glazed Assemblies

INSTALLATION INSTRUCTIONS

GENERAL: Areas to be protected must be clean and free of oil, loose dirt, rust or scale. Recommended storage temperatures range between 40°F (4°C) and 95°F (35°C). Installation temperature must be between 40˚F (4˚C) and 95˚F (35˚C). Recommended application temperature range is 60°F (16°C) to 90°F (32°C). When applying product at the lower end of the temperature range, warming the material to 70°F (21°C) will enhance drying characteristics. Drying time will vary according to prevailing temperature and humidity. Allow to thoroughly dry before exposure to moisture.

Consult appropriate manufacturer's drawing for system design requirements. Forming or packing materials are required as an integral part of various system designs.

Coating may be applied by airless spray in a single pass up to 3/16" (4.8mm) wet coating depth. If applying by brush or spraying on vertical surfaces where coating appears to be prone to slumping, multiple coats or the application of a thin tack coat may be required. DO NOT ATTEMPT TO THIN PRODUCT BY ADDING WATER. When dry, may be painted using most non-solvent based paints.

MAINTENANCE

Inspection: Installations should be inspected periodically for subsequent damage. Following safety precautions listed below (See Precautionary Information) and pertinent installation guidelines, remove coating in damaged areas down to undamaged material. Reapply fresh coating material to original coating thickness.

TECHNICAL SERVICE

Specified Technologies Inc. provides toll free technical support to assist in product selection and appropriate installation design. UL Systems, Material Safety Data Sheets and other technical information is available at the Technical Library at www.stifirestop.com.

PRECAUTIONARY INFORMATION

Consult Material Safety Data Sheet for additional information on the safe handling and disposal of this material. Wash areas of skin contact with soap and water. Avoid contact with eyes. The use of an OSHA or NIOSH approved mask for dust and mist environment is recommended. Apply in areas with adequate ventilation.

AVAILABILITY

SpecSeal® Elastomeric Spray is available from authorized distributors. Consult factory for the names and locations of the nearest sales representatives or distributors.

TABLE A: APPLICATION EQUIPMENT

NOTICE: Spray application of SpecSeal Elastomeric Spray requires airless spray equipment meeting the following specifications:

Working Pressure: Min. 2500 PSI (172 Bar)

Delivery: Min. .72 U.S. gpm (2.7 l/min.) recommended

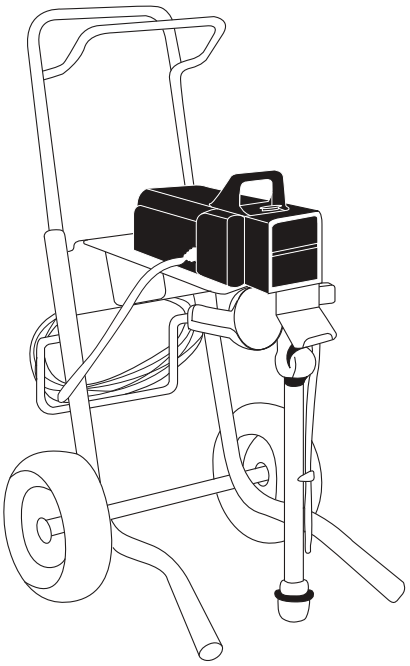
Spray Tip Orifice: 0.023˝ to 0.026˝ (0.58 to 0.66 mm) recommended

Wetted Parts All seals and contact surfaces suitable for contact with latex emulsions.

A minimum 3/8˝ (9.5 mm) fluid line is required, a 1/2˝ (13 mm) line is preferred. Consult pump manufacturer for long hose runs or lifts to higher elevations. A reversible spray tip is recommended. A 6˝ (152 mm) fan pattern is suggested to minimize overspray.

The following airless spray equipment has demonstrated suitability for application of this product. STI makes no warranties concerning the suitability or use of this equipment and has no affiliation of any kind with its manufacturer.

Manufacturer	Model Number & Description
Titan Tool Inc.	740ix Electric Airless Sprayer
Graco Inc.	Ultra Max II 695 Electric Airless Sprayer



ORDERING INFORMATION

SpecSeal® Elastomeric Spray is available in 5 gal. pails, 55 gal. drums are available on a special order basis.

AS205 5 gal. Pail 1,155 cu. in. (19 liters)

CITY OF NEW YORK MEA 310-99-M

Important Notice: All statements, technical information, and recommendations contained herein are based upon testing believed to be reliable, but the accuracy and completeness thereof is not guaranteed.

WARRANTY: Specified Technologies Inc. manufactures its goods in a manner to be free of defects. Should any defect occur in its goods (within one year), Specified Technologies Inc., upon prompt notification, will at its option, exchange or repair the goods or refund the purchase price.

Limitations and Exclusions: THIS WARRANTY IS IN LIEU OF ALL OTHER REPRESENTATIONS EXPRESSED OR IMPLIED (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE) AND UNDER NO CIRCUMSTANCES SHALL SPECIFIED TECHNOLOGIES INC. BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL PROPERTY DAMAGE OR LOSSES. PRIOR TO USE, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND THE USER ASSUMES ALL RISKS AND LIABILITY FOR SUBSEQUENT USE.
No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

STI Specified Technologies Inc.

Specified Technologies Inc. • 200 Evans Way, Somerville NJ 08876 • Phone: 800.992.1180 • Fax: 908.526.9623

Material Safety Data Sheet

04-JUNE-2010

SpecSeal® SERIES AS200 ELASTOMERIC SPRAY

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

PRODUCT NAME…… .....SpecSeal® SERIES AS200 SPRAY
CHEMICAL FAMILY.....Mixture

Company Identification

MANUFACTURER/DISTRIBUTOR
Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876

PHONE NUMBERS
Product Information : 1-908-526-8000
Emergency : 1-800-255-3924

HAZARDS IDENTIFICATION

**********EMERGENCY OVERVIEW**********
* Possible skin and eye irritant. Paste. *
****

Potential Health Effects:
EYE: Contact may cause irritation.
SKIN: Contact may cause irritation.
INGESTION: Relatively non-toxic.
INHALATION: Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist.
CHRONIC (CANCER) INFORMATION: Not classified as carcinogenic.
LONG TERM TOXIC EFFECTS: None known.

COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary mixture containing in part:

INGREDIENT NAME	CAS NUMBER
ACRYLIC COPOLYMER	82539-93-3
CALCIUM CARBONATE	1317-65-3
TITANIUM DIOXIDE	13463-67-7
DIPROPYLENE GLYCOL DIBENZOATE AND MONOBENZOATE	120-55-8
	27138-31-4
ALUMINA TRIHYDRATE	21645-51-2

FIRST AID MEASURES

First Aid

INHALATION: Remove to fresh air.
SKIN CONTACT: Wash thoroughly.
EYE CONTACT: Irrigate eyes with running water for at least 15 minutes. Get medical attention if irritation develops.
INGESTION: None applicable.

FIRE FIGHTING MEASURES

Not a fire hazard.

EXTINGUISHING MEDIA**.....**Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.
SPECIAL FIRE FIGHTING PROCEDURES:**.....**As for surrounding fire.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)
NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS:.....Safety glasses/goggles.
SKIN PROTECTION REQUIREMENTS: .....Gloves.
RESPIRATOR REQUIREMENTS: .....None.
VENTILATION REQUIREMENTS:.....If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

Exposure Guidelines
Exposure Limits
PEL(OSHA) : Particulates (Not Otherwise Classified) 15 mg/m3, 8 Hr. TWA, total dust 5 mg/m3, 8 Hr. TWA, respirable dust
TLV(ACGIH): None Established

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM…….....Paste
SPECIFIC GRAVITY……1.1
PERCENT VOLATILES .....22+/-2
EVAPORATION RATE.....>1
BOILING POINT……. ..... 100 deg. C
SOLUBILITY IN WATER.....Infinitely dilutable
CARB VOC (Calculated) .....0.48 Wt.%
SCAQMD VOC (US EPA Method 24).....10 Grams/Liter

STABILITY AND REACTIVITY
STABILITY: .....This is a stable material.
CONDITIONS TO AVOID .....Storage >55 deg. C
HAZARDOUS POLYMERIZATION:.....Will not occur.
INCOMPATIBILITIES:..... .....None special

TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

May be irritating to skin and eyes and may produce symptoms of nausea in poorly ventilated areas.
None of the components are listed as carcinogens.

ECOLOGICAL INFORMATION

No data.

DISPOSAL CONSIDERATIONS

Waste Disposal:
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

TRANSPORTATION INFORMATION

DOT – not regulated.

REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Inventory Status : Reported/Included.
Section 313 Supplier Notifications.
This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372

OTHER INFORMATION

NPCA-HMIS Rating
Health : 1
Flammability : 0
Reactivity : 0
Personal Protection rating to be supplied by user depending on use conditions.

STATE RIGHT-TO-KNOW LAWS
No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS): Alumina, Titanium Dioxide.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER:
None Known..

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: None known.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the data compiled. However, no representation, warranty, or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur form the use of this information.

Responsibility for MSDS :

Specified Technologies Inc.
210 Evans Way
Somerville, NJ 08876

CP 767 Speed Strips

CP 777 Speed Plugs

Product description

- CP 777: Pre-formed mineral wool plugs for 1.5", 2" and 3" decks
- CP 767: Pre-formed mineral wool strips suitable for joint applications

Product features

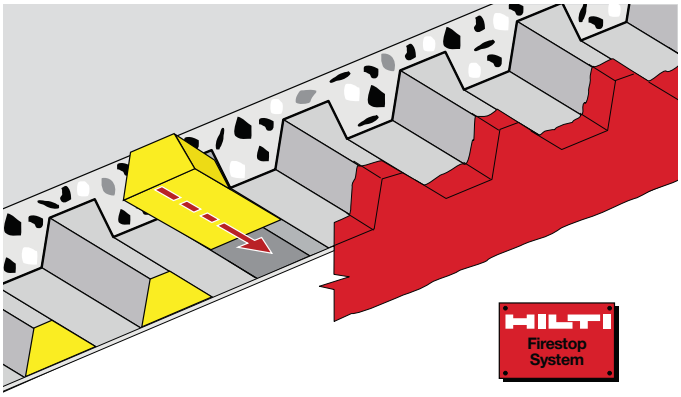
- Pre-cut to industry standard size decking flutes
- Reduces material waste
- 3 sizes available
- Pre-cut — leaves no gaps or voids
- Smooth surface provides cost effective spray coverage
- Safe to use — no asbestos/inorganic, will not mildew
- Up to 60% faster than castle cutting!

Areas of application

- Top-of-wall

Tested and approved

- UL Classified when used in conjunction with CP 606 Flexible Firestop Sealant, CP 601S Elastomeric Firestop Sealant, CP 672 Speed Spray, or CFS-SP WB Firestop Joint Spray



Technical Data	CP 767 and CP 777
Tested in accordance with	• UL 2079 • ASTM E 1966 • ASTM C G12 Type I-IUB

CLASSIFIED c UL us — FORMING MATERIAL FOR USE IN JOINT SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 17RL

Saves time and money!

60% Faster than castle cutting

43% Faster than conventional mineral wool

*Based upon 40 linear feet of installation. Actual results may vary.

Installation instructions for CP 777

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

Easy one step installation — simply cut to length and install.

Full coverage pre-cut flute configuration leaves no gaps or voids.

Superior finish smooth surface allows quick and cost effective coverage with Hilti CFS-SP WB Firestop Joint Spray.

Easy to utilize — Speed Strips in joints between wall substrate and bottom of deck. Compress per UL System.

Hilti Firestop
Saving Lives
through innovation
and education

Hilti. Outperform. Outlast.

Product name: **CP 777 Speed Plugs**

Description: 1.5", 2" or 3" x 36" deck plugs; Mineral wool, rook wool, 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:
Synthetic vitreous fiber	NE	NE	1 fiber / cc	NE
Phenolic resin	25104-55-6	NE	NE	NE
Lubricant	08012-95-1	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:	Fibrous yellow plugs.	**Odor:**	None.
Boiling Point:	Not applicable.	**Vapor Pressure:**	Not applicable.
Melting Point:	Approx. 2000° 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:	Rock wool and slag wool have been classified by the IARC as Group 2B (animal) carcinogens. Studies of workers at slag wool plants were inconclusive. Recent animal studies show that any changes associated with long-term inhalation of high concentrations of slag wool are reversible (i.e. non-carcinogenic).
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 fibers 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 / fibers. 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 (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.

Certificate of Compliance

Certificate Number **20060214-R13081**
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 **Forming Materials**
CP767, CP777

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

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

Additional Information: CP767 Speed Strips for use in Joint Systems and CP777 Speed Plugs for use in Joint 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.

CP 767 Speed Strips

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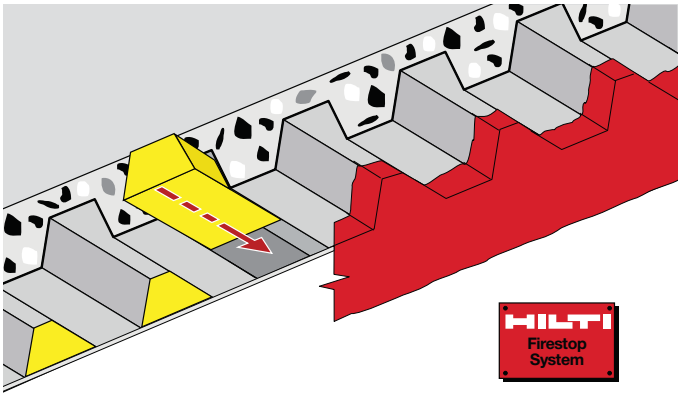

Technical Data	CP 767 and CP 777
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Easy to utilize — Speed Strips in joints between wall substrate and bottom of deck. Compress per UL System.

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Saving Lives
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Hilti. Outperform. Outlast.

Product name: **CP 767 Speed Strips**
Description: 2" or 4" x 36" joint strips / Mineral wool, rook wool, 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:
Synthetic vitreous fiber	NE	NE	1 fiber / cc	NE
Phenolic resin	25104-55-6	NE	NE	E
Lubricant	08012-95-1	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:	Fibrous preformed yellow strips.	**Odor:**	None.
Boiling Point:	Not applicable.	**Vapor Pressure:**	Not applicable.
Melting Point:	Approx. 2000° 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: Rock wool and slag wool have been classified by the IARC as Group 2B (animal) carcinogens. Studies of workers at slag wool plants were inconclusive. Recent animal studies show that any changes associated with long-term inhalation of high concentrations of slag wool are reversible (i.e. non-carcinogenic).
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 or safety glasses with side-shields to prevent airborne fibers from getting into 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 / fibers. 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 (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.

Certificate of Compliance

Certificate Number **20060214-R13081**
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 **Forming Materials**
CP767, CP777

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

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

Additional Information: CP767 Speed Strips for use in Joint Systems and CP777 Speed Plugs for use in Joint 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.

Certificate of Compliance

Certificate Number **20060214-R13081**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Underwriters Laboratories Inc.®

Issued to: **Hilti, Inc.**
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Look for the UL Classification Mark on the product

Issued by:
Mona Couloute
Underwriters Laboratories Inc.

Reviewed by:
Christopher Johnson
Underwriters Laboratories Inc.

Hilti North America
5400 South 122nd East Avenue
Tulsa, OK 74146

P.O. Box 21148 I Tulsa, OK 74121-1148
T 1-800-879-8000 I F 918-252-6742
www.hilti.com

June 27, 2008

To Whom It May Concern:

Re: Hilti CP767 Speed Strips and CP777 Speed Plugs

The Hilti CP767 Speed Strips and CP777 Speed Plugs are manufactured in Sophia, North Carolina.

There is no post-consumer or post-industrial content in Hilti CP767 Speed Strips and CP777 Speed Plugs. There is no detectable VOC content either product.

Hilti CP767 Speed Strips and CP777 Speed Plugs 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) 252-6704 if you have questions.

Sincerely,

Jerry Metcalf MPH, CHMM
Safety/Environmental Manager
Hilti Inc.

MATERIAL SAFETY DATA SHEET

Product name:	**CP 777 Speed Plugs**
Description:	1.5", 2" or 3" x 36" deck plugs; Mineral wool, rook wool, 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:
Synthetic vitreous fiber	NE	NE	1 fiber / cc	NE
Phenolic resin	25104-55-6	NE	NE	NE
Lubricant	08012-95-1	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:	Fibrous yellow plugs.	**Odor:**	None.
Boiling Point:	Not applicable.	**Vapor Pressure:**	Not applicable.
Melting Point:	Approx. 2000° 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:	Rock wool and slag wool have been classified by the IARC as Group 2B (animal) carcinogens. Studies of workers at slag wool plants were inconclusive. Recent animal studies show that any changes associated with long-term inhalation of high concentrations of slag wool are reversible (i.e. non-carcinogenic).
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 fibers 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 / fibers. 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 (x6704)		
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MATERIAL SAFETY DATA SHEET

Product name:	**CP 767 Speed Strips**
Description:	2” or 4” x 36” joint strips / Mineral wool, rook wool, 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:
Synthetic vitreous fiber	NE	NE	1 fiber / cc	NE
Phenolic resin	25104-55-6	NE	NE	NE
Lubricant	08012-95-1	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:	Fibrous preformed yellow strips.	**Odor:**	None.
Boiling Point:	Not applicable.	**Vapor Pressure:**	Not applicable.
Melting Point:	Approx. 2000° 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.
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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 or safety glasses with side-shields to prevent airborne fibers from getting into 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 / fibers. 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

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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)		

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ROXUL
The Better Insulation™

Technical Product Information

ROXUL Safe

INSULATION 07840*
FIBROUS FIRE SAFING 07 84 56.13**
CURTAIN WALL & GLAZED ASSEMBLIES 08 44 00**

General Product Information:

ROXUL® products are mineral wool fibre insulations made from basalt rock and slag. This combination results in a non-combustible product with a melting point of approximately 2150°F (1177°C), which gives it excellent fire resistance properties. ROXUL mineral wool is a water repellent yet vapour permeable material.

Description & Common Applications:

ROXUL Safe® product is a non-combustible, lightweight and water repellent semi-rigid insulation batt that provides fire stopping and acoustical insulation properties. Specifically engineered and produced as a fire stopping material for commercial, industrial and residential buildings, Roxul Safe can be used for the following applications:
- perimeter gaps between concrete floor slabs and exterior wall systems,
- around conduit pipe and duct openings through walls and floor slabs,
- between fire walls and ceiling slabs.

This product has excellent fire performance properties, such as high melt temperature and low thermal conductivity which means the insulation acts as a shield against fire and temperature. In addition, Roxul products are subject to very little shrinkage in the critical phase of a fire, so the insulation layers remain in place to better prohibit the spread of flame. Roxul Safe is intended to be used in conjunction with a fire sealant to prevent the passage of fire and smoke.

Compliance and Performance:

CAN4 - S115M	Standard Test Method of Firestop Sytems	Complies
ASTM C 612	Mineral Fiber Block and Board Thermal Insulation	Type IVA, Complies
MEA Approval	New York City Approval	339-97-M
City Of Los Angeles Approval		RR 25444
UL Design Nos.	Consult UL Directory for numerous approved fire rated joint systems, through penetration designs and curtain wall design listings, or contact Roxul for further information.	

Fire Performance:

ASTM E 136	Behaviour of Materials at 750°C (1382°F)	Non-Combustible
CAN4 S114	Test for Non-Combustibility	Non-Combustible
ASTM E 84(UL 723)	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = 0
CAN/ULC S102	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = 0

Smoulder Resistance:

CAN/ULC-S129	Smoulder Resistance	0.01%

Moisture Resistance:

ASTM C 1104	Moisture Sorption	0.04%

Corrosive Resistance:

ASTM C 665	Corrosiveness to Steel	Pass
ASTM C 795 ****	Stainless Steel Stress Corrosion Specification as per Test Methods C871 and C692: U.S. Nuclear Regulatory Commision, Reg. Guide #1.36: U.S. Military Specifications MIL-I-24244 (all versions including B and C)	Conforms

*MASTER FORMAT 1995 EDITION **MASTER FORMAT 2004 EDITION

ROXUL Safe

Acoustical Performance

ASTM C423 CO-EFFICIENTS AT FREQUENCIES							
Thickness	**125 Hz**	**250 Hz**	**500 Hz**	**1000 Hz**	**2000 Hz**	**4000 Hz**	**NRC**
2.0	0.26	0.68	1.12	1.10	1.03	1.04	1.00
3.0	0.63	0.95	1.14	1.01	1.03	1.04	1.05
4.0	1.03	1.07	1.12	1.04	1.07	1.08	1.10

Compressive Strength:

ASTM C 165 at 10% 144 psf (6.9 kPa)

Density:

ASTM C 612-00 Actual 4.5 lbs/ft³ 72 kg/m³

Dimensions:

24” (width) x 48” (length)
610 mm (width) x 1219 mm (length)

Thickness:

Product thickness is available in 2”, 3” and 4”

For additional sizes, please contact our customer service representatives.

Facing:

This product can be faced with reinforced foil facing. Please note that the facings will influence the product’s service temperature range.

Key Application Qualifiers:

- Easily cut
- Non-combustible
- Excellent sound absorbency
- Chemically inert
- Does not rot or sustain vermin
- Does not promote growth of fungi or mildew
- Low moisture sorption
- Water resistant
- CFC and HCFC free product and process
- Made from natural & recycled materials

Other ROXUL Products:

Please consult ROXUL for all your insulation needs. We have an extensive range of products for all applications from pipe insulation to commercial products to residential batts. ROXUL invites all inquiries and will act promptly to service all of your requirements.

ULC LISTED

CLASSIFIED UL

**** “Provisions for lot testing may be required, consult manufacturer.”

Note:
As ROXUL Inc. has no control over installation design and workmanship, accessory materials or application conditions, ROXUL Inc. does not warranty the performance or results of any installation containing ROXUL Inc’s. products. ROXUL Inc’s. overall liability and the remedies available are limited by the general terms and conditions of sale. This warranty is in lieu of all other warranties and conditions expressed or implied, including the warranties of merchantability and fitness for a particular purpose.

ROXUL INC. **Milton, Ontario Tel: 905-878-8474** **Fax: 905-878-8077**
www.roxul.com **Tel: 1-800-265-6878** **Fax: 1-800-991-0110**

Revised: May 25, 2009
Supersedes: March 10, 2009

ROXUL®
The Better Insulation™

Material Safety Data Sheet

Material Name: Mineral Wool Insulation

1. Identification:

1.1 Product Generic Name: Mineral Wool Insulation

1.2 Product Use: Commercial, Industrial and Residential Insulation

1.3 Products:
CavityRock®, ConRock®, CurtainRock®, Roxul DrainBoard®, Enerwrap®, Flexibatt®, ComfortBatt™, RHM™, RHT®, AFB®, RoxulPlus®, RW®, Roxul Safe®, Roxul Safe'n'Sound™, Techton® 1200, Techton® 1200 Marine, SturdiRock®, Roxul FireWall™, RockBoard™, TopRock®, MonoBoard™, FabRock™

1.4 Company Address:
Roxul Inc.
551 Harrop Drive
Milton, Ontario
Canada
L9T 3H3

1.5 Web Site: www.roxul.com

1.6 If further information is required, please call or fax Roxul Inc.
Telephone: 1-800-265-6878 or 905-878-8474 Fax: 905-878-8077

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2. Information on Ingredients:

Ingredient Name	CAS Number	%
Mineral Fiber	RN 65997-17-3	94-99
Cured Urea Extended Phenolic Formaldehyde Binder	25104-55-6	1-6

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3. Hazards Identification:

3.1 Appearance and Odor: Grey, green fibrous batt or board.

3.2 Emergency Overview: Acrid smoke may be generated during a fire.

Exposure to dust may be irritating to the eyes, nose and throat.

3.3 Potential Health Effects:

3.3.1 Inhalation: Temporary mechanical irritation of the upper respiratory tract (scratchy throat, coughing, congestion) may result from exposures to dusts and fibers in excess of applicable exposure limits.

3.3.2 Skin Contact: Dusts and fibers may cause temporary mechanical irritation (itching) or redness to the skin.

3.3.3 Eye Contact: Dusts and fibers may cause temporary mechanical irritation (itching) or redness to the eyes.

3.3.4 Ingestion: Ingestion of this product is unlikely and not intended under normal conditions of use. Ingestion of this product may cause gastrointestinal irritation.

3.3.5 Existing Medical Conditions: Pre-existing chronic eye, skin and respiratory conditions may temporarily worsen due to exposure to dusts and fibers.

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4. First-Aid Measures:

4.1 Inhalation: If irritation occurs, remove the affected person to fresh air. Drink water, and blow nose, to clear dusts and fibers from throat and nose. If irritation persists, consult a physician.

4.2 Skin: If irritation occurs, do not rub or scratch. Rinse under running water prior to washing with mild soap and water. Use a washcloth to help remove fibers. If irritation persists, consult a physician.

4.3 Eyes: If irritation occurs, flush eyes with plenty of water for at least 15 minutes. Do not rub the eyes. Consult a physician if irritation persists.

4.4 Ingestion: Ingestion of this product is unlikely and not intended under normal conditions of use. If it does occur, rinse mouth with plenty of water to help remove dust and fibers, and drink plenty of water to help reduce potential gastrointestinal irritation. Do not induce vomiting unless directed to do so by a physician.

5. Fire-Fighting Measures:

The products are non-combustible and do not pose a fire hazard. However, packaging material may burn.

5.1.	Suitable extinguishing media:	Water, foam, carbon dioxide or dry powder
5.2	Extinguishing media which must not be used for safety reasons:	None
5.3	Combustion products:	Carbon dioxide, carbon monoxide and trace gases
5.4	Special protective equipment for fire-fighters:	Observe normal fire fighting procedures

5.5 Flash point: None — Flash Point Method Used: Not Applicable

Upper Flammable Limit (UFL): Not Applicable — Lower Flammable Limit: Not Applicable

Autoignition: Not Applicable — Explosive Properties: Not Applicable

6. Accidental Release Measures:

6.1 Containment Procedures: Pick up large pieces and scoop up dusts and fibers after they have settled out of air. These materials will disperse and settle along the bottom of waterways and ponds. It cannot easily be removed once it is waterborne, but is considered non-hazardous in water.

6.2 Cleanup Procedures: Use OSHA-recommended work practices and protective equipment as described in Section 8 of this Material Safety Data Sheet. Avoid generating airborne dusts and fibers during cleanup. Do not use compressed air. Vacuum dusts and fibers. Place material in an appropriate container for disposal as non-hazardous waste.

6.3 Response Procedures: Isolate area. Keep unnecessary personnel away. If dry methods or compressed air are used to collect dusts and fibers, all personnel in the area should wear OSHA-approved protective equipment (see Section 8 of this Material Safety Data Sheet).

7. Handling and Storage:

7.1 General Precautions:

- Utilize OSHA-recommended work practices and protective equipment when using the products (see Section 8 of this Material Safety Data Sheet).

7.2 Handling:

- Unpack material at application site to avoid unnecessary handling of product.
- Keep work areas clean. Avoid unnecessary handling of scrap material and debris by placing such materials in suitable containers, which should be kept as close to the work area as possible.
- Ensure good ventilation. Local exhaust ventilation may be required if the method of use produces dust levels which exceed applicable exposure limits (see Section 8 of this Material Safety Data Sheet).
- Avoid excessive eye and skin contact with dusts and fibers.
- Use recommended cleanup procedures to avoid buildup of dusts and fibers in the work area.

7.3 Storage:

- Keep material in original packaging until it is to be used.
- Store material to protect against adverse conditions including precipitation.

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8. Exposure Controls/Personal Protection:

8.1 Exposure Guidelines:

8.1.1 General Product Information: Follow all applicable exposure limits. Local regulations may apply. Roxul recommends that users of the products adhere to the OSHA-recommended PEL of 1 f/cc TWA (fibers longer than 5 μm with diameters less than 3 μm). This recommended PEL, together with recommended work practices and personal protective equipment, were adopted in a Health and Safety Partnership Program (HSPP) agreement in 1999 between OSHA and the North American Insulation Manufacturers Association (NAIMA), of which Roxul is a member. Adherence to the OSHA-recommended PEL, work practices and protective equipment in the HSPP is expected to provide appropriate protection against all inhalation-related health risks that may be associated with exposures to mineral wool fibers (ACGIH 1997; NAIMA 1999; OSHA 1999; National Research Council 2000, IARC 2001), and to minimize eye and skin irritation.

8.1.2 Component Exposure Limits:

Source	Legal or Recommended Exposure Limit	Exposure
OSHA	1 f/cc TWA (recommended)	Synthetic Vitreous Fibers, > 5 μm length, < 3 μm diameter
ACGIH	1 f/cc TWA (threshold limit value – TLV)	Synthetic Vitreous Fibers, > 5 μm length, < 3 μm diameter
OSHA	15 mg/m³ TWA-PEL (total particulate) 5 mg/m³ TWA-PEL (respirable particulate)	Inert dust and particulates not otherwise regulated
ACGIH	10 mg/m³ TWA-TLV (inhalable particulate) 3 mg/m³ TWA-TLV (respirable particulate)	Particulates not otherwise classified, containing no asbestos and <1% crystalline silica

8.2 Equipment and Work Practices: Follow OSHA-recommended equipment and work practices. A complete copy of these practices can be obtained from Roxul Inc. (see Section 1 of this Material Safety Data Sheet), and is available on the OSHA website (http://www.osha.gov/SLTC/syntheticmineralfibers).

8.2.1 Follow OSHA-recommended safe handling practices listed in Section 7.2 above.

8.2.2 Where feasible, general dilution ventilation or local exhaust ventilation should be used as necessary to maintain exposures below applicable exposure limits. Dust collection systems should be used in cutting or machining operations and may be needed when using power tools.

8.2.3 Follow OSHA-recommended work practices when fabricating, installing or removing product.

8.3 Personal Protective Equipment::

8.3.1 Respiratory:

8.3.1.1 General:
In poorly ventilated areas when dusty conditions exist and/or dust levels exceed applicable exposure limits, wear a NIOSH certified dust respirator with an efficiency rating of N95 or higher. Use disposable face masks complying with NIOSH respirator standards, such as a 3M Model 8210 (or 8710) (3M Model 9900 in high humidity environments) or equivalent. For exposures up to five times the established exposure limits use a quarter-mask respirator, rated N95 or higher; and for exposures up to ten times the established exposure limits use a half-mask respirator (e.g. MSA's DM-11, Racal's Delta N95, 3M's 8210), rated N95 or higher. For exposures up to 50 times the established exposure limits use a full-face respirator, rated N99 or higher.

8.3.1.2 Specific Operations:
In poorly ventilated areas when dusty conditions exist and/or dust levels exceed applicable exposure limits, wear a NIOSH certified dust respirator with an efficiency rating of N95 or higher, such as a 3M Model 8210 (or 8710) (3M Model 9900 in high humidity environments) or equivalent, when fabricating, installing or removing product.

8.3.2 Skin:
Wear loose fitting, long sleeved and long-legged clothing to prevent irritation. A head cover is also recommended, especially when working with material overhead. The use of suitable gloves is also recommended. Skin irritation cannot occur if there is no contact with the skin. Do not tape sleeves or pants at wrists or ankles. Remove fibers from the work clothes, before leaving work to reduce potential skin irritation. If working in a very dusty environment it is advisable to shower and change clothes

8.3.3 Eyes/Face:
Wear safety goggles or safety glasses with side shields.

9. Physical and Chemical Properties:

9.1	Appearance:	Grey, green fibrous batt or board
9.2	State:	Solid
9.3	Odor:	May have slight resin odour
9.4	Boiling point::	n.a.
9.5	Melting point:	Approximately 2150 °F (1177 °C)
9.6	Vapour pressure:	n.a.
9.7	Vapour Density:	n.a.
9.8	Specific Gravity:	n.a.
9.9	Evaporation Rate:	n.a.
9.10	Freezing Point:	n.a.
9.11	Viscosity:	n.a.
9.12	Solubility:	Insoluble (H_2O)
9.13	Partition coefficient:	n.a.

n.a. = not applicable

10. Stability and Reactivity:

10.1 Stability: Stable

10.2 Reactivity: Not reactive

10.3 Thermal decomposition products:
Primary combustion products of the cured urea extended phenolic formaldehyde binder, when heated above 390 °F (200 °C), are carbon monoxide, carbon dioxide, ammonia, water and trace amounts of formaldehyde. Other undetermined compounds could be released in trace quantities. Emission usually only occurs during the first heating. The released gases may be irritating to the eyes, nose and throat during initial heat-up. Use appropriate respirators (air supplied) particularly in tightly confined or poorly ventilated areas during initial heat-up.

10.4 Hazardous Polymerization: Will not occur

10.5 Incompatible Materials: This product reacts with hydrofluoric acid.

11. Toxicological Information:

11.1 Acute Toxicity:
Coarse fibers and dust from mineral wool products can cause temporary mechanical irritation (itching, redness) of the skin, and of the mucous membranes in the eyes and in the upper respiratory tract (nose and throat). The itching and possible inflammation are a mechanical reaction to dust and coarse fibers (of more than about 5 µm in diameter), and are not damaging in the way chemical irritants may be. They generally abate within a short time after the end of exposure. When products are handled continually, the skin itching generally diminishes.

11.2 Chronic Toxicity:

11.2.1 Summary: In October 2001, IARC completed a re-evaluation of respirable mineral wool fibers and classified them in Group 3 (not classifiable as to their carcinogenicity to humans). A summary of the most important scientific studies appears below:

11.2.2 Human Data:

11.2.2.1 The possible carcinogenic effects of exposure to mineral wool fibers has been evaluated in a number of epidemiological (human) studies. Most of this research, including large long-tem studies of mineral wool production workers in the U.S. and Europe, has been sponsored or supported by the North American and International thermal insulation industries, including Roxul Inc. Published reports of the early results of these studies identified significantly elevated rates of respiratory cancer in several subcohorts of the worker populations under evaluation (e.g., Simonato et al. 1987; Enterline et al. 1987). However, the studies had several methodological limitations, including failure to control for confounding exposures to other possible causes of the elevated cancer risk, including tobacco use and occupational exposures to recognized carcinogens such as asbestos. For these reasons, the authors of these reports did not interpret the results as establishing an association between exposure to mineral wool fibers and an increased risk of cancer. Several of these earlier reports formed part of the basis for IARC's previous classification of mineral wool fibers in Group 2B (possibly carcinogenic to humans) (IARC 1987).

11.2.2.2 Follow-up studies, including case-control studies designed to exclude the contribution of confounding exposures to the cancer experience of the study populations, found no evidence that mineral wool fibers are associated with an increased cancer risk (Marsh et al. 1996; Wong, et al. 1991; Kjaerheim et al. 2001). In announcing the new Group 3 classification for mineral wool fibers, IARC stated: "Epidemiologic studies published during the 15 years since the previous IARC Monographs review of these fibers in 1988 provide no evidence of increased risks of lung cancer or of mesothelioma (cancer of the lining of the body cavities) from occupational exposures during manufacture of these materials" (IARC 2001).

11.2.3 Animal Data:

11.2.3.1 Several studies of intraperitoneal injection of high doses of mineral wool fibers have produced significant increases in the incidence of mesothelioma (IARC 2002). The intraperitoneal injection studies formed part of the basis for IARC's previous (IARC 1987) Group 2B classification for mineral wool fibers. Leading scientists agree that intraperitoneal injection studies (i.e., surgical implantation or injection into the chest or abdomen) are the least relevant type of animal study for evaluating

potential human risk for fiber exposures, because such studies bypass the animals' natural defense mechanisms and involve a type and pattern of exposure (implantation of a high dose early in life) that does not mimic human patterns of exposure (inhalation of much lower doses over a lifetime) (National Research Council 2000).

11.2.3.2 A well-designed long-term inhalation study in rats exposed to mineral wool fibers found no significant increase in lung tumor incidence, and no mesotheliomas (IARC 2002). Likewise, in two intratracheal instillation studies of mineral wool fibers, no significant increase in the incidence of lung tumors or mesotheliomas was found (IARC 2002). Inhalation studies are regarded as the most relevant type of animal data for evaluating potential human risk, and intratracheal instillation studies, while less relevant, are considered valuable for the initial screening of fibrous compounds (National Research Council 2000). Thus, evaluating all the available animal studies in conjunction with the human data, IARC's most recent review finds "inadequate evidence overall for any cancer risk" from mineral wool fibers (IARC 2001).

11.3 Evaluations of Potential Carcinogenicity:

Source	Classification	Description
IARC	Group 3	Not Classifiable as a Human Carcinogen
ACGIH	Group A3	Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. Ecological Information:

12.1 Ecotoxicity: No data available for the products. The products are stable, are not expected to cause harm to animals, plants or fish, and have no other known adverse environmental effects.

12.2 Environmental Fate: No data available for the products.

13. Disposal Considerations:

13.1 US EPA Waste Number & Descriptions:

13.1.1 General Product Information: The products, as supplied, are not expected to be a characteristic hazardous waste under RCRA if discarded.

13.1.2 EPA Waste Numbers: No EPA Waste Numbers are applicable for this product's components.

13.2 Disposal Instructions: Product is not considered a hazardous waste. Dispose of waste material according to Federal, State, Provincial, and Local environmental regulations.

14. Transport Information:

14.1 General: No special precautions.

14.2 US DOT Information: This product is not classified as a hazardous material for transport.

15. Regulatory Information:

15.1 U.S. Regulations:

15.1.1 Toxic Substances Control Act (TSCA): All components in this product are listed, as required, on the US EPA TSCA inventory, or are not required to be listed

15.1.2 CERCLA: Includes mineral fiber emissions from facilities manufacturing or processing glass rock or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less; Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Fine mineral fibers).

15.1.3 Clean Air Act: Mineral wool fiber appears on the Clean Air Act-1990 Hazardous Air Pollutants List.

15.2 State and Local Regulations: State, Provincial, and Local regulations not identified in this Material Safety Data Sheet may apply.

15.3 WHMIS: The products have been classified in accordance with the hazard criteria of the Controlled Product Regulations and this Material Safety Data Sheet contains all the information required by the Controlled Product Regulations

15.3.1:	WHMIS IDL:	No components are listed on the IDL
15.3.2:	WHMIS Classification:	No components are classified as controlled products.

16. Further Information:

16.1 Potential Health Effects:

IARC Monograph Man-made Vitreous Fibres, press release October 2001

Safety in the Use of Mineral and Synthetic Fibers, Occupational Safety and Health Series. International Labor Office (ILO).

Information about "Health and Safety Research on Rock- and Slag-wool" can be obtained from the North American Insulation Manufacturers Association (NAIMA), 44 Canal Center Plaza, Suite 310, Alexandria, VA 22314, USA). Home-page: http://www.naima.org

16.2 Key/Legend:

ACGIH = American Conference of Governmental Industrial Hygienists; CAA = Clean Air Act; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; DOT = Department of Transportation; EPA = Environmental Protection Agency; HMIS = Hazardous Material Identification System; HSPP = Health and Safety Partnership Program; IARC = International Agency for Research on Cancer; MSDS = Material Safety Data Sheet; NAIMA = North American Insulation Manufacturers Association; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; RCRA = Resource Conservation and Recovery Act; RQ = Reportable Quantity; SVF = synthetic vitreous fibers; TSCA = Toxic Substances Control Act; TWA = time-weighted average; WHMIS = Workplace Hazardous Materials Information System.

16.3 References: Complete citations, or copies, of all references cited in this Material Safety Data Sheet can be obtained from Roxul Inc. (see Section 1).

16.4 Accuracy: The information contained herein is based upon data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe upon any patent. This information is furnished as a guide only and upon the condition that the person receiving it shall make tests to determine the accuracy and suitability for his or her own purpose.

LEED Credits

Roxul insulation is the right choice for creating sustainable buildings and earning valuable LEED credits

Leadership in Energy and Environmental Design or LEED® is a consensus-based system for rating the design, construction, operation, and certification of the world's greenest buildings. Both the USGBC and the CaGBC administer the **LEED®**rating system in the pursuit of environmentally **responsible** and more **sustainable** buildings and development.

With LEED®, buildings earn **certification** through accumulating points across **six categories** throughout the construction process. **Roxul** products help builders **earn up to 22 points** towards projects LEED® certification in either **Canada** and the **USA** in the following categories:

Energy & Atmosphere: EA Credit 1
Materials & Resources: MR Credits 2.1, 2.2, 4.1, 4.2, 5.1, 5.2
Indoor Environmental Air Quality: EQ Credits 3.2, 7.1,
Innovation & Design Process: ID Credits 1 to 1.4

Note: Different Roxul products achieve different LEED® points. Earn all you can by consulting Roxul's in -house LEED® advisor at rockford.boyer@roxul.com

Why Roxul Products Take the LEED®

Roxul's innovative insulation offers a world of green features:

Natural, **inorganic** materials with High recycled content *
Naturally **non-combustible** without dangerous chemicals added
Excellent **sound absorption** for occupants' acoustical comfort
Energy saving with higher R-values for consistent thermal performance
Chemically inert to minimize indoor air quality pollutant potential
Resistant to the growth of mold, fungi, and bacteria
Do not rot or sustain vermin
CFC- and **HCFC-free** products and process
Regionally produced and located in close proximity to job sites

* Recycled content can vary based on production. Please contact Roxul Technical Department at 1-800-265-6878

Please click on the following links for specific details on LEED® credits available for both Canada and the USA.

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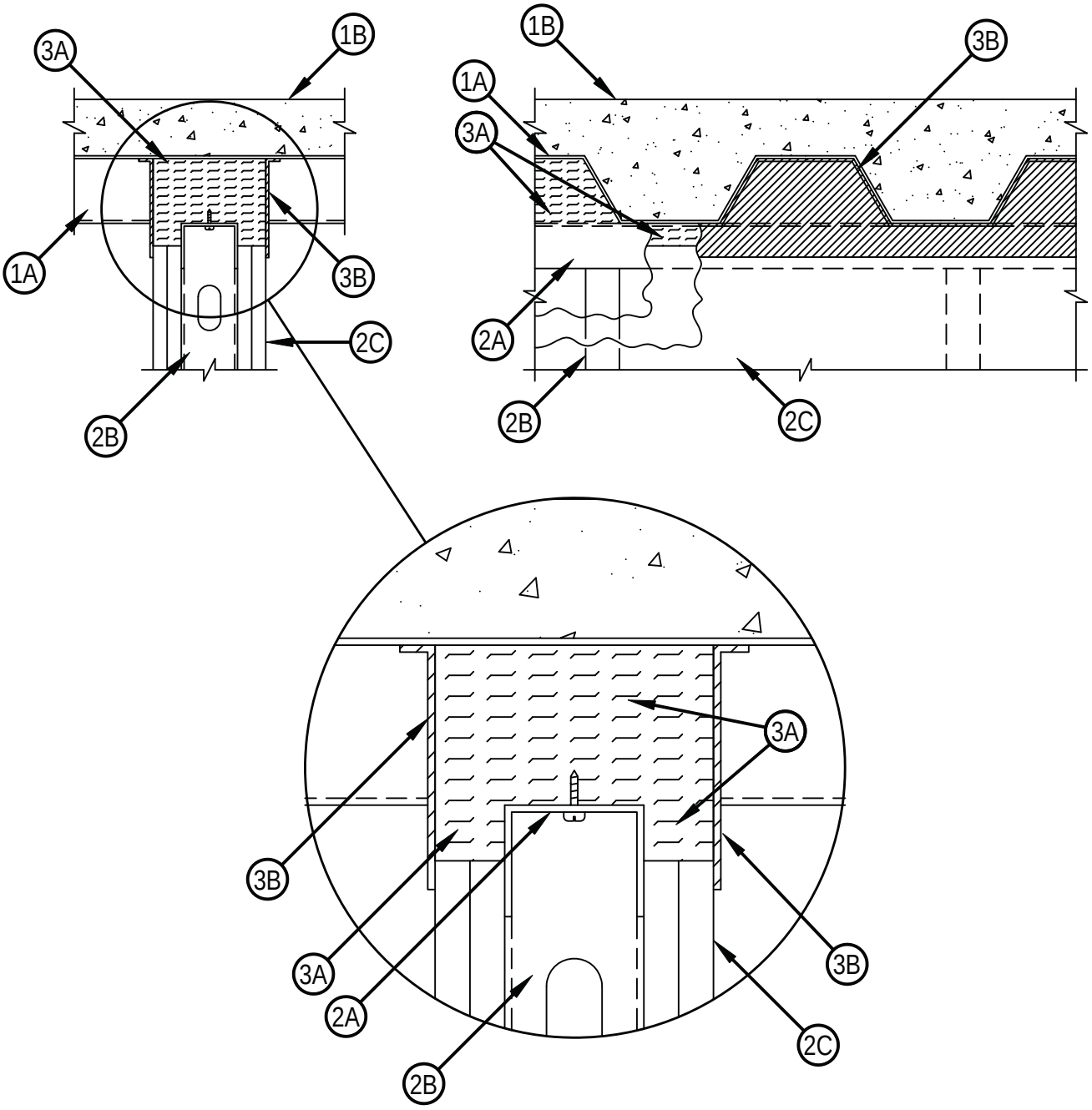
System No. HW-D-0042

Assembly Ratings - 1 and 2 Hr (See Items 2 & 3A)
Joint Width - 1 In. Max
Class II Movement Capabilities - 50 Percent Compression Or Extension



Hilti Firestop Systems

System No. HW-D-0042

Assembly Ratings - 1 and 2 Hr (See Items 2 & 3A)
Joint Width - 1 In. Max
Class II Movement Capabilities - 50 Percent Compression Or Extension

1. Floor Assembly — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 or D900 Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Steel Floor And Form Units* — Max 3 in. (76 mm) deep galv steel fluted units.
B. Concrete — Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.
C. Spray-Applied Fire Resistive Materials* — (Optional, Not Shown)—Prior to the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B, respectively) the steel floor units may be sprayed with a min 5/16 in. (8 mm) to max 1-3/4 in. (45 mm) thickness of fire resistive material.
W R GRACE & CO - CONN — Type MK-6-HY

1A. Roof Assembly — (Not Shown) — As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P900 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. Steel Roof Deck — Max 3 in. (76 mm) deep galv steel fluted roof deck.
B. Roof Insulation — Min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the floor units.

1B. Roof Assembly — As an alternate to Items 1 and 1A, a fire rated protected fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P700 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. Steel Roof Deck — Max 3 in. (76 mm) deep galv steel fluted roof deck.
B. Spray—Applied Fire Resistive Materials* — (Not Shown)—Prior to the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B), the roof assembly shall be sprayed with the type and thickness of fire resistive material indicated in the individual P700 Series design.

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

A. Steel Floor And Ceiling Runners — Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with 2 in. (51 mm) flanges. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors or welds spaced max 12 in. (305 mm) OC. When optional spray-applied fire resistive material is used on steel deck and when deflection channel is not used, ceiling runner secured through spray-applied material to each valleys of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.

System No. HW-D-0042

Assembly Ratings - 1 and 2 Hr (See Items 2 & 3A)
Joint Width - 1 In. Max
Class II Movement Capabilities - 50 Percent Compression Or Extension

A1. Light Gauge Framing*-Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 2A, slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Slotted ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on steel deck, slotted ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.
METAL-LITE INC — The System
SCAFCO STEEL STUD MANUFACTURING CO
SLIPTRACK SYSTEMS INC — SLP-TRK

A2. Light Gauge Framing*-Vertical Deflection Ceiling Runner — When the nom joint width is less than or equal to 3/4 in. (19 mm), vertical deflection ceiling runner may be used as an alternate to the ceiling runners in Items 2A and 2A1. Vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips provided with step bushings for permanent fastening of steel studs. Flanges sized to accommodate steel studs (Item 2B). Vertical deflection ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on steel deck, vertical deflection ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.
THE STEEL NETWORK INC — VertiTrack VTD250, VTD358, VTD400, VTD600 and VTD800

A3. Light Gauge Framing* — Clipped Ceiling Runner — As an alternate to the ceiling runner in Items 2A, 2A1 and 2A2, clipped runner to consist of galv steel channel with clips preformed in track flanges which positively engage the inside flange of the steel studs (Item 2B). Track sized to accommodate steel studs (Item 2B). Track flanges to be min 2-1/2 in. (64 mm). Clipped ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on steel deck, clipped ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.
TOTAL STEEL SOLUTIONS L L C — Snap Trak

A4. Light Gauge Framing*- Notched Ceiling Runner — As an alternate to the ceiling runners in Items 2A through 2A3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on the steel deck, notched ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.
DENMAR STEEL INC — Type SCR

B. Studs — Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at midheight of each slot. Stud spacing not to exceed 24 in. (610 mm) OC.

System No. HW-D-0042

Assembly Ratings - 1 and 2 Hr (See Items 2 & 3A)
Joint Width - 1 In. Max
Class II Movement Capabilities - 50 Percent Compression Or Extension

C. Gypsum Board* — Gypsum board installed to a min total thickness of 5/8 in. and 1-1/4 in. (16 and 32 mm) on each side of wall for 1 and 2 hr rated assemblies, respectively. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom of the steel deck units and the top row of screws shall be installed into the studs 3-1/2 to 4 in. (89 to 102 mm) below the lower surface of the floor or roof. The hourly rating of the joint system is dependent on the hourly rating of the wall.

3. Joint System — Max separation between bottom of floor or roof and top of wall at time of installation of joint system is 1 in. (13 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of forming material and a fill material, as follows:

A. Forming Material* — Nom 4 pcf (64 kg/m3) density mineral wool batt insulation cut approx 25 percent wider than the flutes and with a length approx equal to the overall thickness of the wall. Multiple pieces stacked on top of each other, as needed, and then compressed 50 percent in thickness and inserted into the flutes of the steel deck above the top of the ceiling runner. The mineral wool batt insulation is to project beyond each side of the ceiling runner, flush with wall surfaces. Additional 5/8 in. and 1-1/4 in. (16 and 32 mm) wide strips for 1 and 2 hr rated assemblies, respectively, of nom 4 pcf (64 kg/m3) mineral wool batt insulation are to be cut to fill the gap between the top of the gypsum board and bottom of the steel deck. The strips of mineral wool are compressed 50 percent and tightly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the steel deck on both sides of the wall.
ROCK WOOL MANUFACTURING CO — Delta- Board
THERMAFIBER INC — Type SAF

A1. Forming Material*—Plugs — (Optional, Not Shown) Preformed mineral wool plugs, formed to the shape of the fluted floor units, friction fit to completely fill the flutes above the ceiling channel. The plugs shall project beyond each side of the ceiling runner, flush with wall surfaces. Additional forming material, described in Item 3A, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of steel floor units.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP777 Speed Plugs

A2. Forming Material* - Strips — (Optional) - Nom 5/8 in. and 1-1/4 in. (16 and 32 mm) wide by 2 in. (51 mm) high precut mineral wool strips for 1 and 2 hr rated assemblies respectively. The strips are compressed 50 percent and firmly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the steel floor units on both sides of the wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 767 Speed Strips

B. Fill, Void or Cavity Material* — Min 1/6 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material sprayed or troweled on each side of the wall to completely cover mineral wool forming material and to overlap a min of 1/2 in. (13 mm) onto gypsum board and steel deck on both sides of wall. When Spray-Applied Fire Resistive Material* is applied to the Steel Floor and Form Units*, the fill material is to overlap the gypsum board a min of 1/2 in. (13 mm) and the Spray-Applied Fire Resistive Material a min of 2 in. (51 mm) on both sides of wall. When spray-applied fire resistive materials are used, the CP 672 firestop spray shall overlap the wall a min 1/2 in. (13 mm) and overlap the spray-applied fire resistive material a min of 2 in. (51 mm) on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 672 Firestop Spray

*Bearing the UL Classification Mark