



Firestopping Submittal Package

metacaulk®

Project: Commercial Mechanical HVAC Contractors

Architect:

General Contractor:

Installation Contractor:

Distributor (and Contact):

Manufacturer's Representative:

Table of Contents

Product Approvals	1
Certificate of Compliance	2
Metacaulk MC 150+ SDS	8
Metacaulk 1000 SDS	11
Metacaulk Joint Strip SDS	14
Metacaulk MC 150+ Datasheet	16
Metacaulk 1000 Datasheet	18
Metacaulk Joint Strip Datasheet	20
C-AJ-7067	22
C-AJ-7074	24
C-AJ-7075	26
C-AJ-7082	28
C-AJ-7087	30
C-AJ-7088	32
W-J-7116	34
W-L-7080	36
W-L-7081	38
W-L-7082	40
W-L-7122	42
W-L-7199	44

APPROVALS FOR METACAULK® PRODUCTS

Below is a list of Model Building Codes requiring the use of firestop products in various types of constructions and occupancies. Most local codes are derived from one or more of these model codes. Metacaulk® products and systems meet the through-penetration firestopping requirements of all of these codes.

ICC	International Code Council; International Building Code
ICBO	International Code of Building Officials; Uniform Building Code
SBCCI	Southern Building Code Congress International; Standard Building Code
BOCA	Building Official and Code Administrators International; National Building Code
CABO	Council of American Building Officials (coordinating agency between ICBO, SBCCI and BOCA)
NBCC	National Building Code of Canada
NFPA 101	National Fire Protection Association Life Safety Code
IRC	International Residence Code

Certain cities, counties and states have written their own code requirements which may supersede or supplement model building codes, check with these authorities for approvals.

Metacaulk® Products are UL Classified and conform to the codes and test requirements shown below.

UL 1479	Fire Tests of Through-Penetration Firestops
UL 2079	Tests for Fire Resistance of Building Joint Systems
ASTM E 1966	Standard Test Method for Fire Resistive Joint Systems
ASTM E 814	Methods for Fire Tests of Through-Penetration Fire Stops
NFPA 101	National Fire Protection Association Life Safety Code
ASTM E 84 (UL 723)	Test Method for Surface Burning Characteristics of Building Materials
ASTM E 119 (UL 263)	Method for Fire Tests of Building Construction and Materials
ULC CAN4-S115M	Standard Method of Fire Tests of Firestop Systems
B.S. 476/ pr EN 1366.3	European/ British Standards
AS 1530.4	Part 4: Fire Resistance Tests of Elements of Building Construction
AS 4072.1	Part 1: Service Penetration and Control Joint

For Questions or Additional Information call Technical Service 1-800-231-3345 • 1-713-263-8001
Fax 1-800-441-0051 • 1-713-263-7577



A CSW Industrials Company

GENERAL CERTIFICATE OF COMPLIANCE

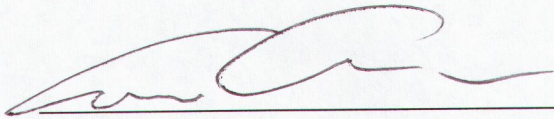
DESCRIPTION: METACAULK® FIRESTOPPING PRODUCTS

METACAULK® MC 150+ FIRESTOP SEALANT
METACAULK® 350i FIRESTOP SEALANT
METACAULK® 835+ SILICONE SEALANT
METACAULK® 950 FIRESTOP SEALANT
METACAULK® 1000 FIRESTOP SEALANT
METACAULK® 1200
METACAULK® BLAZESEAL™
METACAULK® BOX GUARD™
METACAULK® COMPOSITE SHEET
METACAULK® COVER GUARD™
METACAULK® FIRE-RATED MORTAR
METACAULK® FIRESTOP PILLOW
METACAULK® INDUSTRIAL CABLE COATING
METACAULK® INTUMESCENT SLEEVE
METACAULK® JOINT STRIP
METACAULK® PASS-THRU DEVICE
METACAULK® PIPE COLLAR
METACAULK® PUTTY STICK & PUTTY PAD
METACAULK® WRAP STRIP
FLAMESAFE® BAGS
FLAMESAFE® FS 900+ SEALANT
RECTORSEAL® SMOKE AND ACOUSTIC SEALANT
RECTORSEAL® TRACK-SAFE™

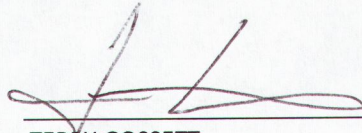
THESE PRODUCTS ARE TESTED ACCORDING TO ONE OR MORE OF THE FOLLOWING STANDARDS:

U.L. 263 - FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS
U.L. 1479 - FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS
U.L. 2079 - TESTS FOR FIRE RESISTANCE OF BUILDING JOINT SYSTEMS
ASTM E-84 (UL 723) - SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS
ASTM E-814 - FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS
ASTM E-2307 - METHOD FOR DETERMINING FIRE RESISTANCE OF PERIMETER FIRE BARRIERS
IEEE 1202 - FLAME-PROPAGATION TESTING OF WIRE & CABLE

ALL PRODUCTS CONTAIN NO ASBESTOS OR PCB'S AND ARE CONSIDERED V.O.C. COMPLIANT.

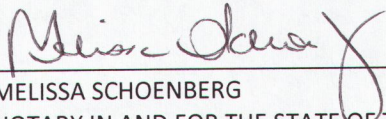


EVA ACKERMAN PH.D
VICE PRESIDENT OF RESEARCH & TECHNOLOGY



TERRY GOSSETT
TECHNICAL SERVICES

SUBSCRIBED AND SWORN TO BEFORE ME THIS 1ST DAY OF OCTOBER 2015.



MELISSA SCHOENBERG
NOTARY IN AND FOR THE STATE OF TEXAS
COUNTY OF HARRIS
MY COMMISSION EXPIRES: OCTOBER 25, 2019





A CSW Industrials Company

December 18, 2017

To whom it may concern:

RectorSeal's Warranty statement for firestop is contingent upon actual storage conditions and proper installation.

If RectorSeal® firestop products are correctly installed in accordance with our stated Manufacturers instructions and according to the UL tested systems, our products comply with UL 1479 "Fire Tests of Through-Penetration Firestops" standard requirements for Environmental Exposure Tests. This test relates to the performance of firestop products as originally installed, and compares to the performance testing after exposure to extreme temperatures and high humidity for an extended period of time.

If properly stored, our products have a minimum shelf life of three years, subject to inspection with the exception of our fire rated mortar and silicone products which have a two year shelf life.

The Rectorseal Corporation, manufacturer of Metacaulk® Fire Stop products, has always been concerned about the long-term performance of our products. We implemented a testing program prior to the UL 1479 requirement for "Fire Tests of Through-Penetration Firestops". We burned materials in our UL sanctioned fire test facility to measure the performance of RectorSeal® products after extended periods of time as in accordance with current standards. Some of the tested materials exceed 15 years in age. Assuming that the substrate area surrounding the actual penetration has not been damaged, we warrant that Metacaulk® products will perform satisfactorily for the sustainable life of the building.

Repectfully,

Terry L. Gossett

Terry L. Gossett
Technical Service



A CSW Industrials Company

March 3, 2016

To Whom It May Concern:

RectorSeal's Warranty Statement for our Smoke and Acoustical sealant is contingent upon actual storage conditions and proper installation.

If properly stored, our RectorSeal® Smoke and Acoustic Sealant has a minimum shelf life of two years, subject to inspection. Assuming that the substrate area surrounding the actual penetration/joint has not been damaged, we warrant that the RectorSeal® Smoke and Acoustic Sealant product, when fully cured will perform satisfactorily for the sustainable life of the building.

If there are any additional questions, do not hesitate to call our office at 800-231-3345.

Respectfully,
RECTORSEAL

Terry Gossett

Terry Gossett
Technical Services



2601 Spenwick Dr
Houston, TX 77055

ph: 713-263-8001
fax: 713-263-7577



USGBC® and related logo is a
trademark owned by the U.S. Green
Building Council and is used by
permission

May 9, 2012

RE: Metacaulk® Firestopping Materials
LEED® Product Information

TO: Whom It May Concern

This letter will detail the contribution of Metacaulk® firestopping materials to the LEED Green Building Rating System in accordance with LEED-NC, CS, CI and School Rating Systems.

MR Credit 2.1: Construction Waste Management, Divert 50% from Disposal

MR Credit 2.2: Construction Waste Management, Divert 75% from Disposal

In areas where facilities exist, the following Metacaulk® materials are recyclable and can contribute to earning Materials and Resources Credit 2.1 or Credit 2.2.

•	Carton	Cardboard	2 lbs / carton
•	10.3 oz caulk tube	HDPE	40 g. / tube
•	20.2 oz foil pack	Mylar	5 g. / pack
•	30 oz caulk tube	HDPE	98 g. / tube
•	quart bottle	HDPE	57 g. / bottle
•	5 gallon pail	HDPE	934 g. / pail
•	Wooden pallet	wood	45 lbs. / pallet

MR Credit 5.1: Regional Materials, 10% Extracted, Processed & Manufactured Regionally

MR Credit 5.2: Regional Materials, 20% Extracted, Processed & Manufactured Regionally

Metacaulk® firestopping materials are manufactured in one location Houston, Texas. If these locations fall within a 500-mile radius of the project site and the location the raw materials used to make the finished product are extracted, recovered or harvested within a 500-mile radius of the project, then these materials or a portion of the materials can contribute to earning Materials and Resources Credit 5.1 and Credit 5.2.

The following are the locations of the Metacaulk® firestopping materials manufacturing plants:

<u>Metacaulk® Product</u>	<u>Location</u>
All Metacaulk® Products	Houston, Texas

Please contact your local Metacaulk® Representative to request a project specific letter pertaining to Credit 5.1 and Credit 5.2. The letter will provide the location where the raw materials are extracted, recovered or harvested in relation to the location of the project.

EQ Credit 4.1: Low Emitting Materials, Adhesives & Sealants

EQ Credit 4.2: Low Emitting Materials, Paints & Coatings

The volatile organic content (VOC) of Metacaulk® firestopping materials is listed below for those products that are lower than the minimum LEED requirements for low-emitting materials. These materials can help contribute to earning Indoor Environmental Quality EQ Credit 4.1 and 4.2.

<u>Metacaulk Product</u>	<u>EQ Credit</u>	<u>VOC Content (g/l)</u>
Metacaulk® 1000	4.1	10
Metacaulk® 950	4.1	10
Metacaulk® 835+	4.1	10
Metacaulk® MC 150+	4.1	10
Metacaulk® 350i	4.1	10
Metacaulk® Putty pads & Sticks	4.1	10
Metacaulk® 1100	4.2	10
Metacaulk® 1200	4.2	10
Metacaulk® Joint Strip	4.1	10
Metacaulk® Wrap Strip	4.1	10
Metacaulk® 1500	4.1	10
Metacaulk® Industrial Cable Coating	4.2	10
Metacaulk® Pipe Collar	4.1	10
Metacaulk® Intumescent Sleeve	4.1	10
Metacaulk® Fire Rated Mortar	4.1	10
Metacaulk® Firestop Pillows	4.1	10
Metacaulk® Cast-In-Place (CID)	4.1	10

Please feel free to contact me with any additional questions or information.

Sincerely,



Terry Gossett
Technical Service



A CSW Industrials Company

SAFETY DATA SHEET

METACaulk® MC 150+

General purpose firestop sealant

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name

Metacaulk® MC 150+

Product Codes

66382, 66383, 66385, 66389, 66648

Chemical Family

Organic/Inorganic

Use

Firestopping sealant

Manufacturer's Name

The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation

January 23, 2015

Date of Preparation

March 21, 2011

HMIS Codes

Health	1
Flammability	0
Reactivity	0
PPI	B

Emergency Telephone No.

Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.

(800)-231-3345 or (713)-263-8001

SECTION 2 – HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Physical Hazards:

None

Health Hazards

Acute Toxicity:

Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
 Acute aquatic toxicity: Not Classified
 Chronic aquatic toxicity: Not Classified
 Bioaccumulation potential: Not Classified
 Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
 None

Precautionary Statements:
 P102 - Keep out of reach of children.
 P264 - Wash hands thoroughly after handling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Labeling Symbols: None

Risk R-Phrases: None

Safety S-Phrases:
 S2: Keep out of the reach of children.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION

Not a respiratory irritant.

EYE CONTACT

Contact may cause eye irritation.

SKIN CONTACT

Contact may cause skin irritation.

INGESTION

Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS

None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

% by WT

CAS No.

INGREDIENT

UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 4 – FIRST AID MEASURES

- | | |
|---------------|--|
| If inhaled: | Not a respiratory irritant. |
| If on skin: | Wash with soap and water. If irritation occurs, seek medical attention. |
| If in eyes: | Immediately flush with large amounts of water. If irritation occurs, seek medical attention. |
| If swallowed: | If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. |

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media

Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

Unusual Fire And Explosion Hazards: Heat may build up and rupture closed containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

SECTION 7 – HANDLING AND STORAGE

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. To prevent freezing and possible rupture of container, do not store below 35°F.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all product precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling point:	212°F (100°C) @ 760mm Hg
Specific gravity (H ₂ O = 1):	1.5
Vapor pressure (mmHg):	17 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	> 1
Appearance/Odor:	Red paste/Mild odor
Solubility in water:	Soluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	< 1% or (< 10 g/L)
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

Hazardous Decomposition Products: CO, CO₂ and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

SECTION 11 – TOXICOLOGY INFORMATION

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Lister carcinogen.

Toxicology Data

Ingredient Name

None

SECTION 12 – ECOLOGICAL INFORMATION

Ecological Data

Ingredient Name:	None
Food Chain Concentration Potential:	N/A
Waterfowl Toxicity:	N/A
BOD:	N/A
Aquatic Toxicity:	N/A

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with federal, state, and local regulation regarding pollution.

SECTION 14 – TRANSPORTATION INFORMATION

DOT:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

SECTION 15 – REGULATORY INFORMATION

Regulatory Data

Ingredient Name:	None
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

SECTION 16 – OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001



A CSW Industrials Company

SAFETY DATA SHEET

METACAULK® 1000

Intumescent, water-based firestop sealant

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name

Metacaulk® 1000 Intumescent Firestop Sealant

Product Codes

66640, 66242, 66302, 66303, 66305, 66307, 66309, 66312

Chemical Family

Organic/Inorganic

Use

Firestopping sealant

Manufacturer's Name

RectorSeal LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation

July 11, 2017

Date of Preparation

May 22, 2012

HMIS Codes

Health	1
Flammability	0
Reactivity	0
PPI	B

Emergency Telephone No.

Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.

(800)-231-3345 or (713)-263-8001

SECTION 2 – HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Physical Hazards:

None

Health Hazards

Acute Toxicity:

Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

LABELING SYMBOLS: None

RISK R-PHRASES: None

SAFETY S-PHRASES:
S2: Keep out of the reach of children.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION

Not a respiratory irritant.

EYE CONTACT

Contact may cause eye irritation.

SKIN CONTACT

Contact may cause skin irritation.

INGESTION

Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS

None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS
None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.			

SECTION 4 – FIRST AID MEASURES

If inhaled:	Not a respiratory irritant.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention.
If in eyes:	Immediately flush with large amounts of water. If irritation occurs, seek medical attention.
If swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media

Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

Unusual Fire And Explosion Hazards: Heat may build up and rupture closed containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

SECTION 7 – HANDLING AND STORAGE

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. To prevent freezing and possible rupture of container, do not store below 35°F.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all product precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling point:	212°F (100°C) @ 760mm Hg
Specific gravity (H ₂ O = 1):	1.25
Vapor pressure (mmHg):	17 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	> 1
Appearance/Odor:	Red paste/Mild odor
Solubility in water:	Soluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	< 1% or (< 10 g/L)
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

Hazardous Decomposition Products: CO, CO₂ and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

SECTION 11 – TOXICOLOGY INFORMATION

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Listed carcinogen.

Toxicology Data

Ingredient Name

None

SECTION 12 – ECOLOGICAL INFORMATION

Ecological Data

Ingredient Name: **None**

Food Chain Concentration Potential: N/A

Waterfowl Toxicity: N/A

BOD: N/A

Aquatic Toxicity: N/A

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with federal, state, and local regulation regarding pollution.

SECTION 14 – TRANSPORTATION INFORMATION

DOT: Non-regulated

Ocean (IMDG): Non-regulated

Air (IATA): Non-regulated

WHMIS (Canada): Non-regulated

SECTION 15 – REGULATORY INFORMATION

Regulatory Data

Ingredient Name:	None
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

SECTION 16 – OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
The information herein is given in good faith, but no warranty, expressed or implied is made.
Consult RectorSeal for further information: (713) 263-8001

The logo for RectorSeal, featuring the word "RECTORSEAL" in a bold, sans-serif font. The letters "RECTOR" are in black and "SEAL" is in white, both contained within a red-bordered hexagonal shape. The entire logo is set against a solid red rectangular background.

SAFETY DATA SHEET

METACAULK® JOINT STRIP

Flexible material for up to 2" wide joints

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name

Metacaulk® Joint Strip

Product Codes

66700, 66701, 66702, 66703, 66704

Chemical Family

Organic/Inorganic

Use

Firestopping material

Manufacturer's Name

The RectorSeal Corporation

2601 Spenwick Drive

Houston, Texas 77055 USA

Date of Validation

January 23, 2015

Date of Preparation

March 20, 2012

HMIS Codes

Health 1

Flammability 0

Reactivity 0

PPI B

Emergency Telephone No.

Chemtrec 24 Hours

(800)-424-9300 USA

(703)-527-3887 International

Technical Service Telephone No.

(800)-231-3345 or (713)-263-8001

SECTION 2 – HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Physical Hazards:

None

Health Hazards

Acute Toxicity:

Oral: Not Classified

Dermal: Not Classified

Inhalation: Not Classified

Skin Corrosion/Irritation: Not Classified

Serious Eye Damage/Eye Irritation: Not Classified

Respiratory or Skin Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: Not Classified

Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION

Not a respiratory irritant.

EYE CONTACT

Contact may cause eye irritation.

SKIN CONTACT

Contact may cause skin irritation.

INGESTION

Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS

None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

% by WT

CAS No.

INGREDIENT

UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 4 – FIRST AID MEASURES

If inhaled:	Not a respiratory irritant.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention.
If in eyes:	Immediately flush with large amounts of water. If irritation occurs, seek medical attention.
If swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media

Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing.

Unusual Fire And Explosion Hazards: Fire conditions will activate product causing intumescence to occur.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Pick up debris to prevent footing hazard.

SECTION 7 – HANDLING AND STORAGE

Precautions To Be Taken In Handling And Storing: Do not store near heat, sparks, or open flames.

Other Precautions: KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection:None required.

Other Protective Clothing Or Equipment: None required.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling point:	N/A
Specific gravity (H ₂ O = 1):	N/A
Vapor pressure (mmHg):	N/A
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	N/A
Appearance/Odor:	Black/Mild odor
Solubility in water:	Insoluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	< 1% or < 10 g/L
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

Hazardous Decomposition Products: CO, CO₂ and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

SECTION 11 – TOXICOLOGY INFORMATION

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Toxicology Data

Ingredient Name

None

SECTION 12 – ECOLOGICAL INFORMATION

Ecological Data

Ingredient Name:	None
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	N/A
BOD	N/A
Aquatic Toxicity	N/A

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

SECTION 14 – TRANSPORTATION INFORMATION

DOT:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

SECTION 15 – REGULATORY INFORMATION

Regulatory Data

Ingredient Name:	None
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

SECTION 16 – OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001

RECTORSEAL

A CSW Industrials Company

PRODUCT DATA SHEET

METACaulk® 150+
General Purpose Firestop Sealant**Description**

Metacaulk 150+ is a one component, general purpose fire rated sealant, acoustic sealant and smoke seal for construction joints and through-penetrations. Metacaulk 150+ is a water based, non-sag caulking grade sealant that is easy to apply as well as retrofit. It cures to an elastomeric seal that is suitable where dynamic movement is expected. In the event of a fire, Metacaulk 150+ will prevent the spread of flames, smoke, hot gases and water through joint openings and through-penetrations. No dilution or mixing is required for use. No special skills are necessary for installation. Metacaulk 150+ is applied with a conventional caulking gun, bulk loading gun or can be troweled from the pail. For large applications, it can be pumped directly from the pail. Metacaulk 150+ systems are rated for up to 4 hours in accordance with ASTM E814 (UL 1479) and ASTM E1966 (UL 2079) test standards. Metacaulk 150+ is protected in a wet stage as well as in a dry stage against mold growth with a combination of biocides.

**Applications**

Metacaulk 150+ can be used in interior applications as a general purpose fire rated sealant, acoustic sealant and smoke seal for construction joints on both vertical and horizontal surfaces. Metacaulk 150+ is also an excellent fire rated acoustical sealant and can be used in areas under constant vibration or movement. Metacaulk 150+ can also be used on various penetrations such as EMT, telephone & power cables in concrete floors and walls, gypsum walls as well as wood floors. Use Metacaulk 150+ to prevent the spread of fire and smoke through joints in fire rated gypsum wallboard partitions, concrete block or concrete walls and/or concrete or corrugated steel deck floor/ceiling assemblies.

Characteristics | Features

- Water based
- Excellent freeze-thaw
- Flexible set
- Paintable
- VOC compliant
- Safe and easy to use
- 3 Year shelf life
- STC rating 65

Packaging

Code	Size	Qty. per Case	Dimensions (in)	Cubic Feet
66648	10.3 oz cartridge	12	8x6x12	.34
66385	20.2 oz foil pack	12	9x14x7	.51
66383	30 oz. cartridge	12	11x9x17	.97
66389	5 Gallon	1	13 dia x14	1.08

Installation Data

Install Metacaulk 150+ using standard caulking techniques or trowel from pails. Metacaulk MC 150+ may also be pumped from the pails. When damming materials are needed, use only materials approved for the specific application.

TYPICAL GYPSUM WALLBOARD INSTALLATION

- Step 1 Cut opening in wall.
 - Step 2 Clean penetration opening and surfaces from loose debris, dirt, oil and wax.
 - Step 3 If required, install sleeve or wire mesh and backing material.
 - Step 4 Gun the sealant as required to the specified depth. Trowel surface flush with wall.
- Consult UL Product iQ for complete instructions and system listings.

Testing Data

For specific test criteria, refer to UL's Fire Resistance Directory or call RectorSeal.

Metacaulk 150+ was tested at positive pressure with a minimum 0.01 inches of water (2.5 Pa) and in accordance with ASTM E814 (UL 1479), ASTM E1966 (UL 2079).

Sound Transmission Class (STC) 65 - The test was performed in accordance with ASTM E90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

Tested by a third party independent laboratory to the ASTM G21 standard with Fungal Growth Rating results of zero.



FBC™ System Compatible indicates that this product has been tested, and is monitored on an on-going basis, to assure its chemical compatibility with FlowGuard Gold®, BlazeMaster® and Corzan® pipe and fittings.

FBC, FlowGuard Gold®, BlazeMaster® and Corzan® are licensed trademarks of The Lubrizol Corporation.

Inspection & Repair

RectorSeal recommends that a firestop system inspection be conducted during installation of the material in accordance with ASTM E2174 and ASTM E2393. In the event post-installation inspection and destructive sampling is necessary, RectorSeal advises repairing the damaged firestop system by replacing any material that was removed or damaged with the same product originally installed, and ensuring the assembly matches the original firestop listing. RectorSeal advises, that due to the chemical nature of firestop products and sealants, material depth should be determined by measuring the points of adhesion at the substrate bond area as sealants may decrease in size during the curing process.

Storage & Handling

Metacaulk 150+ should be stored between 35°F (2°C) and 120°F (49° C) to obtain a 3 year shelf life.

NOTE: Do not dilute, no mixing is required. Best if protected from freezing. If freezing occurs, thaw completely before using. Keep products stored under protective cover in original containers.

Limitations

Metacaulk 150+ is not designed to be used in areas under continuous immersion or in areas which would be continuously wet. Metacaulk 150+ should not be used against hot uninsulated surfaces above 300°F (149°C).

Material Properties

Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None
Application	Caulking Gun or Trowel
Application Temperature between	40°F - 120°F 4°C - 49°C
Color	Red
Cure Time	3 to 4 weeks (at 77°F/25°C)
Density	12.5 lbs/gal
Elastomeric	Yes
Freeze/Thaw	Excellent
Skin Over Time	30 min. (at 77°F/25°C)
pH Value	7 to 8

Volume Coverage:	
for 10.3 oz. tube	(304 ml) 18 cu. in.
for 20.2 oz. foil packs	(597 ml) 36 cu. in (
for 30 oz. tube	(887 ml) 54 cu. in.
for 5 gallon	(18.9 liter) 1155 cu. in..

VOC	Negligible
-----	------------

ASTM E84, UL 723 Tunnel Test	
Flame Spread	10
Smoke Index	0

Cautions

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC-DAY OR NIGHT 1-800-424-9300.

PRECAUTIONS: Do not take internally. May be harmful if swallowed. May cause eye and skin irritation if prolonged or repeated contact occurs. Wash after handling. **FIRST AID:** For any overexposure, get immediate medical attention after first aid is given. **EYES**-Flush 15 minutes with clean water. **SKIN**-Wash with soap and water. **INHALATION**-Remove to fresh air. **INGESTION**-Only if conscious, give large amounts of water and INDUCE VOMITING. **FIRE AND SPILLS:** Use water fog, CO₂, foam, or dry chemicals. Wipe up spills to prevent footing hazard. Clean up with scrapers and water. **STORAGE AND HANDLING:** Store away from heat sources. Keep container closed. Do not reuse empty container. **KEEP OUT OF REACH OF CHILDREN.**

For additional information, refer to Safety Data Sheet.

Limited Warranty

RectorSeal, LLC makes the Limited Express Warranty that when the instructions for storage and handling of our products are followed we warrant our products to be free from defects. THIS LIMITED EXPRESS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF RectorSeal, LLC. The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and RectorSeal, LLC shall not be liable for incidental or consequential damages.



Manufactured by **RectorSeal, LLC • 2601 Spenwick Drive, Houston, TX 77055, USA • 800-231-3345 • Fax 800-441-0051 • RectorSeal.com**

A CSW Industrials Company. RectorSeal, the logos and other trademarks are property of RectorSeal, LLC, its affiliates or its licensor's and are protected by copyright, trademark and other intellectual property laws, and may not be used without permission. RectorSeal reserves the right to change specifications without prior notice. ©2018 RectorSeal. All rights reserved. R50101-0319

METACaulk® 1000

Highly Intumescent Firestop Sealant

Description

Metacaulk 1000 is a single component, general purpose fire rated sealant and smoke seal for construction joints and through-penetrations. Metacaulk 1000 is a water based, extremely intumescent, non-sag caulking grade sealant that is easy to apply. It cures to an elastomeric seal that is suitable where dynamic movement is expected.

In the event of a fire, Metacaulk 1000 will prevent the spread of flames, smoke, hot gases and water through joint openings and through-penetrations. Metacaulk 1000 systems are rated for 1, 2, 3 and 4 hours in accordance with the ASTM E814 (UL1479), ASTM E1966 (UL 2079) and CAN/ULC-S115 test standards. Metacaulk 1000 is protected in a wet stage as well as in a dry stage against mold growth with a combination of biocides Tested to ASTM G21 standard testing for mold and mildew growth resistance.



Applications

Metacaulk 1000 can be used in interior applications as a general purpose fire rated sealant and smoke seal for construction joints, through penetrations and blank openings on both vertical and horizontal surfaces. Use Metacaulk 1000 to prevent the spread of fire and smoke through joints in fire rated gypsum wallboard partitions, concrete block or concrete walls and/or concrete or corrugated steel deck floor/ceiling assemblies. Metacaulk 1000 is also an excellent fire rated acoustical sealant and can be used in areas under constant vibration or movement to reduce the transfer of noise through assemblies. Metacaulk 1000 can also be used on various penetrations such as EMT, telephone & power cables, insulated pipes, etc. in concrete floors and walls, gypsum walls as well as wood floors.

Characteristics | Features

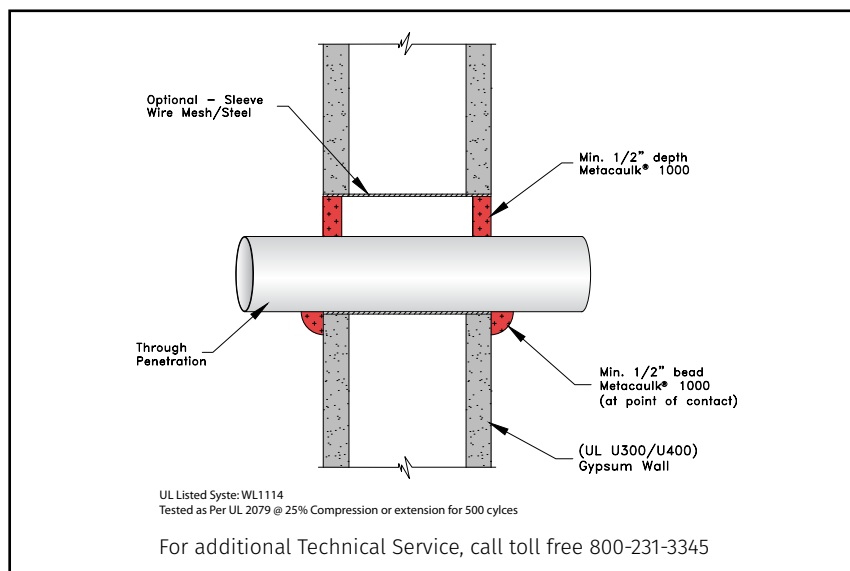
- Water based
- Excellent freeze-thaw
- Flexible set
- Highly intumescent
- Paintable
- VOC compliant
- Safe and easy to use
- 3 Year shelf life

Packaging

Code	Size	Qty. per Case	Dimensions (in)	Cubic Feet
66640	10.3 oz cartridge	12	8x6x12	.34
66312	20.2 oz foil pack	12	9x14x7	.51
66303	30 oz. cartridge	12	11x9x17	.97
66305	1 Gallon	4	17x17x9	1.51
66307	2 Gallon	1	14x13x10	1.05
66309	5 Gallon	1	13 dia x14	1.08

Installation Data

Install Metacaulk 1000 using standard caulking techniques or trowel from pails. Metacaulk 1000 may also be pumped from the pails. When damming materials are needed, use only materials approved for the specific application.



TYPICAL TOP OF WALL INSTALLATION

Step 1 Gun, trowel or pump the sealant as required to the specified depth. Properly tool sealant surface flush with the wall.

Consult UL Directory for complete instructions and system listings.

Testing Data

For specific test criteria, refer to the UL Product iQ and Intereq Directory of Building Products or call RectorSeal

Metacaulk 1000 was tested at positive pressure with a minimum 0.01 (2.5 Pa) inches water and in accordance with ASTM E814 (UL 1479), ASTM E1966 (UL 2079) and tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side in accordance with CAN/ULC S115 testing standards. Tested by a third party independent laboratory to the ASTM G213 standard with Fungal Growth Rating results of zero.

Sound Transmission Class (STC) 62 - The test was performed in accordance with ASTM 90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

Complies to Required Environmental Exposure Testing of Accelerated Aging and High Humidity as per UL 1479 Fire Test of Through-Penetration Firestops.



FBC System Compatible indicates that this product has been tested, and is monitored on an ongoing basis, to assure its chemical compatibility with FlowGuard Gold®, BlazeMaster® and Corzan® pipe and fittings.

FBC, FlowGuard Gold®, BlazeMaster® and Corzan® are licensed trademarks of the Lubrizol Corporation.

Suggestions and recommendations covering the use of our products are based on our past experience and laboratory findings. However, as we have no control as to the methods and conditions of application, we only assume responsibility for the uniformity of our products within manufacturing tolerances.

Material Properties

Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None
Application	Caulking Gun or Trowel
Application Temperature between	40°F - 120°F 4°C - 49°C

Activation of Intumescence:

Expansion Begins	375°F (190°C)
Expansion Greatest	575°F - 1100°F 302°C - 593°C

Color	Red
Cure Time	3 to 4 weeks (at 77°F/25°C)
Density	~11 lbs/gal ~1.32 kg/L
Elastomeric	Yes
Freeze/Thaw	Excellent
Skin Over Time	30 min. (at 77°F/25°C)
pH Value	6.5 to 7

Volume Coverage:

for 10.3 oz. tube	18 cu. in. (304 ml)
for 20.2 oz. foil packs	36 cu. in. (597 ml)
for 30 oz. tube	54 cu. in. (887 ml)
for 5 gallon	1155 cu. in. (18.9 liter)

VOC	< 10 g/L
-----	----------

ASTM E 84, UL 723 Tunnel Test

Flame Spread	0
Smoke Index	0

Inspection & Repair

RectorSeal recommends firestop system inspection is conducted during installation of the material in accordance with ASTM E2174 and ASTM E2393. In the event post-installation inspection and destructive sampling is necessary, RectorSeal advises repairing the damaged firestop system by replacing any material that was removed or damaged with the same product originally installed, and ensuring the assembly matches the original firestop listing. RectorSeal advises, that due to the chemical nature of firestop products and sealants, material depth should be determined by measuring the points of adhesion at the substrate bond area as sealants may decrease in size during the curing process.

Storage & Handling

Metacaulk 1000 should be stored between 35°F (2°C) and 120° F (49° C) to obtain a 3 year shelf life.

NOTE: Do not dilute, no mixing is required. Best if protected from freezing. If freezing occurs, thaw completely before using. Keep products stored under protective cover in original containers.

Limitations

Metacaulk 1000 is not designed to be used in areas under continuous immersion or in areas which would be continuously wet. Metacaulk 1000 should not be used against hot uninsulated surfaces above 300° F (149° C).

Cautions

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC-DAY OR NIGHT 1-800-424-9300.

PRECAUTIONS: Do not take internally. May be harmful if swallowed. May cause eye and skin irritation if prolonged or repeated contact occurs. Wash after handling. **FIRST AID:** For any overexposure, get immediate medical attention after first aid is given. **EYES**-Flush 15 minutes with clean water. **SKIN**-Wash with soap and water. **INHALATION**-Remove to fresh air. **INGESTION**-Only if conscious, give large amounts of water and INDUCE VOMITING. **FIRE AND SPILLS:** Use water fog, CO₂, foam, or dry chemicals. Wipe up spills to prevent footing hazard. Clean up with scrapers and water. **STORAGE AND HANDLING:** Store away from heat sources. Keep container closed. Do not reuse empty container. **KEEP OUT OF REACH OF CHILDREN.**

For additional information, refer to Safety Data Sheet.

Limited Warranty

RectorSeal, LLC makes the Limited Express Warranty that when the instructions for storage and handling of our products are followed we warrant our products to be free from defects. THIS LIMITED EXPRESS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF RectorSeal, LLC. The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and RectorSeal, LLC shall not be liable for incidental or consequential damages.



Manufactured by **RectorSeal® LLC • 2601 Spenwick Drive, Houston, TX 77055, USA • 800-231-3345 • Fax 800-441-0051 • RectorSeal.com**

A CSW Industrials Company. RectorSeal, the logos and other trademarks are property of RectorSeal, LLC, its affiliates or its licensor's and are protected by copyright, trademark and other intellectual property laws, and may not be used without permission. RectorSeal reserves the right to change specifications without prior notice. ©2018 RectorSeal. All rights reserved. R50101-0319

METACALK® JOINT STRIP

Flexible Material for up to 2" Wide Joints

Description

A flexible, highly intumescent firestop material used in concrete and masonry control floor and wall joints up to 2" (51 mm) wide. It forms a strong char that prevents the passage of flame, smoke, and hot gases between control joints. Can be used with plastic pipe penetrations. Metacalk Joint Strips are ideal for stadium construction, tilt up panels, curtain wall panels and all concrete and masonry construction joint applications where a fire rated control joint is required. Can be used with any UL listed sealant.



Applications

Install Metacalk Joint Strip along with any normal backer rod, cover it with approved architectural caulk or sealant, and you have a fire rated control joint. No longer do you need to use firestop caulks that are difficult to install and impossible to paint over. No need for mineral wool or expensive, difficult to install backing materials. Metacalk Joint Strip has the capability for 1, 2, 3 and 4 hour assembly ratings, refer to the UL systems for specific installation instructions.

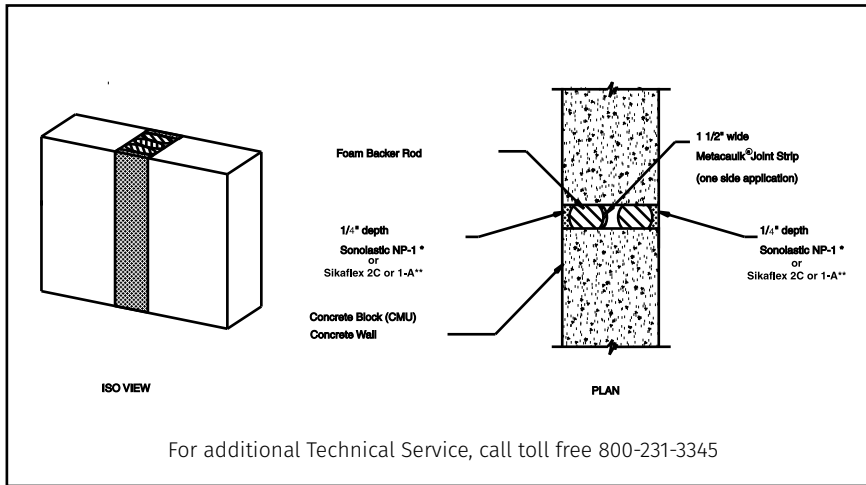
Characteristics | Features

- Easy to install
- Versatile, flexible
- Highly intumescent (multiple staged)
- Forms a strong char to prevent passage of flame, smoke and hot gases

Packaging

Code	Size	Qty. per Case	Dimensions (in)	Cubic Feet
66700	1"x82'	6	10x10x10	.58
66701	1.5"x82'	4	10x10x10	.58
66702	2.5"x82'	4	10x10x10	.58
66703	3"x82'	2	10x10x10	.58
66704	2"x82'	3	10x10x10	.58
66705	4"x82' w/ adhesive backing	2	10x10x10	.58

Installation Data



Step 1 Clean all surfaces in joint area to remove loose debris, dirt, oil, wax, grease, old caulking, etc.

Step 2 For floor applications, install a separate base section of backer rod recessed approximately 2" down from the top of the floor. Bend and friction fit Metacaulk® Joint Strip longitudinally into joint using the backer rod as the transport mechanism. Push into joint far enough to accommodate the required depth of caulk.

Step 3 Gun, trowel, or pump approved sealants to minimum 1/4" depth on both sides of wall or top of floor over the backer rod.

Step 4 Trowel sealant to the desired finish. See tested UL systems for complete installation instructions.

No longer do you need to use firestop caulks that are difficult to install and impossible to paint over. No need for mineral wool or expensive, difficult to install backing materials. Metacaulk® Joint Strip has the capability for 1, 2, 3 and 4 hour assembly ratings, refer to the UL systems for systems for specific installation instructions.

Testing Data

Metacaulk® Joint Strip is UL Classified and tested to UL 2079.

Degree of intumescence per DIN standard
≥18x with weight imposed
≥ 37x free intumescenting



Tested to CAN/ULC-S115 (Fire Tests of Firestop Systems) test standards. Complies to Required Environmental Exposure Testing of Accelerated Aging and High Humidity as per UL 1479 Fire Test of Through-Penetration Firestops.

Class II and III Movement 25% compression & extension

Inspection & Repair

RectorSeal recommends that a firestop system inspection be conducted during installation of the material in accordance with ASTM E2174 and ASTM E2393. In the event post-installation inspection and destructive sampling is necessary, RectorSeal advises repairing the damaged firestop system by replacing any material that was removed or damaged with the same product originally installed, and ensuring the assembly matches the original firestop listing. RectorSeal advises, that due to the chemical nature of firestop products and sealants, material depth should be determined by measuring the points of adhesion at the substrate bond area as sealants may decrease in size during the curing process.

Material Properties

Carcinogenic Fillers	None
Solvents	None
Color	Dark Gray
ASTM E 84, UL 723 Tunnel Test ASTM E 1966, UL 2076	
Flame Spread	5
Smoke Index	5

Storage & Handling

Metacaulk Joint Strip should be stored between 35°F (2°C) and 120°F (49°C). Keep products stored under protective cover, in their original containers. A stock rotation program is recommended. Shelf life of the product is indefinite.

Limitations

To be used only in the tested configurations or as recommended by RectorSeal.

Cautions

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC-DAY OR NIGHT 1-800-424-9300

PRECAUTIONS: Do not take internally. May be harmful if swallowed. May cause eye and skin irritation if prolonged or repeated contact occurs. Wash after handling. **FIRST AID:** For any overexposure, get immediate medical attention after first aid is given. **EYES**-Flush 15 minutes with clean water. **SKIN**-Wash with soap and water. **INHALATION**-Remove to fresh air. **INGESTION**-Only if conscious, give large amounts of water and INDUCE VOMITING. **FIRE AND SPILLS:** Use water fog, CO₂, foam, or dry chemicals. Wipe up spills to prevent footing hazard. Clean up with scrapers and water. **STORAGE AND HANDLING:** Store away from heat sources. Keep container closed. Do not reuse empty container. **KEEP OUT OF REACH OF CHILDREN.**

For additional information, refer to Safety Data Sheet.

Limited Warranty

RectorSeal, LLC makes the Limited Express Warranty that when the instructions for storage and handling of our products are followed we warrant our products to be free from defects. THIS LIMITED EXPRESS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF RectorSeal, LLC. The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and RectorSeal, LLC shall not be liable for incidental or consequential damages.



Manufactured by **RectorSeal® LLC • 2601 Spenwick Drive, Houston, TX 77055, USA • 800-231-3345 • Fax 800-441-0051 • RectorSeal.com**

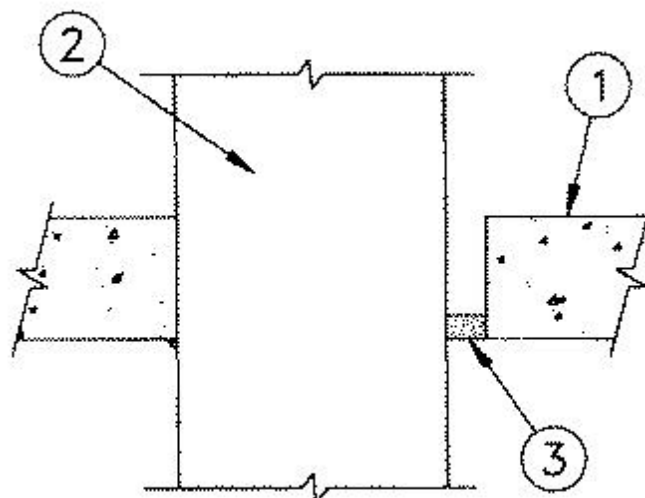
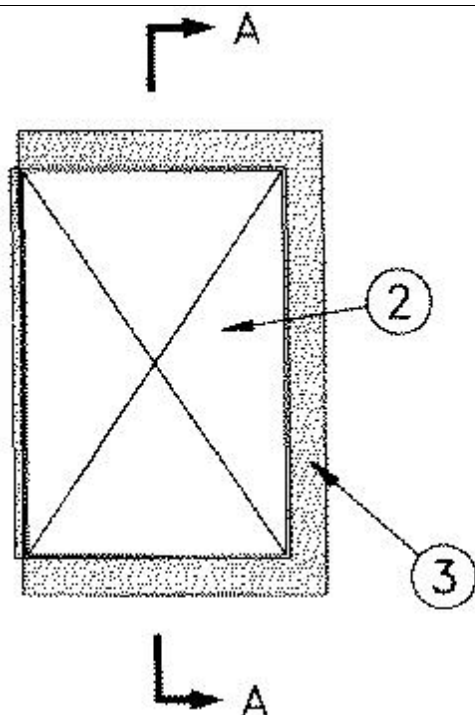
A CSW Industrials Company. RectorSeal, the logos and other trademarks are property of RectorSeal, LLC, its affiliates or its licensor's and are protected by copyright, trademark and other intellectual property laws, and may not be used without permission. RectorSeal reserves the right to change specifications without prior notice. ©2018 RectorSeal. All rights reserved. R50101-0319



System No. C-AJ-7067

July 16, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 2 Hr	F Ratings - 2 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings - 2 Hr
	FTH Ratings - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft	L Rating At 400 F - Less Than 1 CFM/sq ft



SECTION 'A-A'

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced light weight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 364 sq. in. (2348 cm²) with max dimension of 26 in. When precast concrete units are used the max area of opening is 49 sq. in. (316 cm²) with max dimension of 7 in. (178 mm).

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

2. Steel Duct — Nom 24 by 12 in. (610 by 305 mm) (or smaller) by No. 24 gauge (or heavier) galv steel duct. One steel duct to be positioned within the firestop system. The annular space shall be min 0 in. (point contact) to max 2 in. (51 mm). Duct to be rigidly supported on both sides of floor or wall assembly.

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

A. Packing Material — (not shown). Min 1 in. (25 mm) thick polystyrene board, firmly packed into opening as a permanent form. Packing material to be recessed from bottom or top surface of floor or from one surface of wall to accommodate the required thickness of fill material.

B. Fill, Void, or Cavity Materials* - Sealant — Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with either the top or bottom surface of floor or one surface of

wall. When wall is constructed of concrete blocks, fill material shall be installed within the annular space on both sides of the wall. When the floor is constructed of hollow-core precast concrete units, fill material shall be installed on the bottom side of the floor. At the point contact location between duct and concrete a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the concrete/duct interface on the same side of floor or wall as the sealant in the annular space bottom or top surface of floor or one surface of wall.

RECTORSEAL — FlameSafe® FS900+, Metacaulk MC 150+, Biostop BF 150+

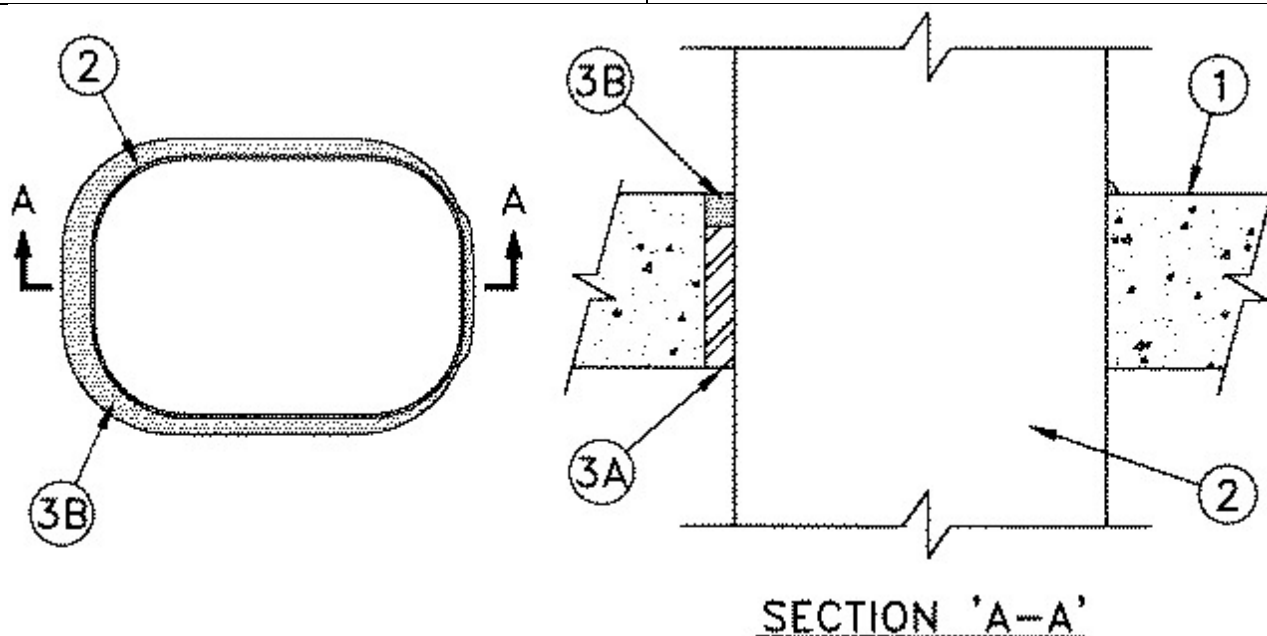
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



System No. C-AJ-7074

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 2 Hr	F Ratings - 2 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings - 2 Hr
	FTH Ratings - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft	L Rating At 400 F - Less Than 1 CFM/sq ft



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced light weight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete floor or min 5 in. (127 mm) thick light weight or normal weight concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 715 sq in. (4613 cm²) with max dimension of 37-1/4 in. (946 mm).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Steel Duct — Nom 36 by 20 in. (915 by 508 mm) (or smaller) by No. 24 gauge (or heavier) galv steel, oval HVAC duct. One steel duct to be positioned within the firestop system. The annular space shall be min 0 in. (point of contact) to max 2 in. (51 mm). Duct to be rigidly supported along its entire perimeter 8 in. (203 mm) from both surfaces of floor or wall assembly.

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

A. Packing Material — Min 4 in. thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form between the bare steel duct and the periphery of the opening. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. Fill, Void, or Cavity Materials* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus over the mineral wool insulation, flush with top surface of floor or both surfaces of wall. A 3/8 in. (10 mm) diam bead of the sealant shall be applied along the point of contact of the duct and periphery of the opening at top surface of floor or both surfaces

of wall.

RECTORSEAL — FlameSafe® FS900+, Metacaulk MC 150+, Biostop BF 150+

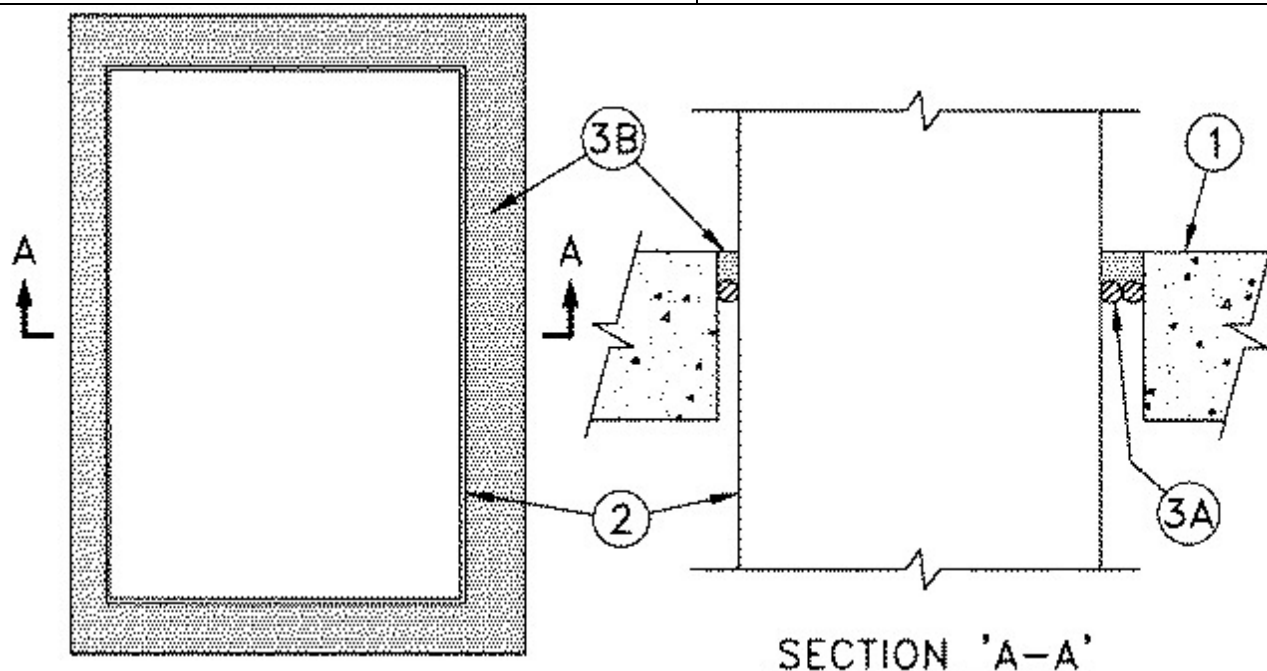
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



System No. C-AJ-7075

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 3 Hr	F Ratings - 3 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings - 3 Hr
	FTH Ratings - 0 Hr



1. **Floor or Wall Assembly** — Min 4-1/2 in. thick reinforced light weight or normal weight (100-150 pcf) concrete. Floor may also be constructed of any min 8 in. thick UL Classified hollow core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 384 sq. in. with max dimension of 32 in. When precast concrete units are used the max area of opening is 49 sq. in. with max dimension of 7 in.

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

2. **Steel Duct** — Nom 30 by 10 in. (or smaller) by No. 24 gauge (or heavier) galv steel duct. One steel duct to be positioned within the firestop system. The annular space shall be min 1/2 in. to max 1-1/2 in. Duct to be rigidly supported along its entire perimeter 4 in. from both floor or wall surfaces.

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

A. **Packing Material** — Nom 1 in. diam foam backer rod or min 4 pcf mineral wool insulation, firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void, or Cavity Materials* - Sealant** — Min 1 in. thickness of fill material applied within the annulus, flush with the top surface of floor or both surfaces of wall. When the floor is constructed of hollow-core precast concrete units, fill material shall be installed on both sides of the floor.

RECTORSEAL — FlameSafe® FS900+, Metacaulk MC 150+, Biostop BF 150+

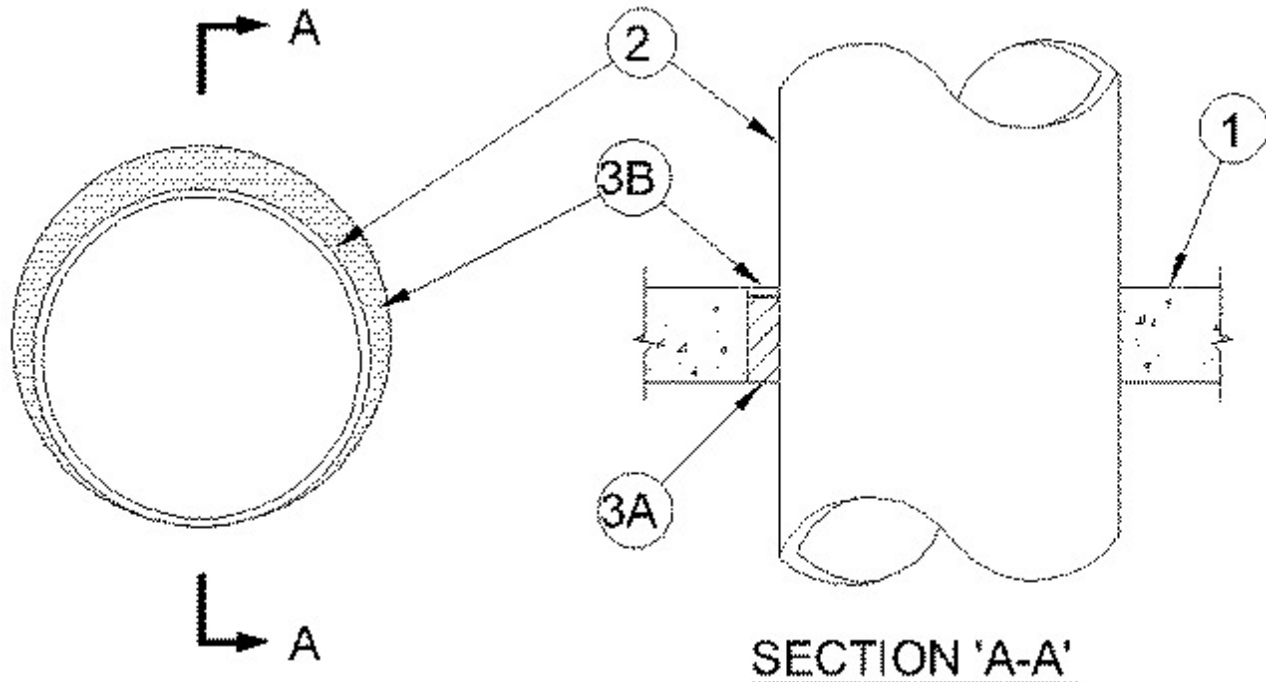
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



System No. C-AJ-7082

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 3 Hr	F Ratings - 3 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings - 3 Hr
	FTH Ratings - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft	L Rating At 400 F - Less Than 1 CFM/sq ft



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick floor or 5 in. (127 mm) thick wall of reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 28 in. (711 mm).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Steel Duct — Nom 24 in. (610 mm) diam (or smaller) No. 22 gauge (or heavier) steel HVAC duct to be installed either concentrically or eccentrically within the firestop system. The annular space between duct and periphery of opening shall be min 0 in (point contact) to max 4 in. (102 mm). Duct to be rigidly supported on both sides of floor or wall assembly.

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

A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. Additional fill material installed to form a min 1/4 in. (6 mm) bead at the point of contact of the duct and periphery of the opening on the top floor surface or both wall surfaces.

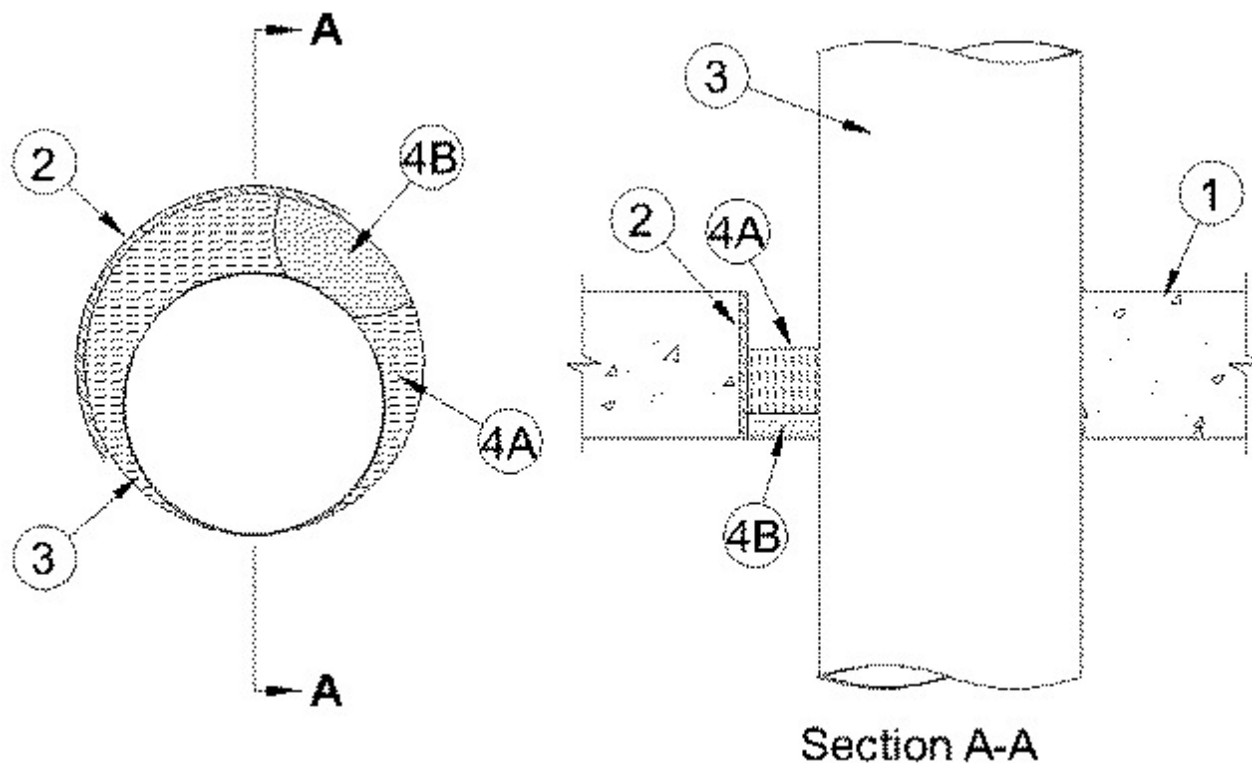
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



System No. C-AJ-7087

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 2 Hr	F Ratings - 2 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings - 2 Hr
	FTH Ratings - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	L Rating At Ambient - Less Than 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft	L Rating At 400 F - Less Than 1 CFM/sq ft



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow core **Precast Concrete Units***. When precast concrete units are used, the max diam of opening is 7 in. (178 mm). Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 8-1/2 in. (216 mm).

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

2. Metallic Sleeve — (Optional) - Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

3. Steel Duct — Nom 6 in. (152 mm) diam (or smaller) No. 28 gauge (or heavier) steel HVAC duct to be installed either concentrically or eccentrically within the firestop system. The annular space between duct and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1-7/8 in. (48 mm). Duct to be rigidly supported on both sides of floor or wall assembly.

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

A. Packing Material — Min 2 in. (51 mm) thickness of mineral wool batt insulation firmly

packed into opening as a permanent form. When min annular space between duct and edge of opening is 5/8 in. (16 mm), polyethylene backer rod may be used. Packing material to be recessed from bottom or top of floor or from one surface of solid concrete wall as required to accommodate the required thickness of fill material. In floors constructed of hollow core precast concrete units, packing material recessed from bottom of floor or from both sides of floor. In walls constructed of concrete blocks, packing material recessed from both sides of wall as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* - Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with bottom or top surface of floor or with one surface of solid concrete wall. In floors constructed of hollow core precast concrete units, fill material installed flush with bottom surface of floor or with both surfaces of floor. In walls constructed of concrete blocks, fill material installed symmetrically on both sides of wall.

RECTORSEAL — FlameSafe® FS900+ Sealant, Metacaulk MC 150+ and Biostop BF 150+

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

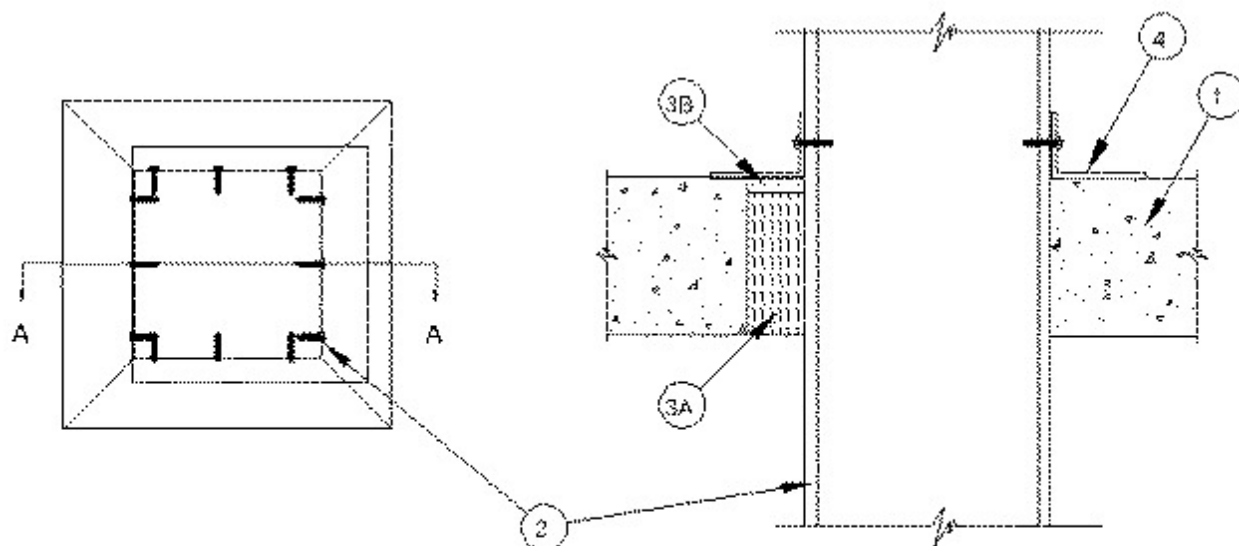


System No. C-AJ-7088

April 05, 2006

F Rating — 3 Hr

T Rating — 0 Hr



Section A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 7.1 sq ft (0.66 m²) with max dimension of 32 in. (813 mm).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Steel Duct — Max 30 by 30 in. (762 by 762 mm) by No. 24 gauge (or heavier) galv steel duct. One steel duct to be positioned within the firestop system. The annular space shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Duct to be rigidly supported on both sides of floor or wall assembly.

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

A. Packing Material — Min 4 in. (102 mm) thickness of min pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Spray — Min 1/8 in. (3 mm) wet thickness (min 1/16 in. or 1.6 mm dry thickness) of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

RECTORSEAL — Metacaulk 1200 Spray, Metacaulk 1200 Caulk Grade, Metacaulk 1200 SL (floors only) or MC 150+

4. Steel Retaining Angle — Nom 2 by 4 in. (51 by 102 mm) by No. 22 gauge (or heavier) steel angles attached to steel duct on all four sides on the top surface of floor or both surfaces of wall. The angles shall be attached to the duct with No. 8 (or larger) steel sheet metal screws spaced max of 2 in. (51 mm) OC along any edge having an annular space of 0 in. (0 mm, point contact), and 4-1/2 in. (114 mm) OC elsewhere.

*Bearing the UL Classification Mark

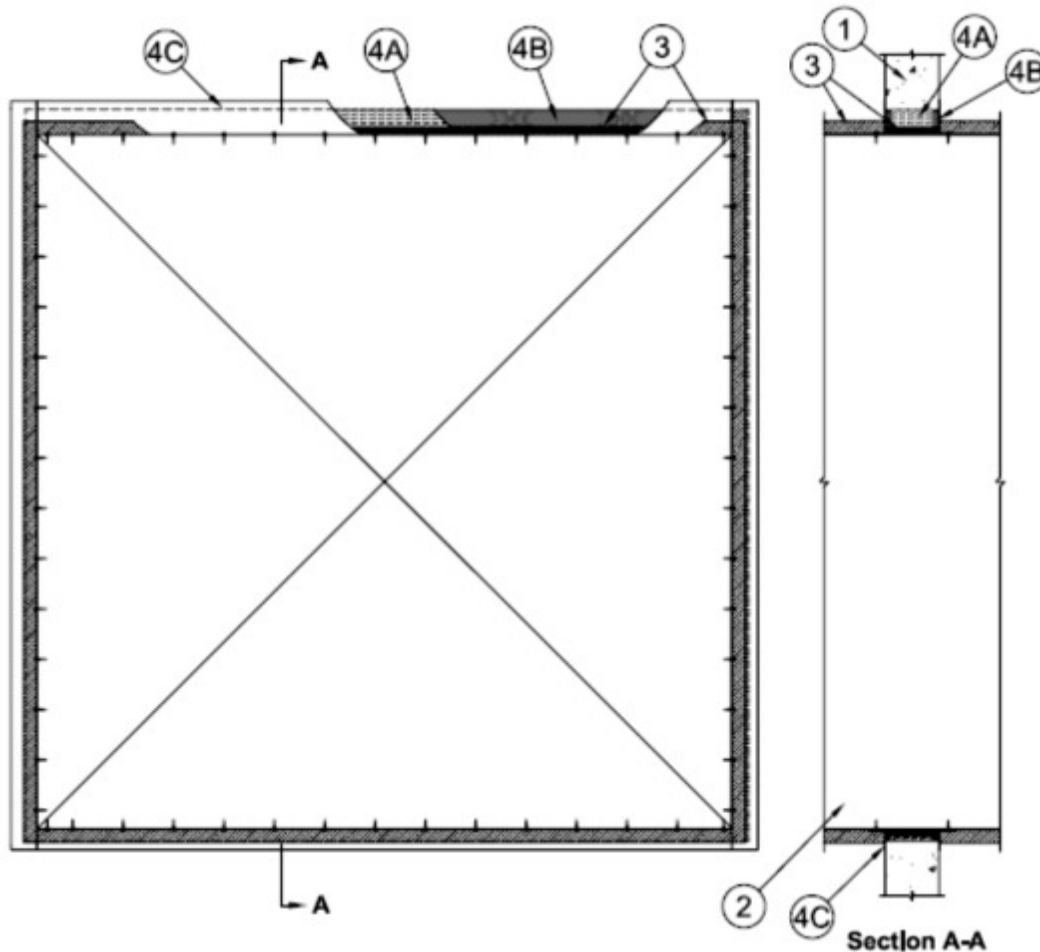


System No. W-J-7116

January 27, 2011

F Rating — 2 Hr

T Rating — 0 Hr



1. **Wall Assembly** — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 77.3 sq ft. (7.2 m²) with a max width of 105-1/2 in. (2.7 m).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Steel Duct** — Max 100 by 100 in. (2.5 by 2.5 m) steel duct to be installed within the opening. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. Steel duct to be rigidly supported on both sides of wall assembly.

3. **Batts and Blankets*** — Nom 1-1/2 or 2 in. (38 or 51 mm) thick glass fiber batt or blanket (min 3/4 pcf or 12 kg/m³) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the fill material, the batt or blanket shall be compressed minimum 50 percent such that the annular space within the firestop system shall be min 1/2 in. (13 mm) to max 2 in. (51 mm).

See **Batts and Blankets** (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used.

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

A. **Packing Material** — Min 4-3/4 in. (121 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.

RECTORSEAL — Metacaulk 1000, 350i, MC150+, Biostop 500+, 350i, BF-150+, Flamesafe 1900, 900+

C. **Steel Retaining Angles** — Min No. 16 gauge (0.059 in. or 1.5 mm) galv steel angles sized to lap steel duct a min of 1 in. (25 mm) and lap wall surfaces a min of 2 in. (51 mm). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

*Bearing the UL Classification Mark



System No. W-L-7080

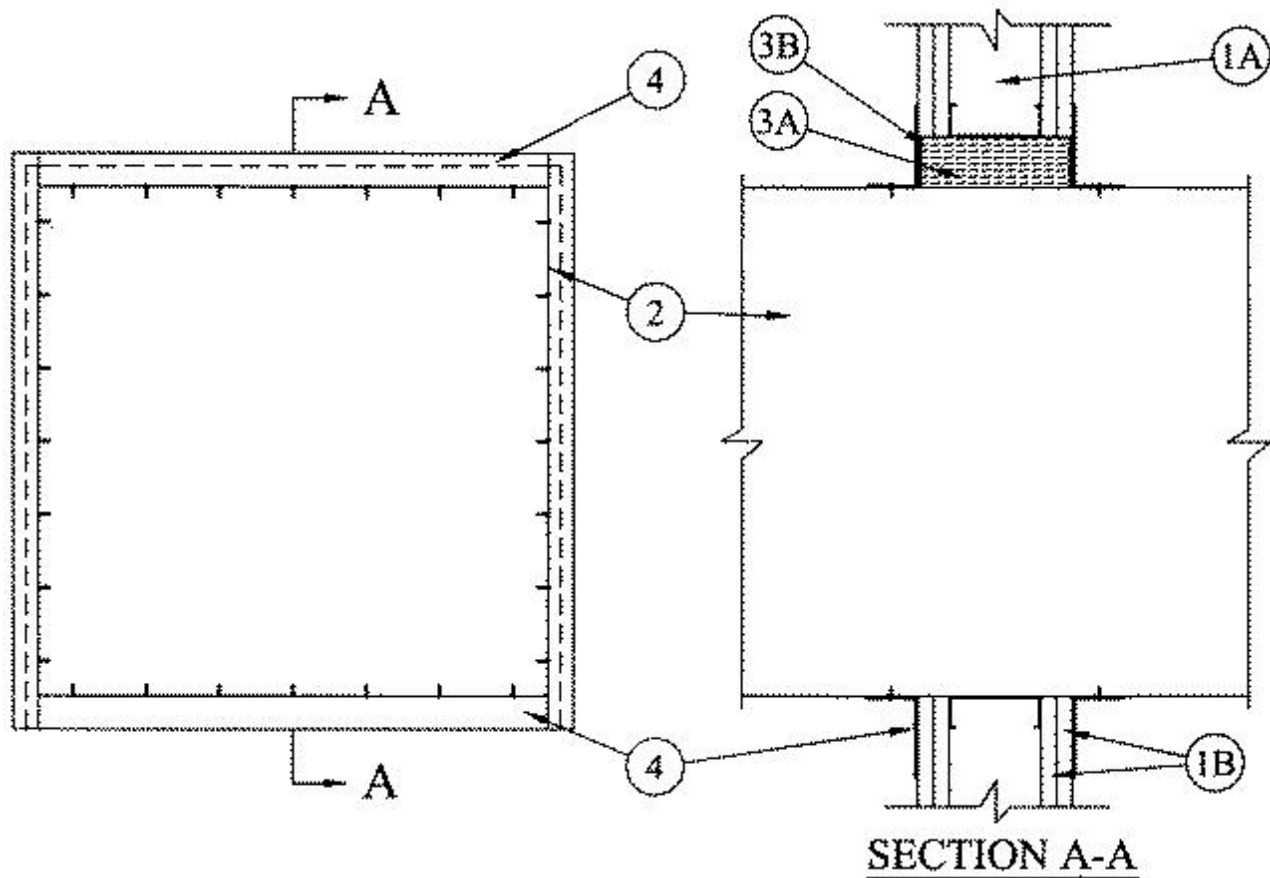
May 28, 2014

F Ratings — 1 and 2 Hr (See Item 1)

T Rating — 0 Hr

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 2)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 2)



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

A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely frame around opening.

B. Gypsum Board* — Min 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers and orientation shall be as specified in the individual U300, U400 or V400 Series Wall and Partition Design. Max area of opening is 328 sq in. (0.21 m²) with a max width of 14-1/2 in. (368 mm) for wood studs. Max size of opening is 498 sq in. (0.32 m²) with a max width of 22-5/8 in. (575 mm) for steel studs.

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

2. Steel Duct — Max 20 by 20 in. (508 by 508 mm) No. 24 gauge (or heavier) steel duct to be installed either concentrically or eccentrically within the opening. The annular space shall be min 0 in. (0 mm, point contact) to max 2 in.

(51 mm). **L Ratings apply only when the min annular space between the through penetrant and the edge of the opening is equal to or greater than 1/4 in. (6 mm).** Duct to be rigidly supported on both sides of wall assembly.

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

A. Packing Material — Min 4-7/8 in. (124 mm) or 6-1/8 in. (156 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for 1 or 2 hr fire-rated walls, respectively. Packing material to be installed flush with both surfaces of wall.

B. Fill, Void or Cavity Material* — Coating — Coating Min 1/8 in. (3.2 mm) wet thickness of fill material applied to completely cover the mineral wool packing material and to lap min 1/2 in. (13 mm) onto the wall surfaces and onto the steel duct around the entire periphery of the through opening on both sides of the wall.

RECTORSEAL — FlameSafe FS3000, Metacaulk 1200, 1500 or Biostop 750, 800 Spray

C. Steel Retaining Angles — Min No. 22 gauge galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and to lap wall surfaces a min of 1-1/2 in. (38 mm) around entire perimeter of through opening on both sides of wall assembly. Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

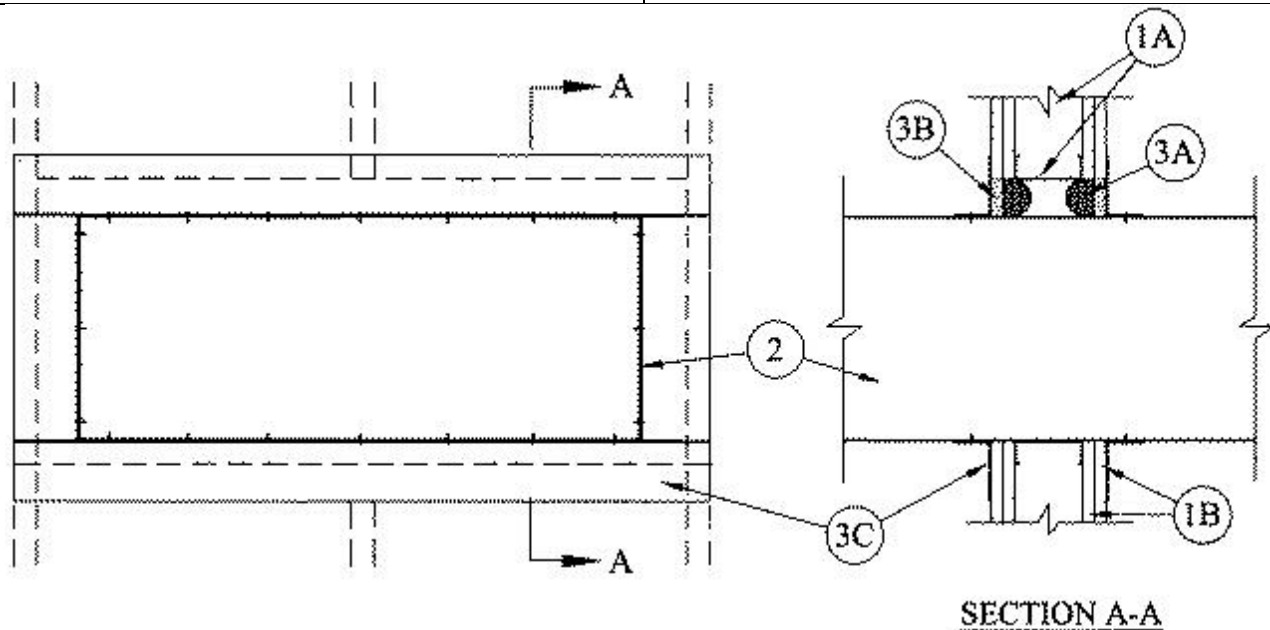
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



System No. W-L-7081

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Ratings - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



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

A. Studs — Wall framing shall consist of steel channel studs. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely frame around opening.

B. Gypsum Board* — Min 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers and orientation shall be as specified in the individual U400 or V400 Wall and Partition Design. Max size of opening is 1470 sq in. (9484 mm) with a max dimension of 70 in. (1778).

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

2. Steel Duct — Nom 67 in. (1702 mm) by 18 in. (457 mm) (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. The space between the steel duct and periphery of opening shall be min 0 in. (point contact) to max 3-1/2 in. (89 mm). Steel duct to be rigidly supported on both sides of the wall assembly.

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

A. **Packing Material** — Polyethylene backer rod, mineral wool batt insulation, fiberglass batt insulation or foam plastic sheets friction fitted into annular space for 2 hr fire-rated wall assemblies only. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between steel duct and gypsum wallboard, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the gypsum board/steel duct interface on both surfaces of wall assembly.

RECTORSEAL — FS 900+ Sealant, Metacaulk MC 150+, Biostop BF 150+

C. **Steel Retaining Angles** — Min No. 22 gauge galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and lap wall surfaces a min 1-1/2 in. (38 mm). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max 6 in. (152 mm) OC.

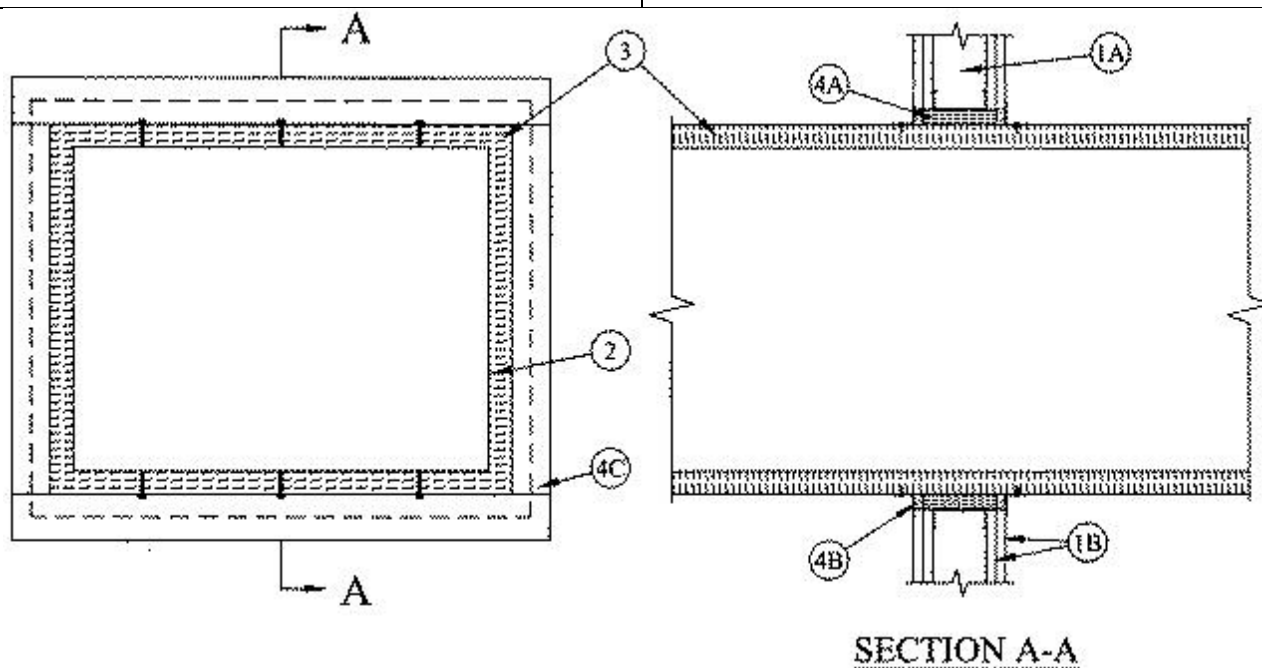
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



System No. W-L-7082

July 15, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 and 2 Hr (See Item 1)
	FTH Rating — 0 Hr
L Rating at Ambient - Less than 1 CFM/sq ft	L Rating at Ambient - Less than 1 CFM/sq ft
L Rating at 400° F - Less than 1 CFM/sq ft	L Rating at 400° F - Less than 1 CFM/sq ft



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

A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely frame around opening.

B. Gypsum Board* — Min 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers and orientation shall be as specified in the individual U300 or U400 Wall and Partition Design. Max size of opening is 210 sq in. (1355 cm²) with a max width of 14-1/2 in. (368) for wood studs. Max size of opening is 1050 sq in. (6774 cm²) with a max width of 30 in. (762 mm) for steel studs.

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

2. Steel Duct — Nom 24 by 30 in. (610 by 762 mm) (or smaller) No. 24 gauge (or heavier) steel duct to be installed eccentrically within the framed opening. Steel duct to be rigidly supported on both sides of wall assembly.

3. Batts and Blankets* — Max 1-1/2 in. (38 mm) thick glass fiber batt or blanket (min 3/4 pcf or 12 kg/m³) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the

installation of the fill material, the batt or blanket shall be compressed 50% such that the annular space within the firestop system shall be min 1 in. (25 mm) to max 2-3/4 in. (70 mm).

See **Batts and Blankets** - (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used.

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

A. Packing Material — Min 3-5/8 (92 mm) or 4-7/8 in. (124 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for 1 or 2 hr fire-rated walls, respectively. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.

RECTORSEAL — FS 900+ Sealant, Metacaulk MC 150+, Biostop BF 150+

C. Steel Retaining Angles — Min No. 22 gauge galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and lap wall surfaces a min 1-1/2 in. (38 mm). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max 6 in. (152 mm) OC.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

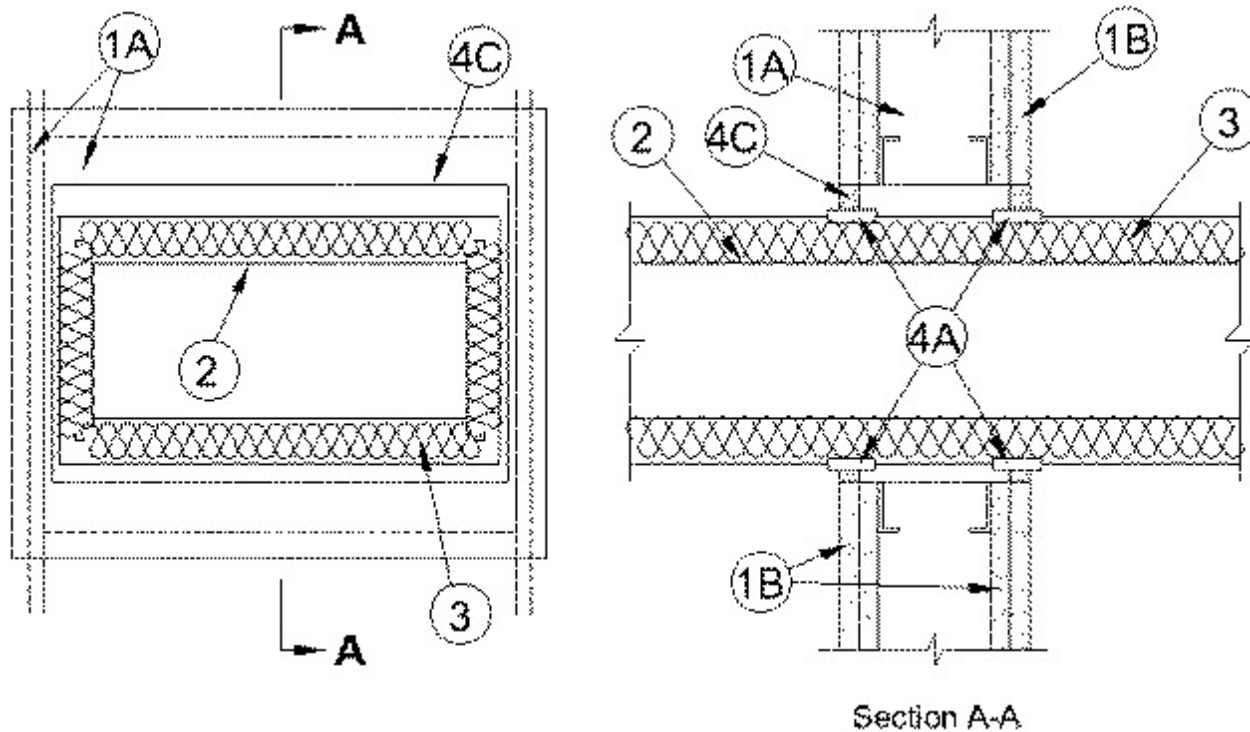


System No. W-L-7122

March 01, 2007

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 0 and 3/4 Hr (See Item 1)



1. 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 specified in the individual U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:

A. Studs — Wall framing shall consist of min 3-5/8 in. wide steel channel studs spaced max 24 in. OC. Additional 3-5/8 in. wide steel studs shall be used to completely frame the opening.

B. Gypsum Board* — One or two layers of nom 1/2 or 5/8 in. (13 or 16 mm) thick gypsum board as specified in the individual Wall and Partition Design. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 900 sq in. with max dimensions of 30 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The T Ratings are 0 and 3/4 hr when installed in 1 and 2 hr rated walls, respectively.

2. Steel Duct — One nom 26 by 26 in. (or smaller) No. 24 gauge (or heavier) steel air duct installed within the firestop system. Duct to be rigidly supported on both sides of wall assembly.

3. Duct Insulation* — Nom 1-1/2 in (38 mm) thick glass fiber blanket insulation jacketed on the outside with an aluminum foil reinforced glass-fiber-scrim-kraft facing. Longitudinal and transverse joints sealed with a pressure sensitive foil tape. The annular space within the firestop system shall be min 1/4 in. (6 mm) to max 1-1/4 in. (32 mm).

See **Batts and Blankets** (BKNV) category in the Building Materials Directory for names of manufacturers. Any batts and blankets material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

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

A. **Fill, Void or Cavity Materials*** — Nom 1/16 in. thick intumescent material supplied in 1-1/2 in. (38 mm) wide strips. Min 1 layer of wrap strip wrapped tightly around the duct insulation, protruding 1/2 in (13 mm) beyond each surface of the wall. Wrap strip held in position with tape.

RECTORSEAL — Metacaulk Joint Strip

B. **Packing Material - (Optional)** — Foam backer rod firmly packed into the opening as a permanent form. Packing material to recessed from both sides of wall to accommodate the required thickness of fill material.

C. **Fill, Void or Cavity Material* - Caulk** — Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of the wall assembly.

RECTORSEAL — Metacaulk 1000, MC 150+

*Bearing the UL Classification Mark

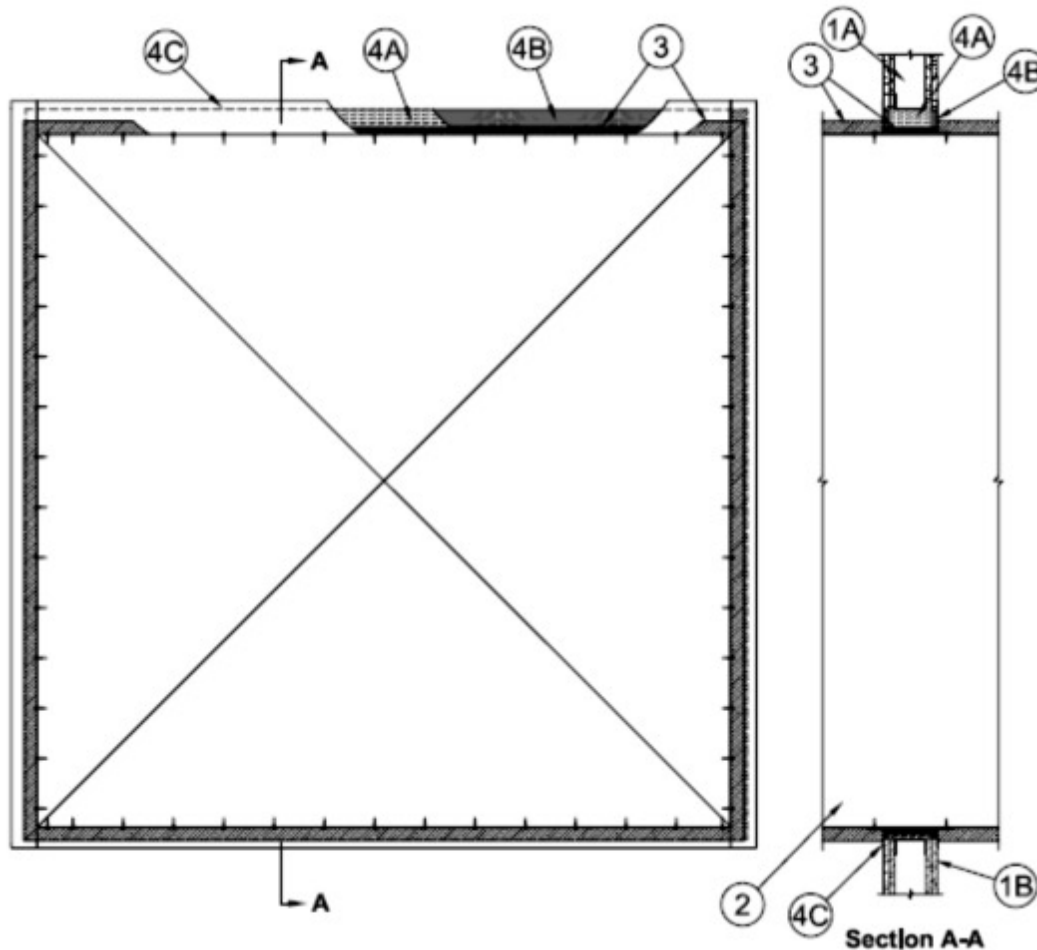


System No. W-L-7199

January 27, 2011

F Ratings — 1 and 2 Hr (See Item 1)

T Rating — 0 Hr



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

A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely frame around opening.

B. Gypsum Board* — Min 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers and orientation shall be as specified in the individual U300, U400 or V400 Wall and Partition Design. Max size of opening is 210 sq in. (1355 cm²) with a max width of 14-1/2 in. (368 mm) for wood stud (U300 Series) walls. Max size of opening is 77.3 sq ft. (7.2 m²) with a max width of 105-1/2 in. (2.7 m) for steel stud (U400 or V400 Series) walls.

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

2. Steel Duct — Max 100 by 100 in. (2.5 by 2.5 m) steel duct to be installed within the framed opening. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. Steel duct to be rigidly supported on both sides of wall assembly.

3. **Batts and Blankets*** — Nom 1-1/2 or 2 in. (38 or 51 mm) thick glass fiber batt or blanket (min 3/4 pcf or 12 kg/m³) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the fill material, the batt or blanket shall be compressed minimum 50 percent such that the annular space within the firestop system shall be min 1/2 in. (13 mm) to max 2 in. (51 mm).

See **Batts and Blankets** (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used.

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

A. **Packing Material** — Min 3-5/8 (92 mm) or 4-7/8 in. (124 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for 1 or 2 hr fire-rated walls, respectively. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.

RECTORSEAL — Metacaulk 1000, 350i, MC150+, Biostop 500+, 350i, BF-150+, Flamesafe 1900, 900+

C. **Steel Retaining Angles** — Min No. 16 gauge (0.059 in. or 1.5 mm) galv steel angles sized to lap steel duct a min of 1 in. (25 mm) and lap wall surfaces a min of 2 in. (51 mm). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

*Bearing the UL Classification Mark