Firestopping Submittal Package

metacaulk®

Project: Commercial Plumbing Contractors for PP or Aquatherm Piping
Architect:
General Contractor:
Installation Contractor:
Distributor (and Contact):

Manufacturer's Representative:

Table of Contents

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

RectorSeal 2601 Spenwick Drive, Houston, Texas 77055 Phone 800.231.3345 rectorseal.com

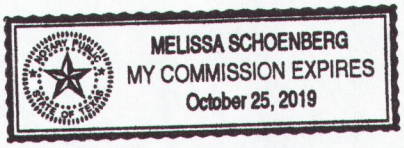
ALL PRODUCTS CONTAIN NO ASBESTOS OR PCB'S AND ARE CONSIDERED V.O.C. COMPLIANT.

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

RECTORSEAL
A CSW Industrials Company

2601 Spenwick Dr
Houston, TX 77055

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

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% form 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:

Metacaulk® Product	Location
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.

Metacaulk Product	EQ Credit	VOC Content (g/l)
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

SAFETY DATA SHEET

METACAULK® PIPE COLLARS

Prefabricated firestop system

Section 1 – Product and Company Information

Product Name
Metacaulk® Intumescent Pipe Collars

Product Codes
66350, 66351, 66352, 66353, 66354

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
February 28, 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 (H20 = 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, CO_2 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

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 (H20 = 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, CO_2 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

SAFETY DATA SHEET

METACAULK® INTUMESCENT SLEEVE

Prefabricated firestop system

Section 1 – Product and Company Information

Product Name
Metacaulk® Intumescent Sleeve

Product Codes
66582, 66584

Chemical Family
Organic/Inorganic

Use
Intumescent sleeve

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 (H20 = 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, CO_2 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

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 (H20 = 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, CO_2 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

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

RECTORSEAL

A CSW Industrials Company

PRODUCT DATA SHEET

METACAULK® PIPE COLLAR

Prefabricated Firestop System

Description

Metacaulk® Pipe Collars are prefabricated for open and closed through-penetration firestop systems using 1 1/2"(38 mm) to 6" (152 mm) plastic pipe. An easy locking tab assures easy installation. The collar design greatly reduces the time and expense that is required to install competitive collars.

Applications

Metacaulk Pipe Collars are used to seal off plastic pipe both in closed and vented (DWV) conditions. Also for use on up to 6" (152 mm) diameter ABS (cellular core or solid core), FRPP, PVC and CPVC pipe. The collar may be used on up to 3 hour rated concrete floors and walls, up to 2 hour rated gypsum walls and up to 2 hour rated wood floors.

Packaging

Code	Size	Qty. per Case
66352	1½"	12
66353	2"	12
66350	3"	6
66351	4"	6
66354	6"	2

Characteristics | Features

- Saves on labor cost
- Easy installation
- Economical
- No measurement of material required
- Highly intumescent
- Tested for pvc, cpvc, abs and pvc/abs foam core, frpp

Installation Data

Metacaulk Pipe Collar are prefilled and very easy to install.

Step 1 Select the proper collar to fit the diameter of pipe used.

Step 2 Making sure annular space is within the limits set by the tested conditions, attach collar around the pipe on the underside of the floor or to each side of a wall by firmly placing against the wall or floor and securing interlocking tabs [1 1/2" (38 mm), 2" (51 mm), 3" (76 mm) and 4" (102 mm)] or fastening the buckle [6" (152 mm)].

Step 3 If needed, mark and predrill wall or floor for required anchors. Properly secure the appropriate anchor into each of the anchoring tabs. In concrete, use 1/4" (6 mm) x 1 1/4" (32 mm) hex washer head type concrete anchors or appropriate steel expansion/wedge anchors. In gypsum, use 1/8" (3 mm) x 2" (51 mm) MOLLY type hollow wall anchors or 1 1/2" drywall or drywall laminating screws. Fender washers have been provided to be used with the fasteners.

Step 4 If an additional smoke seal is required, Metacaulk 1000 may be applied within the annular space before the attachment of the collar.

Consult UL Directory for complete instructions and system listings.

Material Properties

Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None

Activation of Intumescence:	
Expansion Begins	375˚F (190˚C)
Expansion Greatest	575˚F - 1100˚F 302˚C - 593˚C

Testing Data

Metacaulk Pipe Collars are classified by Underwriters Laboratories as a Firestop Device. For specific test criteria, see the UL Product iQ or call RectorSeal. Metacaulk® Pipe Collars were tested at a minimum .01 inches (2.5 Pa) of water positive pressure in accordance with UL 1479 (ASTM E814) test standards. 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.

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.

Inspection & Repair

RectorSeal recommends that a firestop system inspection be conducted during installation of the material in accordance with ASTM E2174 and ASTM E 2393. 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 Pipe Collars should be stored in a dry place. Keep product stored under protective cover in original container.

Limitations

Not for use in outdoor environments where long-term exposure to rainfall or saltwater spray may occur. No other limitations known if used as directed.

Cautions

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.

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RECTORSEAL®

A CSW Industrials Company

PRODUCT DATA SHEET

METACAULK® WRAP STRIP

For Penetration

Description

Metacaulk® Wrap Strip is a strip of highly intumescent firestop material used primarily for plastic and insulated pipe applications. When exposed to heat, this product expands and forms a hard char to seal off the penetration preventing the passage of flames and hot gases.

Applications

Metacaulk Wrap Strip can firestop difficult penetrations such as plastic pipe, and insulated pipe.

Packaging

Code	Size	Qty. per Case
66135	1"x12"	6
66136	2"x12"	4

Installation Data

Metacaulk Wrap Strip is simple to install. Tightly wrap the required number of strips continuously around the penetrant to completely fill the annular space or as required by system design. Push the strips into the opening to the required depth. If a cold smoke seal is required, apply the recommended sealant in the opening over the strips.

Consult UL Directory for complete instructions and system listings.

Testing Data

Metacaulk Wrap Strip is classified by Underwriters Laboratories as a Fill, Void or Cavity Material. For specific test criteria, see UL Product iQ or call RECTORSEAL. Metacaulk Wrap Strip was tested at positive pressure for a minimum .01 inches (2.5 Pa) of water in accordance with UL 1479 and ASTM E 814 test standards. 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.

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.

Characteristics | Features

- Easy to install
- Cost effective
- Versatile, Flexible
- Highly intumescent
- Excellent freeze/thaw characteristics
- Long length means less waste
- Forms a very hard char when burned

Material Properties

Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None

Activation of Intumescence:	
Expansion Begins	375˚F (190˚C)
Expansion Greatest	575˚F - 1100˚F 302˚C - 593˚C

Color	Black
Freeze/Thaw	Excellent

ASTM E 84, UL 723 Tunnel Test	
Flame Spread	5
Smoke Index	5

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 Wrap Strip should be stored in a cool, dry place. Keep products stored under protective cover, in their original containers. A stock rotation program is recommended.

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, CO_2, 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.

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RECTORSEAL

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PRODUCT DATA SHEET

METACAULK® INTUMESCENT SLEEVE

Firestop Device

Description

Metacaulk® Intumescent Sleeve is a firestop seal for PVC, cc-PVC, CPVC, FRPP, PP, ABS and PVDF pipe and rigid, non-metallic conduit installations. Easily installed without modifications, steel bolts or fasteners, the Intumescent Sleeve is an ideal approach for firestopping combustible pipes penetrating the uneven contours of a concrete fluted deck assembly. It eliminates the need for collars or wrap strips and is great for use on pipes that penetrate walls at less than a 90° angle. It also eliminates the need to firestop on both sides of a penetration.

The Intumescent Sleeve easily wraps around pipes and is manufactured from a durable galvanized steel outer shell that is lined with a highly intumescent material. The Intumescent Sleeve is fastened with either fiberglass tape, pop rivets or hose clamps around the pipe. When used with Metacaulk® 1000 or 150+ Sealant, it produces an immediate smoke seal.

Applications

Metacaulk Intumescent Sleeve will firestop both sides of wall when installed from either side and provides a cost-effective alternative to collars for pipes going through walls and floors. The Intumescent Sleeve can also be used in applications that require retrofit.

The Intumescent Sleeve can be used with PVC, cc-PVC, CPVC, FRPP, PP, ABS and PVDF pipe and rigid, non-metallic conduits in sizes ranging from 2 inch to 8 inch. The Sleeve has been tested for use in concrete floor/wall installations and concrete fluted deck assemblies. For application with 8 inch (20 cm) diameter or smaller PVC and CPVC, the sleeve has been approved with an optional sleeve (S/10 or heavier) cast or grouted into the floor or wall.

Characteristics | Features

- Easy installation
- Economical
- No measurement of material required
- Can be retrofitted, easily removed and replaced
- Highly intumescent
- Tested for PVC, CPVC, ABS and PVC/ABS Foam Core, FRPP, PP, PVDF

Packaging

Code	Size	Qty. per Case	Dimensions (in)	Cubic Feet
66584	2", 3", 4"	6	20x9x2	.21
66582	6", 8"	1	18x8x.25	.02

Installation Data

RectorSeal Intumescent Sleeves are pre-firestopped and very easy to install

Step 1 Select the proper sleeve to fit the diameter of pipe used – Use the 234 sleeve for 2 in. (51 mm) or 3 in. (76 mm) or 4 in. (102 mm) diameter pipe OR the 68 sleeve for 6 in. (152 mm) or 8 in. (203 mm) diameter pipe.

Step 2 Determine the number of Sleeves required for application.

Step 3 Determine method of sleeve fastening to be used (fiberglass tape, pop rivets, hose clamps or tie wire).

Step 4 For installation, wrap the sleeve around pipe from above or below floor or either side of wall with the intumescent material side facing pipe, allowing bare metal end to overlap approximately 2 in. (51 mm).

Step 5 Secure the sleeve around pipe with selected fastening method.

Step 6 Push/slide the sleeve through assembly so that it is centered within floor and/or ceiling or centered within wall. The ends of the sleeve should extend the same distance beyond each side of the floor or wall surface.

Step 7 The Sleeve requires a minimum 0.25 in. (6 mm) annular space. Following sleeve installation, a backing material, such as backer rod compressed into the space may be used. Recess backing material to accommodate the required depth of sealant.

Step 8 Fill annular space cavity with the required depth of firestop sealant.

Consult UL Online Certification Directory for complete instructions and system listings

Testing Data

Metacaulk Intumescent Sleeves are classified by Underwriters Laboratories as a Firestop Device. For specific test criteria, see the UL Product iQ or call RectorSeal. Metacaulk Intumescent Sleeves were tested at a minimum .01 inches (2.5 Pa) of water positive pressure in accordance with UL 1479 (ASTM E814) test standards. 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.

Inspection & Repair

RectorSeal recommendsthat 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 Intumescent Sleeve should be stored in a dry place. Keep product stored under protective cover in original container. A stock rotation program is recommended.

Limitations

Not for use in outdoor environments where long-term exposure to rainfall or saltwater spray may occur. No other limitations known if used as directed.

Cautions

KEEP OUT OF REACH OF CHILDREN.

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.

Material Properties

Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None

Activation of Intumescence:	
Expansion Begins	375˚F (190˚C)

Trade Size	Outer Diameter
2 in. (5.08 cm)	2.375 in. (6.03 cm)
3 in. (7.62 cm)	3.5 in. (8.9 cm)
4 in. (10.16 cm)	4.5 in. (11.4 cm)
6 in. (15.24 cm)	6.625 in. (16.8 cm)
8 in. (20.32 cm)	8.635 in. (21.9 cm)

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RECTORSEAL

A CSW Industrials Company

PRODUCT DATA SHEET

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

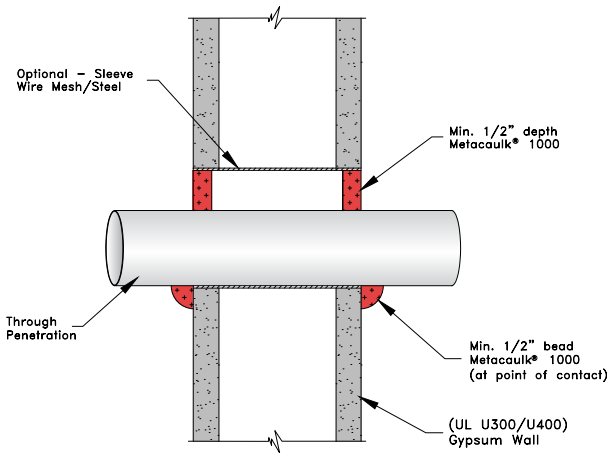
- Water based
- Excellent freeze-thaw
- Flexible set
- Highly intumescent
- Paintable
- VOC compliant
- Safe and easy to use
- 3 Year shelf life

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.



UL Listed Syste: WL1114
Tested as Per UL 2079 @ 25% Compression or extension for 500 cylces

For additional Technical Service, call toll free 800-231-3345

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 Interek 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, CO_2, 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.

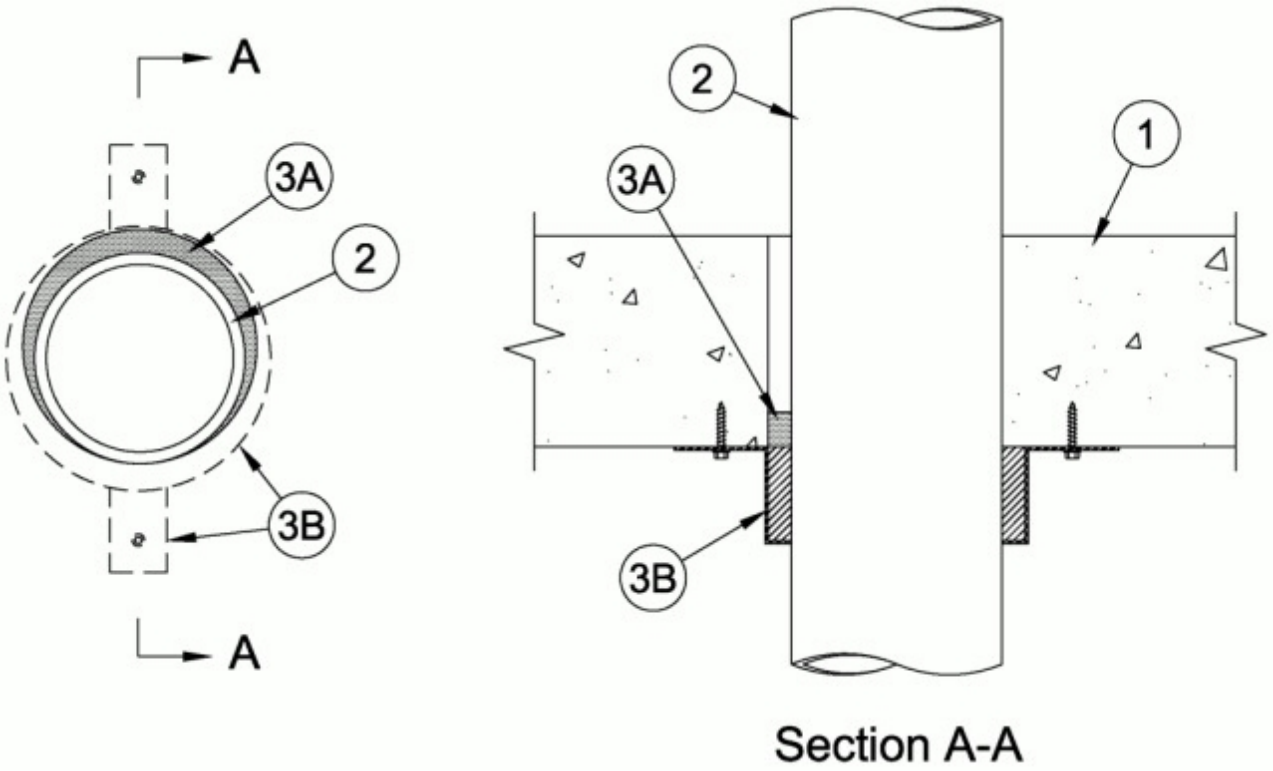
IFC INTERNATIONAL FIRESTOP COUNCIL THE Source of Firestop Expertise® MEMBER

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

System No. C-AJ-2652

December 29, 2011

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 2 Hr	FT Rating — 2 Hr
	FH Rating — 2 Hr
	FTH Rating — 2 Hr



System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

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/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***. Opening to be max 5/8 in. (16 mm) larger than outside diam of nonmetallic pipe. Max diam of opening is 4 in. (102 mm).

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

2. **Nonmetallic Pipe —** Nom 3 in. (76 mm) diam (or smaller) nonmetallic pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipe may be used:

A. **Polypropylene (PP) Pipe —** Nom 3 in. (76 mm) diam (or smaller) Aquatherm Greenpipe SDR 7.4 with Faser PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

B. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Aquatherm Greenpipe SDR 11 PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

C. **Polypropylene (PP) Pipe —** Nom 3 in. (76 mm) diam (or smaller) Aquatherm Climatherm SDR 11 with Faser PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

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

A. **Fill, Void or Cavity Materials * - Caulk —** Min 1/2 in. (13 mm) thickness of caulk applied within annulus, flush with bottom of floor or both surfaces of wall assembly.

RECTORSEAL — Metacaulk 1000, Biostop 500+ or FlameSafe 1900

B. **Firestop Device* —** Steel collar lined with an intumescent material sized to fit specific diam of the through penetrant. Device to be installed around through penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for attachment to both surfaces of the wall or bottom surface of floor with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel anchors.

RECTORSEAL — Metacaulk Pipe Collar, Biostop Pipe Collar, FlameSafe Pipe Collar

C. **Fill, Void or Cavity Material* - Wrap Strip —** (Not Shown) - As an alternate to Item 3B when max 2 in. (51 mm) diam pipe is used, single layer of nom 1/4 in. (6 mm) thick by 1 in. (25 mm) wide intumescent wrap strip wrapped around the outer circumference of the pipe on bottom of floor or on each side of the wall. Wrap strip installed with butted seam and such that edge of wrap strip is flush with the surface of floor or wall. Wrap strip temporarily secured with tape or tie wire.

RECTORSEAL — Metacaulk Wrap Strip, Biostop Wrap Strip, FlameSafe Wrap Strip

D. **Steel Collar —** (Not Shown) - When Item 3C is used, a collar fabricated from coils of precut min 0.016 in. thick (0.41 mm) galv steel available from fill material manufacturer shall be installed to restrain wrap strip. Collar shall be nom 1 in. (25 mm) deep with 1 in. (25 mm) wide by 1-1/2 in. (38 mm) long anchor tabs for attachment to wall. In addition, collar provided with 1/2 in. (13 mm) wide by 3/4 in. (19 mm) long retainer tabs opposite the anchor tabs. Collar shall be wrapped over the wrap strip, overlapping min 1 in. (25 mm). The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Collar secured to bottom surface of floor or both surfaces of wall at each anchor tab by means of 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel anchors in conjunction with 1/4 in. (6 mm) by 5/8 in. (16 mm) diam steel washers.

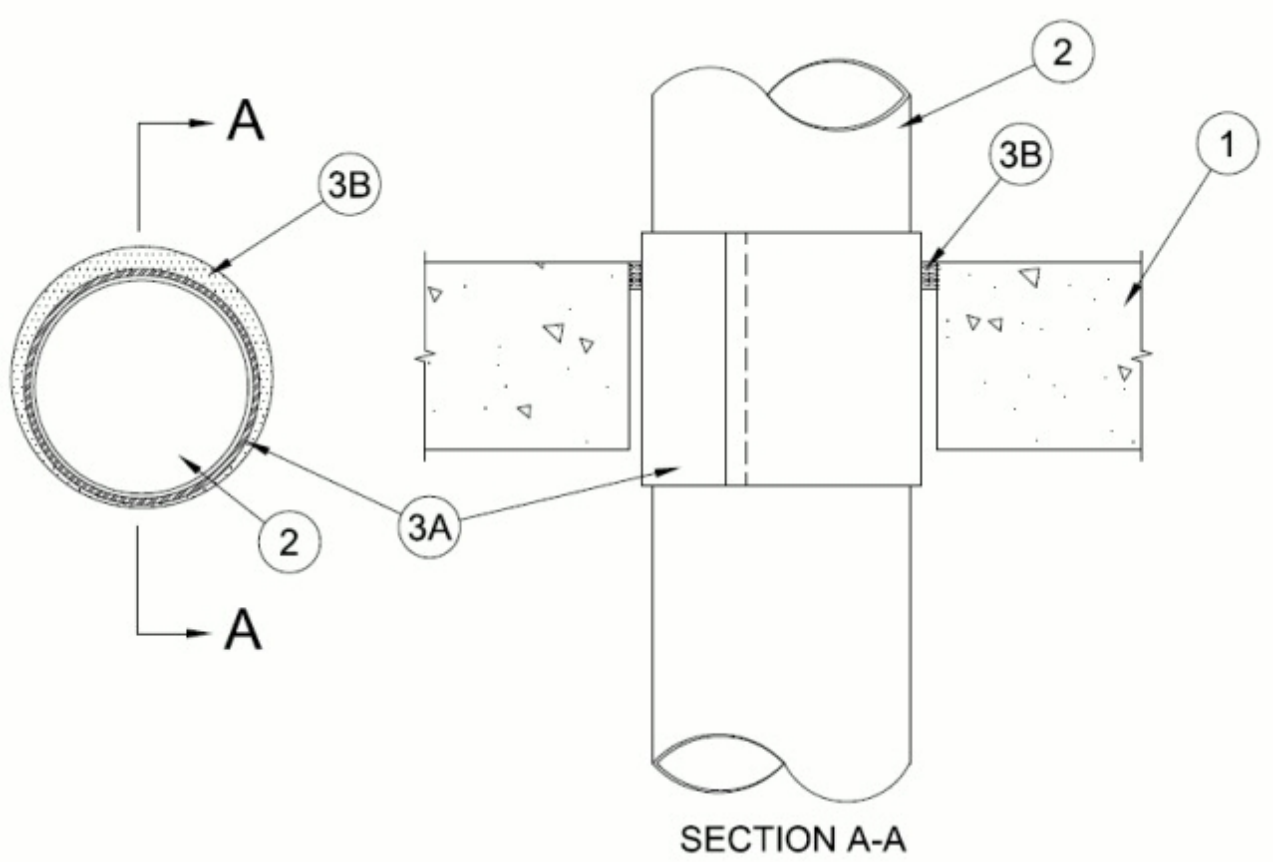
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System No. C-AJ-2707

May 07, 2015

F Rating — 2 Hr

T Rating — 2 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/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units*.** If the firestop system is installed within a hollow-core precast concrete unit, max diam of opening shall be 7 in. (178 mm). Otherwise, max diam of opening is 8 in. (203 mm).

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

1A. **Steel Deck/Floor Assembly —** (Not Shown) — As an alternate to Item 1, the floor assembly may consist of a fluted steel deck/concrete floor assembly. The floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Form Units* —** 1-1/2 to 3 in. (38 to 76 mm) deep galv fluted units. Max diam of opening is 8 in. (203 mm).

B. **Concrete —** Min 4-1/2 in. (114 mm) thick reinforced concrete, as measured from the top plane of the floor units. Max diam of opening is 8 in. (203 mm).

2. **Through Penetrants —** One nonmetallic pipe to be installed concentrically within the firestop system. The annular space between the pipe and periphery of opening shall be max 7/8 in. (22 mm). Pipe to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP-R) Pipe —** Nom 6 in. diam - 160 mm OD (or smaller) SDR 17.6 MF Aquatherm Blue Pipe for use in closed (process or supply) piping systems.

B. **Polypropylene (PP-R) Pipe —** Nom 4 in. diam - 125 mm OD (or smaller) SDR 7.4 and SDR 11 MF Aquatherm Blue Pipe for use in closed (process or supply) piping systems.

C. **Polypropylene (PP-R) Pipe —** Nom 4 in. diam - 125 mm OD (or smaller) SDR 7.4 and SDR 11, MF and S, Aquatherm Green Pipe for use in closed (process or supply) piping systems.

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

A. **Firestop Device —** Galv steel sleeve lined with an intumescent material sized to fit the specific diam of the through penetrant. Intumescent Sleeve 234 to be used with pipe sizes of nom 4 in. (or smaller). Intumescent Sleeve 68 to be used with pipe sizes exceeding nom 4 in. diam. Device to be installed in accordance with the manufacturer\'s installation instructions along with the following: Device to be wrapped around outer circumference of through penetrant and installed through the annular space of the opening. The device may be temporarily secured together by means of tape or tie wires around the outer circumference of through penetrant to allow for installation of the fill material (Item 3B). The device shall be centered within the floor or wall and extend equally beyond each surface of the floor or wall.

RECTORSEAL — FlameSafe® Intumescent Sleeve, Metacaulk Intumescent Sleeve or Biostop Intumescent Sleeve

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 both surfaces of wall. When hollow-core precast concrete unit is used, min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of floor.

RECTORSEAL — Metacaulk 1000, Metacaulk 150+, Biostop 500+, Biostop 150+, FlameSafe 1900

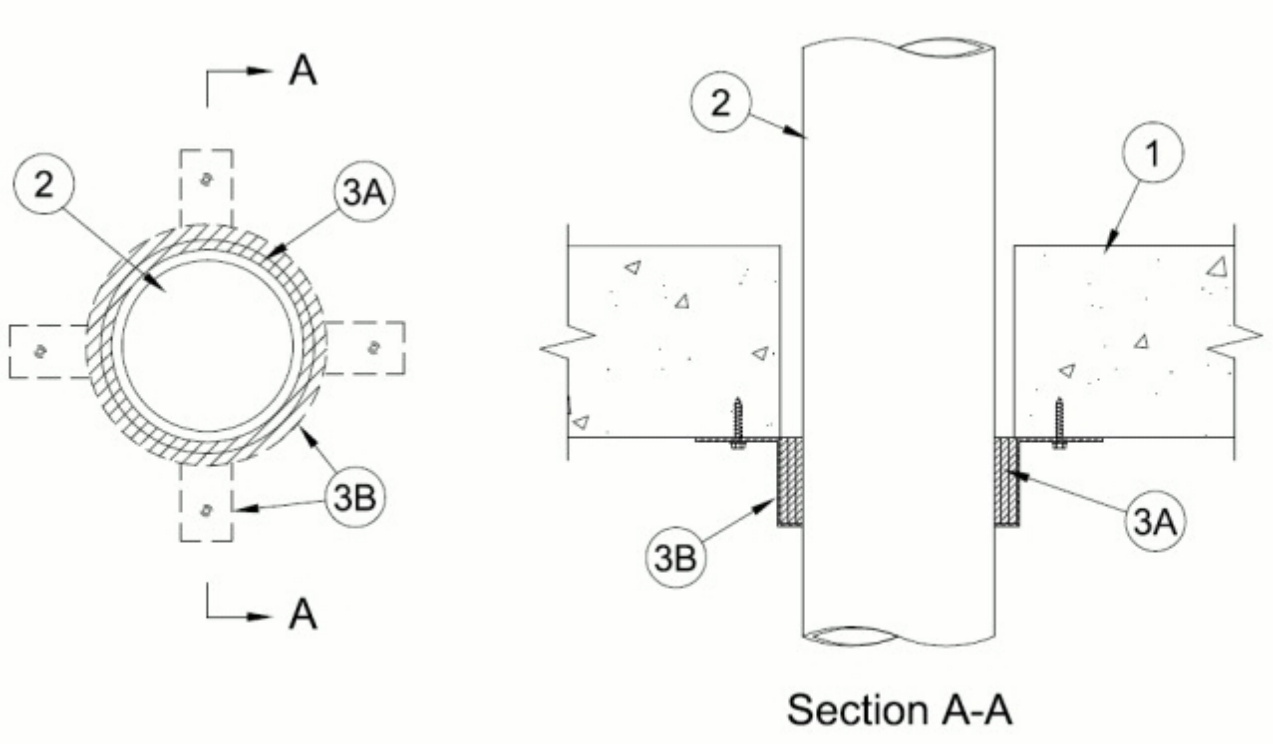
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System No. C-AJ-2713

May 07, 2015

F Rating — 2 Hr

T Rating — 2 Hr



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/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units*.** Opening to be max 1-1/16 in. (27 mm) larger than outside diam of nonmetallic pipe. Max diam of opening is 6 in. (152 mm).

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

2. **Through Penetrants —** One nonmetallic pipe to be installed concentrically within the firestop system. The annular space between the pipe and periphery of opening shall be max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP-R) Pipe —** Nom 4 in. diam - 125 mm OD (or smaller) SDR 17.6 MF Aquatherm Blue Pipe for use in closed (process or supply) piping systems.

B. **Polypropylene (PP-R) Pipe —** Nom 4 in. diam - 125 mm OD (or smaller) SDR 7.4 and SDR 11 MF Aquatherm Blue Pipe for use in closed (process or supply) piping systems.

C. **Polypropylene (PP-R) Pipe —** Nom 4 in. diam - 125 mm OD (or smaller) SDR 7.4 and SDR 11, MF and S, Aquatherm Green Pipe for use in closed (process or supply) piping systems.

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

A. **Fill, Void or Cavity Material* - Wrap Strip —** Nom 1/4 in. (6 mm) thick by 2 in. (51 mm) wide intumescent wrap strip wrapped around the outer circumference of the pipe on bottom of floor or on each side of the wall. Three layers of wrap strip shall be used with nom 3 in. - 90 mm OD diam and larger pipes. Two layers of wrap strip shall be used with nom pipe diams less than 3 in. - 90 mm OD. Wrap strip installed in individually wrapped layers having butted ends offset in successive layers, or in continuous layers. Edge of wrap strip to be flush with the bottom

surface of floor or both surfaces of wall. Wrap strip temporarily secured with tape or tie wire.

RECTORSEAL — Metacaulk Wrap Strip, Biostop Wrap Strip, FlameSafe Wrap Strip

B. **Steel Collar —** Collar fabricated from coils of precut min 0.016 in. thick (0.41 mm) galv steel available from fill material manufacturer shall be installed to restrain wrap strip. Collar shall be nom 2 in. (51 mm) deep with 1 in. (25 mm) wide by 1-1/2 in. (38 mm) long anchor tabs located 4 in. (102 mm) on center for attachment to the underside of floor or both surfaces of wall. In addition, collar provided with 1/2 in. (13 mm) wide by 3/4 in. (19 mm) long retainer tabs opposite the anchor tabs. Collar shall be wrapped over the wrap strip, overlapping min 1 in. (25 mm) and secured with two 3/8 in. (9.5 mm) long steel screws or stainless steel hose clamp. The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Collar secured to bottom surface of the floor or both surfaces of wall at each anchor tab by means of min 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion bolts or steel Tapcon® concrete anchors in conjunction with 1/4 in. (6 mm) by 5/8 in. (16 mm) diam washers.

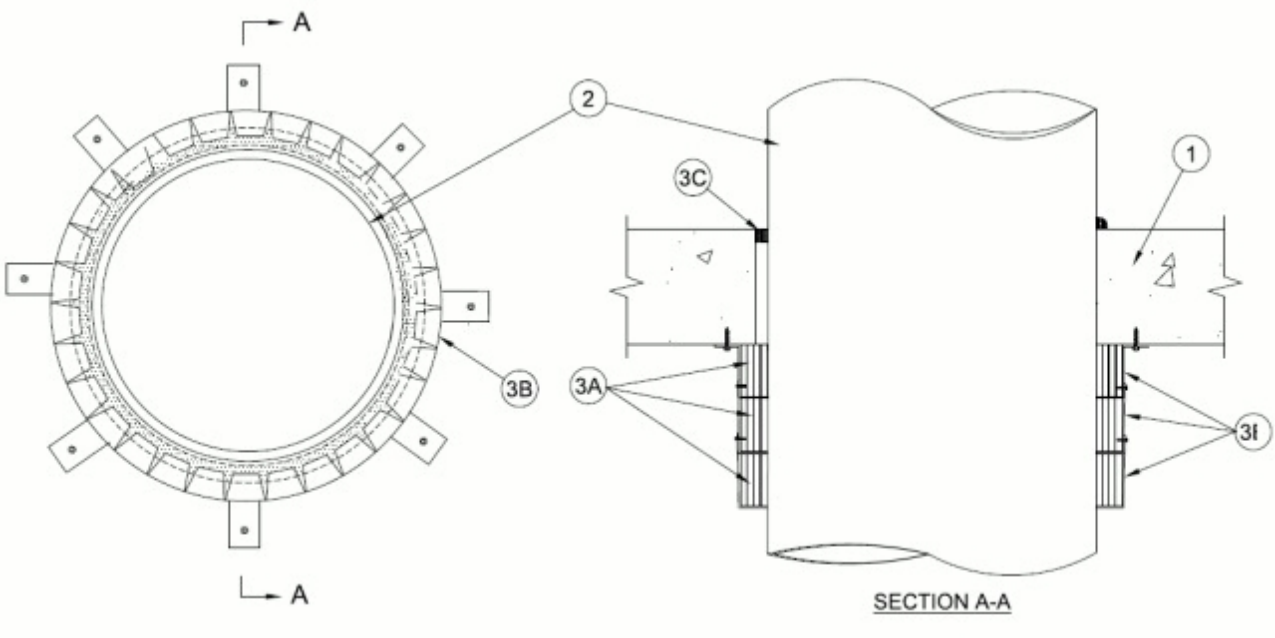
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System No. C-AJ-2719

May 07, 2015

F Rating — 2 Hr

T Rating — 2 Hr



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/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 14 in. (356 mm).

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

2. **Through Penetrants —** One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. The annular space between the pipe and periphery of opening shall be min 0 in. (point contact) to max 1-5/8 in. (41 mm). Pipe to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP-R) Pipe —** Nom 12 in. diam - 315 mm OD (or smaller) SDR 11 MF Aquatherm Blue Pipe for use in closed (process or supply) piping systems.

B. **Polypropylene (PP-R) Pipe —** Nom 12 in. diam - 315 mm OD (or smaller) SDR 11 MF Aquatherm Green Pipe for use in closed (process or supply) piping systems.

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

A. **Fill, Void or Cavity Material* - Wrap Strip —** Nom 1/4 in. (6 mm) thick by 2 in. (51 mm) wide intumescent wrap strip wrapped around the outer circumference of the pipe on bottom of floor or on each side of the wall. Three stacks of four layers of wrap strip shall be used. Wrap strip installed in individually wrapped layers having butted ends offset in successive layers, or in continuous layers, in each stack. Edge of nearest wrap strip to be flush with the bottom surface of floor or both surfaces of wall. Each wrap strip stack temporarily secured with tape or tie wire.

RECTORSEAL — Metacaulk Wrap Strip, Biostop Wrap Strip, FlameSafe Wrap Strip

B. **Steel Collar —** Collar fabricated from coils of precut min 0.016 in. thick (0.41 mm) galv steel available from fill material manufacturer shall be installed to restrain each stack of wrap strip.

Collar shall be nom 2 in. (51 mm) deep with 1 in. (25 mm) wide by 1-1/2 in. (38 mm) long anchor tabs located 4 in. (102 mm) on center for attachment to the underside of floor or both surfaces of wall. In addition, collar provided with 1/2 in. (13 mm) wide by 3/4 in. (19 mm) long retainer tabs opposite the anchor tabs. Collar shall be wrapped over each stack of the wrap strip, overlapping min 1 in. (25 mm) and secured with two steel screws or stainless steel hose clamp. The retainer tabs of each collar are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Collar nearest floor or wall is secured to bottom surface of the floor or both surfaces of wall at each anchor tab by means of min 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion bolts or steel Tapcon® concrete anchors in conjunction with 1/4 in. (6 mm) by 5/8 in. (16 mm) diam washers. Anchor tabs of remaining two collars are lapped onto and secured to adjacent collar with min 3/8 in. long by #8 steel screw in each anchor tab.

C. **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. In addition, min 1/2 in. (13 mm) bead of sealant applied at point contact location between pipe and concrete at top surface of floor. Sealant is optional in walls.

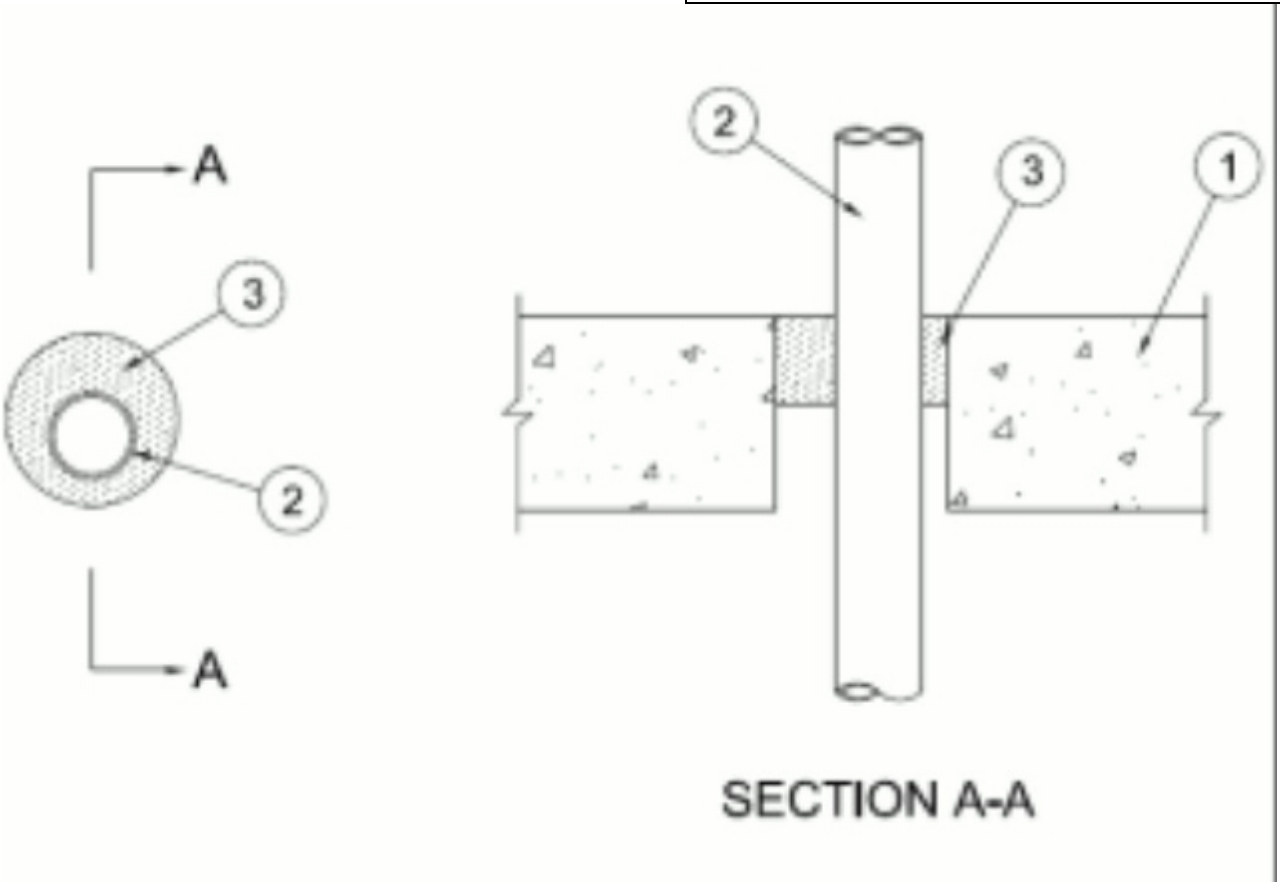
RECTORSEAL — Metacaulk 1000, Biostop 500+ or FlameSafe 1900

*** 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. F-A-2223

February 18, 2013

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —2 Hr	F Ratings —2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Ratings —2 Hr
	FTH Rating — 0 Hr



System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Diam of opening shall be 2 in. (51 mm) larger than the nom diam of penetrant.

2. **Nonmetallic Pipes —** Nom 2 in. (51 mm) diam (or smaller) nonmetallic pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Pipe to be installed concentrically or eccentrically within the firestop system. The annular space between the pipe and periphery of opening shall be min 1/2 in. (13 mm) to max 1 in. Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipe may be used:

A. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) SDR 7.4 PP pipe.

AQUATHERM — Fusiolen

B. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) SDR 11 PP pipe.

AQUATHERM — Fusiolen

3. **Fill, Void or Cavity Material* — Sealant —** Min 2 in. (51 mm) thickness of sealant applied within the annulus, flush with top surface of floor or both surfaces of wall.

RECTORSEAL — Metacaulk 1000, Biostop 500+ or FlameSafe 1900

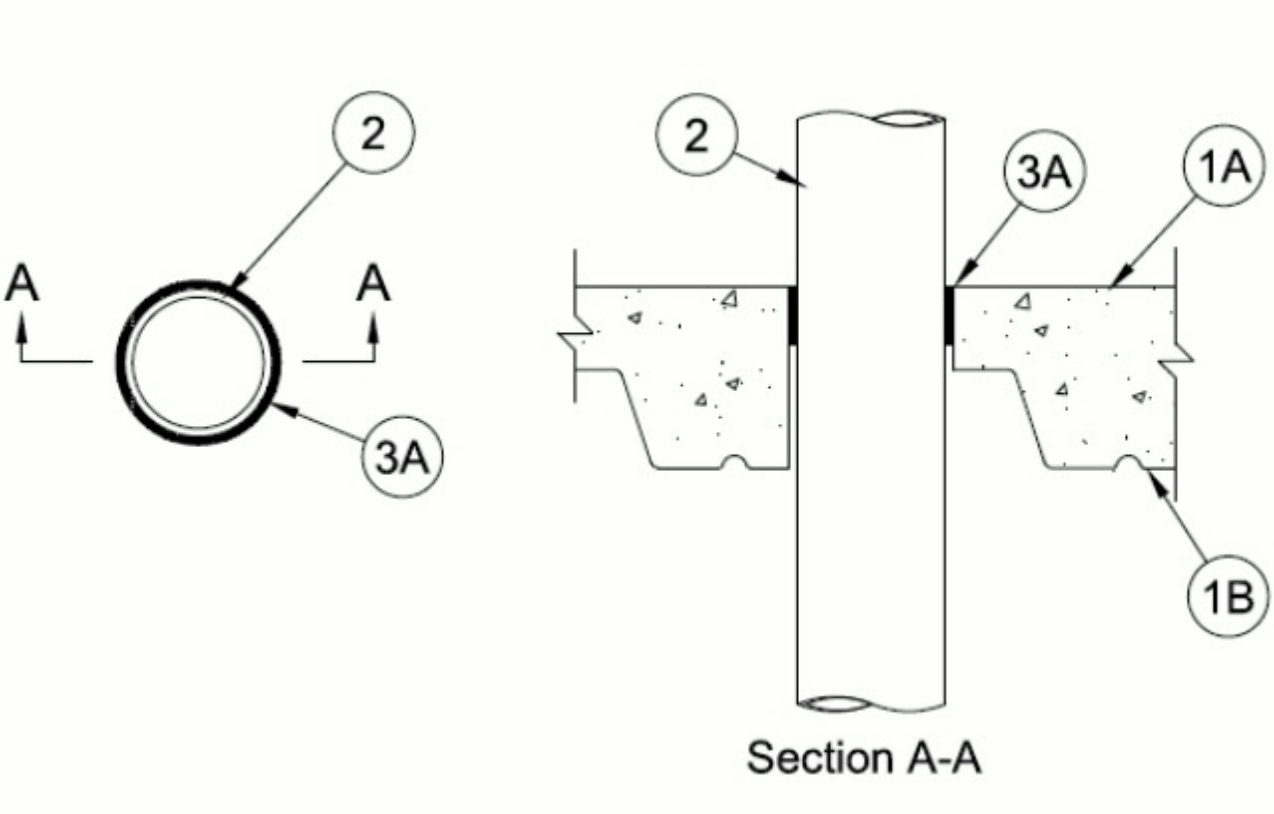
*Bearing the UL Classification Mark

System No. F-A-2227

October 29, 2013

F Rating — 2 Hr

T Rating — 3/4 Hr



1. **Floor Assembly —** The fire-rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. **Normal Weight Concrete —** Min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete topping as measured over the crests of the steel floor units.

B. **Steel Floor and Form Units* —** Composite or noncomposite 3 in. (76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design. For nom pipe diam of 1 in. (25 mm) or less, the diam of opening core-drilled through floor assembly to be 2 in. (51 mm) greater than nom pipe diam. For nom pipe diam exceeding 1 in. (25 mm), the diam of opening core-drilled through floor assembly to be 1-1/2 in. (38 mm) greater than nom pipe diam.

2. **Through Penetrants —** One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 1/4 in. (6 mm) to max 3/4 in. (19 mm) or 1-1/2 in. (38 mm) for max pipe diam of nom 2 in. or 1 in. (51 or 25 mm) respectively. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Aquatherm Greenpipe SDR 7.4 with Faser PP pipe for use in closed (process or supply) piping systems.

B. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Aquatherm Greenpipe SDR 11 PP pipe for use in closed (process or supply) piping systems.

C. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Aquatherm Bluepipe or Climatherm SDR 11 with Faser PP pipe for use in closed (process or supply) piping systems.

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

A. **Fill, Void or Cavity Materials * - Caulk —** Min 2 in. (51 mm) thickness of caulk applied within annulus, flush with top surface of floor.

RECTORSEAL — Metacaulk 1000, Metacaulk 350i, Biostop 350i, Biostop 500+

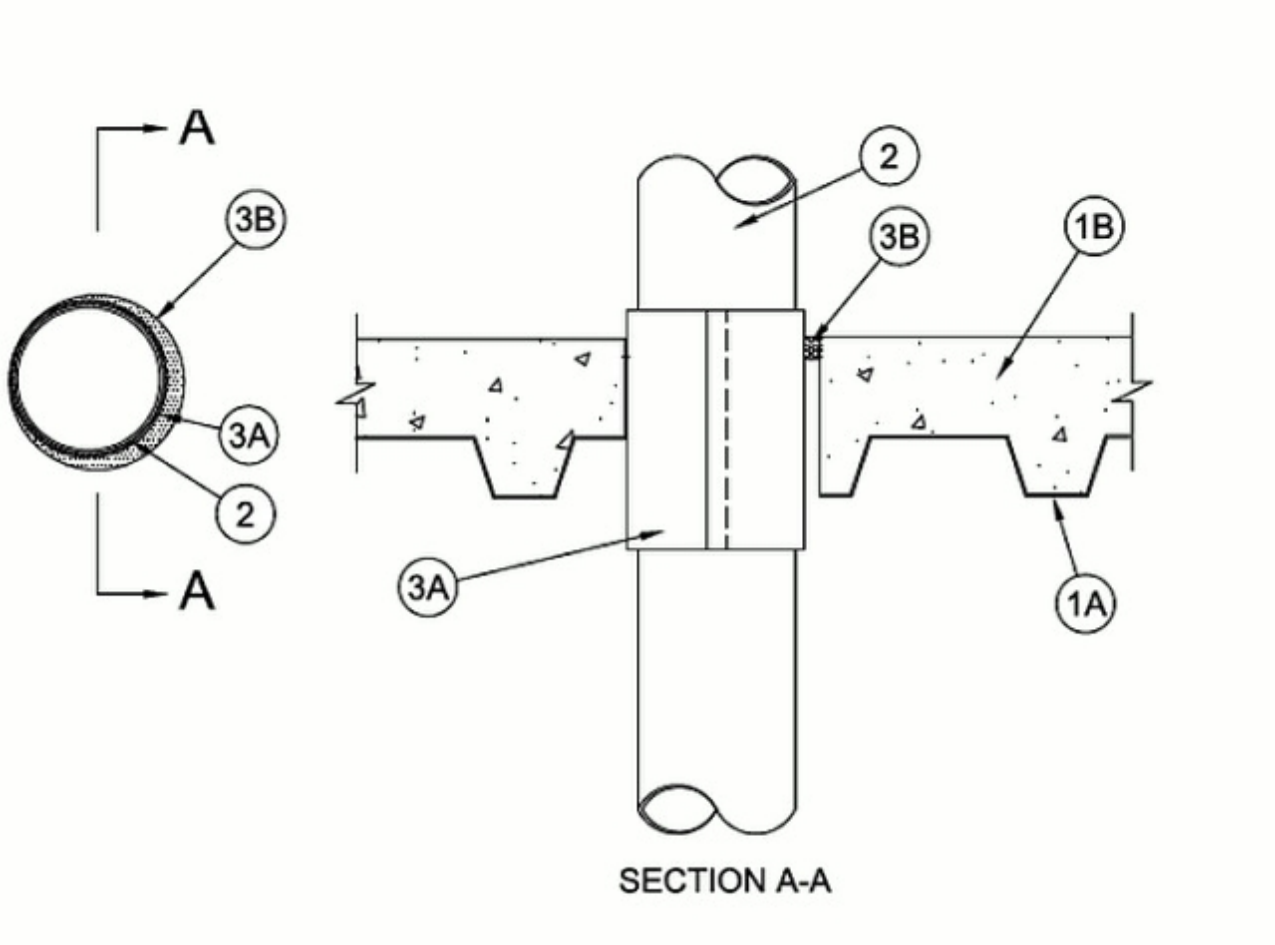
*Bearing the UL Classification Mark

System No. F-A-2228

October 29, 2013

F Rating — 3 Hr

T Rating — 3/4 Hr



SECTION A-A

1. **Steel Deck/Floor Assembly —** The floor assembly shall consist of a fluted steel deck/concrete floor assembly. The floor assembly shall be constructed of the materials and in the manner described in the individual D900 Series 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 fluted units.

B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units. Max diam of opening is 6 in. (152 mm).

2. **Through Penetrants —** One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and periphery of opening shall be min 1/4 in. (6 mm) to max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of the floor assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP) Pipe —** Nom 4 in. (102 mm) diam (or smaller) Aquatherm Greenpipe SDR 7.4 with Faser PP pipe for use in closed (process or supply) piping systems.

B. **Polypropylene (PP) Pipe —** Nom 4 in. (102 mm) diam (or smaller) Aquatherm Greenpipe SDR 11 PP pipe for use in closed (process or supply) piping systems.

C. **Polypropylene (PP) Pipe —** Nom 4 in. (102 mm) diam (or smaller) Aquatherm Bluepipe or Climatherm SDR 11 with Faser PP pipe for use in closed (process or supply) piping systems.

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

A. **Firestop Device —** Galv steel sleeve lined with an intumescent material sized to fit the specific diam of the through penetrant. Device to be installed in accordance with the manufacturer\'s installation instructions along with the following: Device to be wrapped around outer circumference of through penetrant and installed through the annular space of the opening. The device shall be secured together by means of min 3/4 in. (19 mm) wide glass cloth electrical tape, duct tape, fiberglass tape, pop rivets, hose clamps or tie wires around the outer circumference of through penetrant, spaced max 2 in. (51 mm) OC. The device shall be centered within the floor and extend equally beyond the top surface of the floor and the bottom of the steel deck.

RECTORSEAL — Metacaulk Intumescent Sleeve

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.

RECTORSEAL — Metacaulk 1000, Metacaulk 350i, 150+, Biostop 350i, Biostop 500+

C. **Fill, Void or Cavity Material* —** (Optional. Not Shown) — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus between firestop device sleeve and penetrant, flush with top of the firestop device.

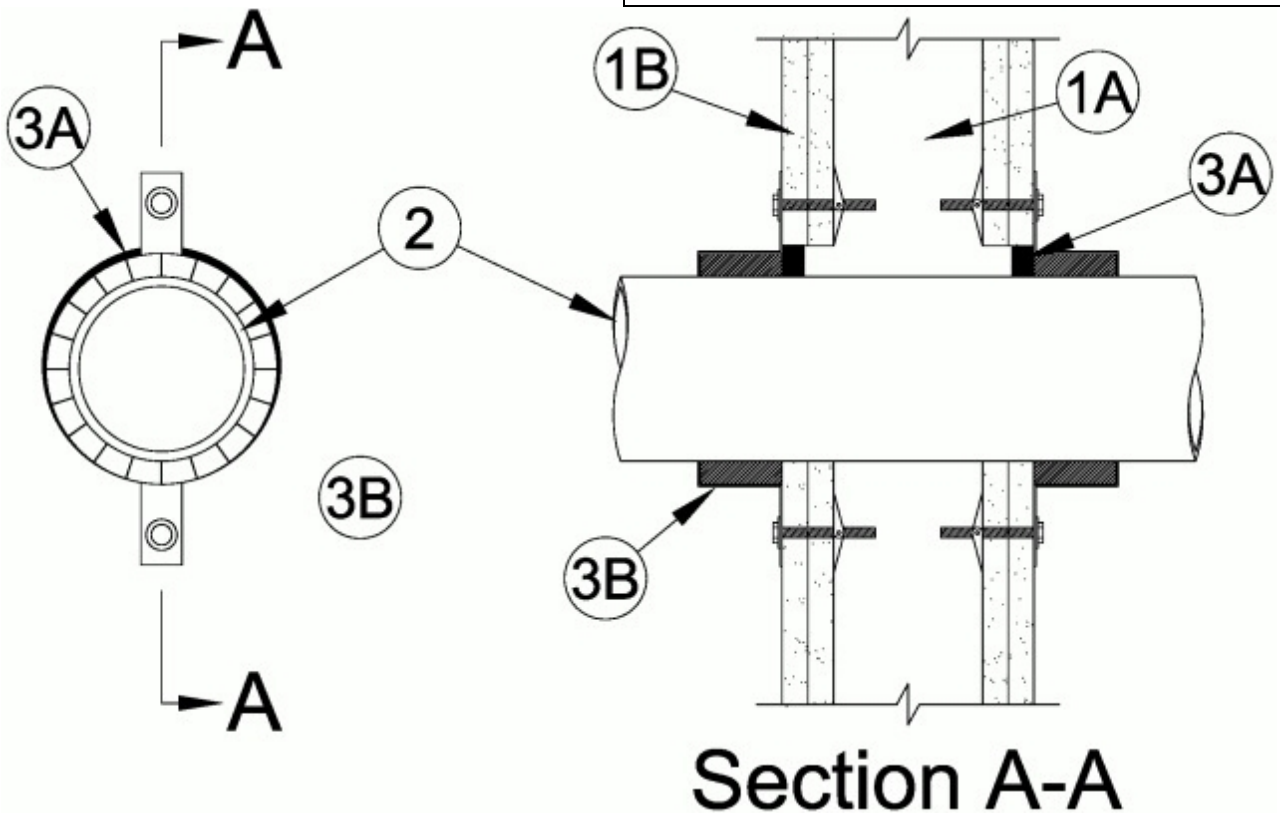
RECTORSEAL — Metacaulk 1000, Biostop 150+, Metacaulk 150+, Metacaulk 350i, Biostop 350i, Biostop 500+, Metacaulk and Biostop PuttySticks

*** 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-2563

September 14, 2011

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 Ratings — 0, 1/2 and 1 Hr (See Item 2)	FT Ratings — 0, 1/2 and 1 Hr (See Item 2)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 0, 1/2 and 1 Hr (See Item 2)



System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

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, V400 or W400 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 min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Wall opening to be max 5/8 in. (16 mm) larger than outside diam of nonmetallic pipe. Max diam of opening is 4 in. (102 mm).

The F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Nonmetallic Pipe —** One nom 3 in. (76 mm) diam (or smaller) nonmetallic pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipe may be used:

A. **Polypropylene (PP) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Aquatherm Greenpipe SDR 7.4 with Faser PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

B. **Polypropylene (PP) Pipe —** Nom 3 in. (76 mm) diam (or smaller) Aquatherm Greenpipe SDR 11 PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

C. **Polypropylene (PP) Pipe —** Nom 3 in. (76 mm) diam (or smaller) Aquatherm Climatherm SDR 11 with Faser PP pipe for use in closed (process or supply) or vented (drain, waste and vent) piping systems.

When max 2 in. (51 mm) diam pipe is used, the T, FT and FTH Ratings of the firestop system are 1/2 Hr when installed in 1 Hr fire rated wall and 1 Hr when installed in 2 Hr fire rated wall. When max 3 in. (76 mm) diam pipe is used, the T, FT and FTH Ratings of the firestop system are 0 Hr when installed in 1 Hr fire rated wall and 1/2 Hr when installed in 2 Hr fire rated wall.

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

A. **Fill, Void or Cavity Materials * - Caulk —** Min 1/2 in. (13 mm) thickness of caulk applied within annulus, flush with both surfaces of wall assembly. When the annular space between the pipe and the edge of the wall opening is less than 1/4 in. (6 mm), use of the caulk in the annulus is optional.

RECTORSEAL — Type MC150+, 350i, 1000, 1100, 1200, FS900+, FS1900, FS4000

B. **Firestop Device* —** Galv steel collar lined with an intumescent material sized to fit specific diam of the through penetrant. Devices to be installed around through penetrant on each side of the wall in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to the wall surface with 3/16 in. (5 mm) diam steel hollow wall anchors.

RECTORSEAL — Metacaulk Pipe Collar, Biostop Pipe Collar or Flamesafe Pipe Collar

C. **Fill, Void or Cavity Material* - Wrap Strip —** (Not Shown) - As an alternate to Item 3B when max 2 in. (51 mm) diam pipe is used, single layer of nom 1/4 in. (6 mm) thick by 1 in. (25 mm) wide intumescent wrap strip wrapped around the outer circumference of the pipe on each side of the wall. Wrap strip installed with butted seam and such that edge of wrap strip is flush with the surface of wall. Wrap strip temporarily secured with tape or tie wire.

RECTORSEAL — Metacaulk Wrap Strip, Biostop Wrap Strip or Flamesafe Wrap Strip

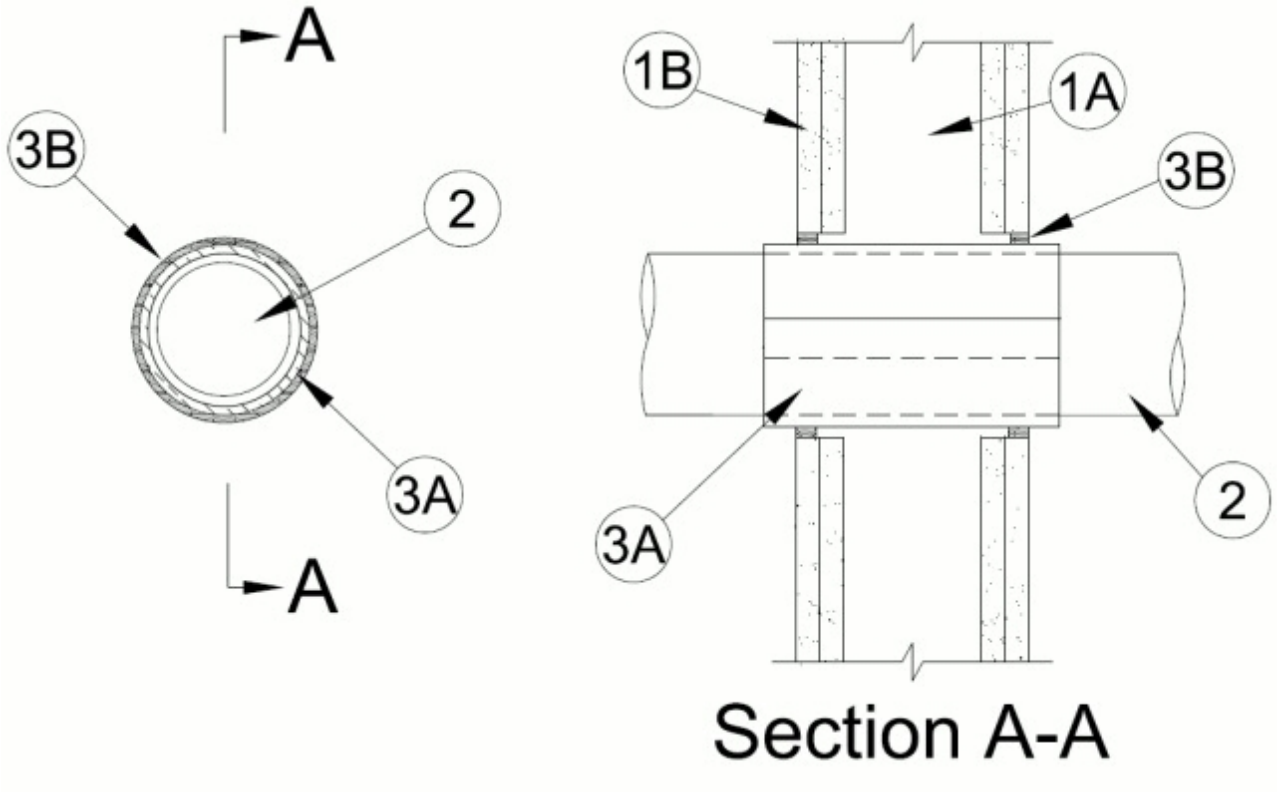
D. **Steel Collar —** (Not Shown) - When Item 3C is used, a collar fabricated from coils of precut min 0.016 in. thick (0.41 mm) galv steel available from fill material manufacturer shall be installed to restrain wrap strip. Collar shall be nom 1 in. (25 mm) deep with 1 in. (25 mm) wide by 1-1/2 in. (38 mm) long anchor tabs for attachment to wall. In addition, collar provided with 1/2 in. (13 mm) wide by 3/4 in. (19 mm) long retainer tabs opposite the anchor tabs. Collar shall be wrapped over the wrap strip, overlapping min 1 in. (25 mm). The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Collars secured to wall at three anchor tabs with Type G laminating screws or 3/16 in. (5 mm) diam steel hollow wall anchors in conjunction with 1/4 by 5/8 in. (6 by 16 mm) diam steel washers.

*Bearing the UL Classification Mark

System No. W-L-2606

June 04, 2015

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 Ratings — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (See Item 1)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 1 and 2 Hr (See Item 1)



System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

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, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (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.

B. **Gypsum Board* —** Min 5/8 in. (16 mm) with square or tapered edges. Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Diam of opening shall be max 1-11/16 in. (43 mm) larger than OD of through penetrant. Max diam of opening is 8 in. (203 mm).

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

2. **Through Penetrants —** One nonmetallic pipe to be installed concentrically within the firestop system. The annular space between the pipe and periphery of opening shall be max 7/8 in. (22 mm). Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polypropylene (PP-R) Pipe —** Nom 6 in. diam - 160 mm OD (or smaller) SDR 17.6 MF Aquatherm Blue Pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

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

A. **Firestop Device* —** Galv steel sleeve lined with an intumescent material sized to fit the specific diam of the through penetrant. Device to be installed in accordance with the manufacturer's installation instructions along with the following: Device to be wrapped around outer circumference of through penetrant and installed through the annular space of the opening. The device may be temporarily secured by means of tape or tie wires around the outer circumference of through penetrant to allow for installation of the fill material (Item 3B). The device shall be centered within the wall and extend equally beyond each surface of the wall.

RECTORSEAL — FlameSafe® Intumescent Sleeve 68, Metacaulk Intumescent Sleeve 68 or Biostop Intumescent Sleeve 68

B. **Fill, Void or Cavity Material* — Sealant —** Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.

RECTORSEAL — Metacaulk 1000, Metacaulk 150+, Biostop 500+, Biostop 150+, FlameSafe 1900

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