SPEC·DATA™

Specified Technologies, Inc.

1. Product Name

SpecSeal® Firestop Products
EZ-Path™ Fire Rated Pathway
- Pensil® Silicones
- Water Based Firestop and Joint Sealants and Sprays
- Firestop Putty and Putty Pads
- Firestop Mortar
- Firestop Pillows
- Firestop Collars and Intumescent Wrap Strips

2. Manufacturer

Specified Technologies, Inc. (STI)
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    (908) 526-8000
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www.stifirestop.com

3. Product Description

BASIC USE
These products are used solely or in combination to construct firestop systems effective in sealing through-penetrations, construction joints and high traffic openings against the spread of fire, smoke or hot gasses. A wide range of tested systems is available for standard constructions and penetrants with ratings up to 4 hours. These products and systems are suitable for sealing electrical, plumbing, mechanical, or data/communications penetrations, including:

Pipes, Conduits or Ducts
- Metallic
- Nonmetallic
- Insulated

Cables
- Telephone
- Power
- Data and Control

Cable Trays and Bus Ducts
- Steel
- Aluminum and Copper

Construction Joints

COMPOSITION & MATERIALS
STI Firestop Products are a unique combination of passive and intumescent (expands when heated) materials. Products utilizing this expansion mechanism exhibit unusually fast and aggressive, highly directionalized expansion.

Water Based Sealants
Series SSS, LCI, LC and ES Sealants are latex based, water resistant, flexible sealants. These products are available in a multi-viscosity grade suitable for caulking, troweling, pumping or bulk loading.
- Series SSS is a highly intumescent product well-suited for a wide range of combustible and noncombustible penetrants
- Series LCI is an intumescent product custom suited for a specific range of combustible and noncombustible penetrants
- Series LC is a nonintumescent sealant designed as an economical and effective solution for noncombustible penetrants
- Series ES is a highly elastomeric and non-halogenated, latex based material designed to provide passive smoke and fire protection and reduces sound transmission in construction joints

Firestop Putty (Series SSP) and Putty Pads
This nonhardening putty is based upon a highly water resistant liquid rubber matrix. Its unique combination of fillers yields a product that is at once soft and pliable yet extremely adhesive.

TABLE 1: FIRESTOP PRODUCT SIZES & CATALOG NUMBERS

Water Based Sealants & Spray

10.1 Oz. (19 cu. in.) Caulk Tube	SSS100	LC150	LCI300	ES100		
29 Oz. (52 cu. in.) Caulk Tube	SSS129	LC129	LCI329	ES129		
20 Oz. (36 cu. in.) Sausage	SSS120		LCI320	ES120		
2 Gal. (462 cu. in.) Poly Pail	SSS102					
5 Gal. (1,155 cu. in.) Poly Pail	SSS105	LC155	LCI305	ES105	AS105	AS205

Silicone Sealants

10.3 Oz. (18.3 cu. in.) Caulk Tube	PEN300
5 Gal. (1,155 cu. in.) Poly Pail	PEN305 PEN305SL

Firestop Putty

2 Lb. (36 cu. in.) Bar	SSP100
7.25" X 7.25" X 3/16" Pad	SSP4S
9.00" X 9.00" X 3/16" Pad	SSP9S

Firestop Mortar

22 Lb. (1,325 cu. in.*) 6 Gal.** Poly Pail	SSM106
22 Lb. (1,325 cu. in.*) Multi-Wall Bag	SSM22B

Firestop Pillows

1"(2.54cm) x 4" (10.2cm) x 9" (22.9cm)	SSB14
2"(5.1cm) x 4" (10.2cm) x 9" (22.9cm)	SSB24
2"(5.1cm) x 6" (15.24cm) x 9" (22.9cm)	SSB26
3"(7.6cm) x 6" (15.24cm) x 9" (22.9cm)	SSB36

2 Part Silicone Foam

100 Lb. Kit (50# Part A, 50# Part B)	PEN200

Wrap Strips

Red 1/4" X 1-1/2" X 12' Roll	SSWRED
Blue 3/16" X 2" X 12' Roll	SSWBLU SSWBLU2

Restraining Collar

25' Roll (28 gauge galvanized steel)	SSWRC	SSWRC2	WSC-8 WSC-8RED

Molded Firestop Collars

For 1.5" Trade Size Pipe or Conduit	SSC151	LCC150
For 2" Trade Size Pipe or Conduit	SSC202	LCC200
For 3" Trade Size Pipe or Conduit	SSC301	LCC300
For 4" Trade Size Pipe or Conduit	SSC400	LCC400
For 6" Trade Size Pipe or Conduit	SSC600	

EZ-Path Fire Rated Pathway and Accessories

Single Device, full kit includes wall plates & labels	EZDP33FWS
Single Device, retrofit kit includes wall plates & labels	EZDP33WR
Fire Rated Pathway Device	EZD33FWS
One pair (2) single wall plates with wall labels	EZP133W
One pair (2) double wall plates with wall labels	EZP233W
One pair (2) triple wall plates with wall labels	EZP333W
One pair (2) positioning clamps	EZP133PC

*   Average volume of mixed mortar.
** Packed to weight in 6 Gal. pail to allow headroom for mixing in the pail.

Reed Construction Data

WATER-BASED SEALANTS
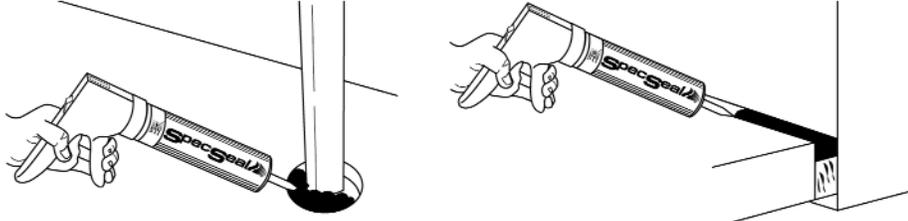
PRIMARY USES:

SSS Intumescent Firestop Sealant
- Through-Penetration Firestops. Combustible and noncombustible. All constructions. UL Classified & FM Approved.

LCI Intumescent Firestop Sealant
- Through-Penetration Firestops. Combustible and noncombustible. Most Constructions. UL Classified & FM Approved.

LC Endothermic Firestop Sealant
- Through-Penetration Firestops. Primarily noncombustible. Most Constructions. UL Classified.

ES Elastomeric Joint Sealant
- Construction Joints – UL Classified

PHYSICAL PROPERTIES

Property	SSS	LCI	LC	ES
Color	Red	Pale Red	Blue	Pale Blue
Density (Lbs./Gal)	9.4 ± .4	9.0 ± .4	9.4 ± .4	10.3 ± .4
% Solids	80 ± 2	80 ± 2	80 ± 2	66 ± 2
pH	8.3 ± .5	9.0	8.3 ± .5	7.5 ± .5
Flame Spread[1]	0	0	0	5
Smoke Development	10	5	5	5
Water Resistance[2]	Excellent	Excellent	Excellent	Excellent
Sag/Slump (ASTM C639)	<0.1"	<0.1"	<0.1"	<0.1"
In-Service Temp.	≤130°F	≤130°F	≤130°F	≤120°F
Storage Warranty Period	1 Year[3]	1 Year[3]	1 Year[3]	1 Year[3]
Expanded Volume	>500%	>1000%	NA	NA
Expansion Begins	230°F	320°F	NA	NA
Expansion Ends	>1000°F	>1000°F	NA	NA
Joint Movement Capability	NA	NA	NA	±15%
Acoustical Testing	Yes	Yes		Yes

[1] Tested to ASTM E84 (UL723) @ 14% coverage.
[2] When dry (drying time dependent on temperature and humidity).
[3] From date of shipment if stored in original unopened container at 80°F (27°C).
NA Not Applicable.

Pensil® (PEN) Silicone Sealants
Pensil PEN sealants are 1 part neutral curing premium silicone sealants providing an unmatched combination of strength and flexibility for firestopping through-penetrations and critical construction gaps.
- PEN300 is available in both self-leveling and non-sag grades, is a low modulus sealant designed and tested for the dynamic requirements of construction joints
- PEN200 2-part silicone foam is designed for sealing large penetrations and is ideally suited for cable or cable tray installation where easy addition or removal of cables is a vital consideration

FIRESTOP PUTTY
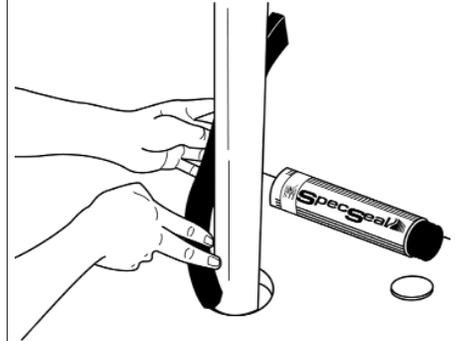
PRIMARY USES:

- Application Requiring Easy Retrofit Through Small To Medium Openings – All Constructions.

PENETRANTS:

- Steel Pipe Or Conduit up 6".
- Electrical Or Telephone Cable
- Protection of Electrical Boxes In Hollow Walls.

PHYSICAL PROPERTIES:

Color	Red
Density	1.45
Solids	100%
Expanded Volume	> 500%
Expansion Begins	230°F.
Expansion Ends	>1,000°F.
Acoustical Testing	Yes

Firestop Mortar (Series SSM)
Ready-to-mix mortar provides an economical firestop material for medium to large penetrations. It can be combined with other SpecSeal products to provide solutions for large openings containing very complex multiple penetrants. This durable, low density seal is easy to repenetrate in retrofit situations.

Firestop Pillows (Series SSB)
Firestop Pillows resemble small cushions and are ideal for firestopping cable installations and are unexcelled in ease of retrofit. These pillows con-
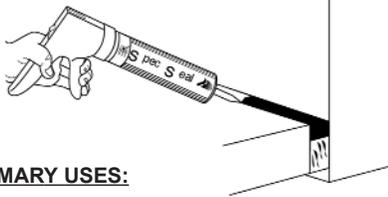
Reed Construction Data

SPEC·DATA™

Specified Technologies, Inc.

PENSIL® 300 SEALANT

PRIMARY USES:

- Construction Joints
- Through Penetrations

JOINT TYPES:

- Expansion
- Seismic
- Control
- Head-of-Wall
- Safing or Perimeter

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Color	Concrete
Flame Spread[1]	5
Smoke Development[1]	45
Hardness Shore[1], ASTM D2240	25
Tensile Strength ASTM D412	270
Peel Strength ASTM C794-80	55 ppi
Movement Capability ASTM C719	±50%
Stress @ 50% Extension[2]	35 lbs/in
Tooling Time	30 Minutes
Tack Free Time, ASTM C619	5-9 Hours
Sag: Slump (NS Grade) ASTM C639	0.1"
Ozone & UV Resistance[3]	Excellent
Storage Warranty Period[4]	12 months

[1] @14% coverage, ASTM E84
[2] ½"×½" Bead
[3] Weatherometer Twin Arc
[4] From date of shipment if stored in original unopened container at 80°F (27°C).

ELASTOMERIC SPRAY
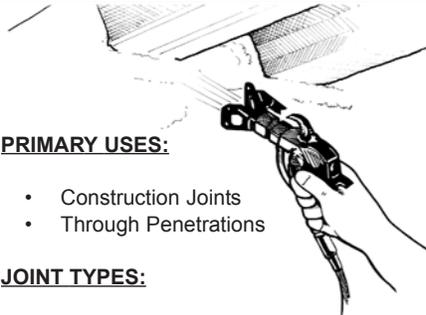
PRIMARY USES:

- Construction Joints
- Through Penetrations

JOINT TYPES:

- Expansion
- Seismic
- Control
- Head-of-Wall
- Safing or Perimeter

Color	Pale Blue
Odor	Mild Latex
Lbs/Gal	12
Coverage	12.8 sq.ft./gal@1/8"
	0.31sq.m/l@3.2mm
pH	7.5
Solvent Content	None
Flame Spread[1]	0
Smoke Development[1]	25
Movement Capability	±18.75%
Drying Time - Tack Free[2]	2 Hours
Drying Time - Dry-Through[2]	24-48 Hours
In-Service Temp.	≤ 120°F(49°C)
Storage Warranty Period[3]	12 months
Acoustical Testing	Yes

[1] @14% coverage, ASTM E84
[2] Dependent on temperature and humidity
[3] From date of shipment if stored in original unopened container at 80°F (27°C).

FIRE RATED PATHWAY
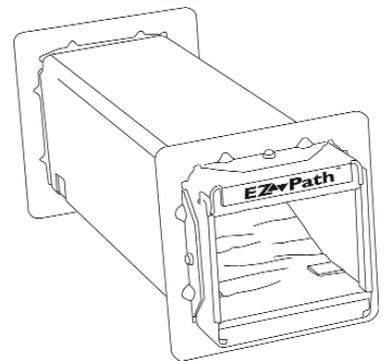
PRIMARY USES:

- EZ-Path is designed for easy installation in walls and floors.
- EZ-Path Fire Rated Pathway is a raceway device designed to allow cables to penetrate fire-rated walls without the need for firestopping.

Shell Composition	0.059" Gal. Steel
Cable Loading Area	6 sq.in. (nom.)
Allowable Cable Fill	100% Visual
Fire Resistance Ratings	1, 2 and 4 Hour
Expansion Begins	350°F
Volume Expansion	800%
Sample Cable Volume (Cat 5)	120 (nom.)
In-Service Temp	≤ 120°F(49°C)

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sist of a monolithic, mineral fiber core sealed in a water resistant, intumescent membrane. Under fire conditions, this membrane is capable of expanding the pillow's volume by up to 250%. A tough nonirritating, heat sealed fire retardant poly bag further protects the intumescent core and makes the installation clean and simple.

Firestop Collars (Series SSC and LCC)
Series SSC Collars are factory manufactured products specifically trade sized for pipes from 1 1/2" - 6" (38 - 152 mm). Series LCI Collars are designed for pipes up to 4" (101 mm). Systems have been tested for most pipe materials, including:

- Polyvinyl chloride (PVC), both solid and foam core
- Chlorinated polyvinyl chloride (CPVC)
- Fire retardant polypropylene (FRPP)

- Acrylonitrile butadiene styrene (ABS) both solid and foam core

Intumescent Wrap Strips (Series SSW)
STI produces 2 types of highly intumescent wrap strips. These products are composed of a highly elastic and flexible water resistant polymer sandwiched between 2 thin layers of polyethylene. Designed for use in field manufactured collars and for "tuck-in" protection around smaller plastic pipes or for insulated pipes, these products protect a wide variety of pipe materials, including a full range of FRPP designs up to and including 6" and 8" (152 and 203 mm) trade sizes and up to 12" (305 mm) PVC.

Elastomeric Spray (Series AS)
This highly elastomeric coating is a nonhalogenated, latex based material designed to

provide passive smoke and fire protection in construction joints.

EZP EZ-Path™ Fire Rated Pathway
EZ-Path is the easy-to-install solution for penetrating fire-rated walls in new or retrofit cable installations. The compact square design (3" × 3" × 10.5" long) (76 × 76 × 267 mm long) provides greater cable loading than a conventional 4" (102 mm) sleeve. Cables can be added or changed without the need to remove and reinstall firestopping materials.

SIZES
See Table 1.

LIMITATIONS
The following conditions should be adhered to:
- Product use and installation must conform to the manufacturer's written installation
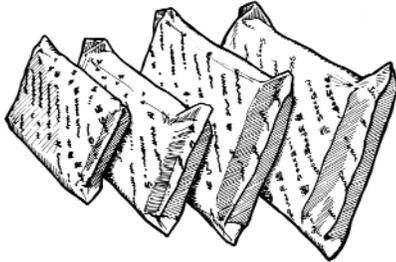
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SPEC·DATA™

Specified Technologies, Inc.

FIRESTOP PILLOWS

PRIMARY USES:

- Application Requiring Easy Retrofit Through Small To Medium Openings – All Constructions.

PENETRANTS:

- Cable Trays
- Electrical, Data or Telephone Cable
- Electrical Conduits
- Innerducts
- Piping: Fan Coil Units

PHYSICAL PROPERTIES:

Color	Red
Nominal Density	4 PCF (53 kg/m³)
Flammability*	V-0
Compression**	25%-33%
Expansion Begins	230°F.
In-Service Temp.	>130°F.

* Outer poly bag

** As installed

FIRESTOP MORTAR
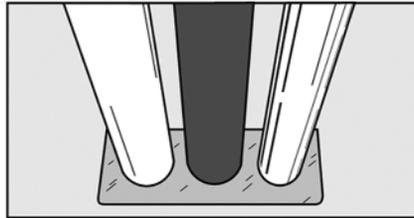
PRIMARY USES:

- Fill Down Medium To Large Openings – Concrete Or Masonry Construction For A Wide Variety Of Penetrants.

PENETRANTS:

- Metallic Pipes.
- Cable Trays, Bus Duct.
- Electrical Or Telephone Cable.
- Certain Nonmetallic Pipes.

PHYSICAL PROPERTIES:

Color	Pale Red
Flame Spread	0
Smoke Development	<5
Yield/22 Lb	1,250 - 1,425 Cu. In.
Application Temp.	32°F - 100°F
Tooling Time (Minutes)	30

WRAP STRIPS
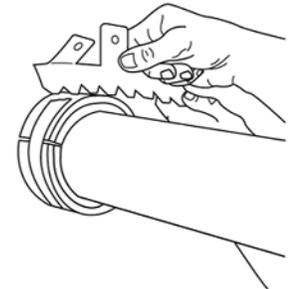
PRIMARY USES:

- Plastic Pipes (up to 8", 10" & 11") And Insulated Pipes Through All Constructions.

PENETRANTS:

- PVC, CPVC Up To 10".
- FR Polypropylene Up To 8".
- ABS & PVC Foam Core Up To 6".
- Pipe Insulation Up To 3".

PHYSICAL PROPERTIES:

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Color (Std, BLU)	Red, Blue
Length, Width	1/2", 2" X 12'
Thickness (Std, BLU)	1/4", 3/16", 1/8"
Free Expanded Volume	16-30X
Expansion Begins	250°F
Expansion Ends	>1,000°F
Moisture Resistance	Excellent

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instructions
- Water based sealants are subject to freezing and must be installed and stored at minimum 40 degrees F (4 degrees C) temperatures
- Water based sealants and wet mortar are conductive until dry and must not be applied directly to, or adjacent to, energized electrical conductors
- All products referenced herein may be subject to additional limitations or requirements. Consult individual product safety data sheets, product data sheets and *STI Product and Application Guide* for additional pertinent information

4. Technical Data

APPLICABLE STANDARDS
ASTM International

- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- ASTM E814 Standard Test Method for Fire Tests of Through-Penetration Fire Stops
- ASTM E1399 Standard Test Method for Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint Systems
- ASTM E1966 Standard Test Method for Fire-Resistive Joint Systems

Underwriters Laboratories, Inc. (UL)
- UL 263 Standard for Safety for Fire Tests of Building Construction and Materials
- UL 723 Standard for Safety for Surface Burning Characteristics of Building Materials
- UL 1479 Standard for Safety for Fire Tests of Through-Penetration Firestops

- UL 1978 First Edition of the Standard for Safety for Grease Ducts
- UL 2079 Standard for Tests for Resistance of Building Joint Systems

Over 625 tested systems are presently published in applications ranging from through-penetration firestops to fire-rated joint seals.
- Through Penetration Firestop Systems are based upon tests conducted in accordance with ASTM E814. Additionally, appropriate products and systems are Factory Mutual Research Corporation (FM) approved
- SpecSeal Joint Sealants and Spray have been tested in a wide variety of joint configurations with ratings up to 4 hours. Joint designs have been tested to the requirements of UL 2079, ASTM E1966 and ASTM E1399

Reed Construction Data

Specified Technologies, Inc.

FIRESTOP COLLARS
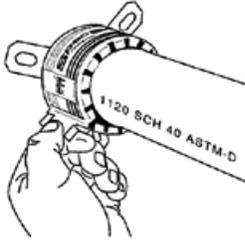
PRIMARY USES:

- Plastic Pipes up to 6" Through All Constructions.

PENETRANTS:

- PVC, CPVC Up To 6".
- FR Polypropylene Up To 6".
- ABS & PVC Foam Core Up To 4".
- Two Wall Thicknesses For Smaller & Larger Annulus.

PHYSICAL PROPERTIES:

Shell Construction	22 Gauge Galvanized Steel
Intumescent Insert	Molded One Piece
Expanded Volume	6-24X
Expansion Begins	250°F
Expansion Ends	>1,000°F
Moisture Resistance	Excellent

5. Installation

PREPARATORY WORK

Proper adhesion and bonding of all sealants, coatings and mortars require that all contact surfaces be free of oil, loose dirt, rust or scale. Forming materials may be required in some cases to retain fill materials and may contribute to fire ratings.

METHODS

Consult product data sheets for individual products for more complete details concerning the suggested installation methods and limitations of these products.

Sealants

Sealants can be applied by troweling, using a standard mason's trowel or a common putty knife. Sealants can be caulked in place using standard 1/10 gal (0.38 L) caulk tubes or by bulk loading guns directly from poly pail. Sealant may be pumped or power caulked using airless pumps designed for this purpose.

STI Firestop Products

Elastomeric Spray

Coating is applied to construction surfaces using high volume, airless spray equipment. Consult manufacturer for equipment recommendations and full installation instructions.

Putty

Standard method of application is by hand packing. While bundled cables have been successfully fire tested, spacing of cables to allow placement of putty into interstices is required to ensure a tight smoke seal.

Mortar

Mortar can be placed using standard mason's techniques and tools and may be pumped using an air operated double diaphragm pump or a plastering pump. Combustible penetrants can be protected using SpecSeal® Wrap Strips installed prior to placing mortar (consult installation instructions). Contact surfaces should be dampened with clean water to enhance adhesion.

Firestop Pillows

Firestop pillows are installed by stacking and compressing into the opening lengthwise to form a 9" (229 mm) thick seal. To better conform to cable bundle and completely fill the opening, pillows may be installed flat or upright on edge.

Firestop Collars

Firestop collars are designed to be installed on the external surface of walls or floors. Collars provide appropriate fastening method for closure around the pipe. Installer provides appropriate fasteners for attaching to the wall or floor surface. Collar is required at the underside of floors and on both sides of walls.

Wrap Strips

Wrap strips are designed to be installed by manually wrapping around the penetrant being protected. In "tuck-in" applications, wrap strip is secured to the penetrant using a steel tie wire or foil tape. A galvanized sheet metal restraining collar is available from the manufacturer for surface mounted applications.

Installation methods have been developed for steel deck floors or for sleeved penetrations that permit the collars to be installed from the top surface of the floor and suspended down into the opening.

28 gauge galvanized steel restraining collar is available from the manufacturer in 25' (8 m) long rolls for applications up to and including 4" (102 mm) plastic pipes. Individually sized restraining collars in required heavier gauge metals for larger plastic pipes are also available.

Reed Construction Data

EZ-Path Fire Rated Pathways
EZ-Path is designed for easy installation in walls. Tested and approved cable capacities range from 0 to 100% visual fill. EZ-Path, when installed with available wall plates, is designed for new cable installations. EZ-Path's split body design also allows the device to be easily disassembled and installed around previously installed cables in existing construction.

6. Availability & Cost
STI Firestop Products are available from authorized STI distributors throughout the United States. STI warehouses these products in New Jersey and at strategic regional locations ensuring ready availability and prompt delivery. These products are designed to provide an economical installed cost and competitive pricing (at suggested resale). Pricing is available from local distributors. For the name of the local sales representative and/or distributor, call toll-free (800) 992-1180 or go online to www.stifirestop.com.

7. Warranty
Specified Technologies, Inc., manufactures its goods in a manner to be free of defects. All such products delivered to the Buyer are warranted to comply with physical and chemical specifications and description for a period of 1 year or such other as stated in the product data sheet. Specified Technologies, Inc., does not warrant the workmanship with which its products are applied by others and obligates itself to the Buyer only to replace or, at its option, refund the purchase price of any such product found to be defective. The liability of Specified Technologies, Inc., whether based on its warranties, contract or otherwise, shall in no case exceed the purchase price for the Specified Technologies, Inc., product and does not include incidental or consequential damages.

LIMITATIONS & EXCLUSIONS
The foregoing shall constitute the sole and exclusive remedy of the buyer and the sole and exclusive liability of Specified Technologies, Inc. The warranties stated in this paragraph are in lieu of all other warranties written or oral, expressed or implied, including any warranties of merchantability or fitness of purpose.

8. Maintenance

INSPECTION
Installations should be periodically inspected for subsequent damage. Any damage should be repaired using the original product and approved design.

RETROFIT
When adding or removing penetrants, care should be taken to minimize damage to the seal. Reseal using appropriate materials and methods as per the requirements of the altered installation.

9. Technical Services
Product data sheets are available for each product as well as UL Systems or CAD (.dwg) compatible files suitable for submittal or design purposes. STI provides toll-free technical support to assist in product selection and appropriate installation design.

10. Filing Systems
• First Source™
• Additional information is available from the manufacturer upon request.