

# FIRESTOP SUBMITTAL PACKAGE

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## *Electrical*

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**PROJECT:**

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**SUBMITTED BY:**



# Electrical

## Concrete Floors

<b>SYSTEM</b>	<b>DESCRIPTION</b>	<b>PRODUCT(S)</b>
<a href="#">C-AJ-1353</a>	Max.6 in.Steel conduit or max.4 in.EMT.Optional steel sleeve.	LCI Sealant
<a href="#">C-AJ-2292</a>	Max.2 in.PVC conduit or ENMT.Optional steel sleeve.	LCI Sealant
<a href="#">C-AJ-3177</a>	Electrical,telephone and data cables.Optional steel sleeve.	LCI Sealant

## Masonry Walls

<b>SYSTEM</b>	<b>DESCRIPTION</b>	<b>PRODUCT(S)</b>
<a href="#">C-AJ-1361</a>	Mult.max.4 in.steel conduit or EMT.	LCI Sealant
<a href="#">W-J-1099</a>	Max.6 in.steel conduit or 4 in.EMT.Steel sleeve.Caulk and Walk.	LCI Sealant
<a href="#">W-J-2076</a>	Max.2 in.PVC conduit or ENMT.Caulk and Walk.	LCI Sealant
<a href="#">W-J-3062</a>	Max.4-1/2 in.cable bundle.Caulk and walk.	LCI Sealant

## Gypsum Board Walls

<b>SYSTEM</b>	<b>DESCRIPTION</b>	<b>PRODUCT(S)</b>
<a href="#">W-L-1093</a>	Scab patch system.Mult.2 in.steel conduit or EMT.Caulk only.	LCI Sealant
<a href="#">W-L-1168</a>	Mult.max.2 in.steel conduits or EMT.Unframed opening.	LCI Sealant
<a href="#">W-L-1222</a>	Max.6 in.steel conduit or 4 in.EMT.Caulk and Walk.	LCI Sealant
<a href="#">W-L-2241</a>	Max.2 in.PVC conduit or ENMT.Caulk and Walk.	LCI Sealant
<a href="#">W-L-3169</a>	Max.4-1/2 in.cable bundle.Caulk and Walk.	LCI Sealant
<a href="#">W-L-3171</a>	Single electrical,telephone or data cable.Caulk and Walk.	LCI Sealant
<a href="#">W-L-3170</a>	Max.4-1/2 in.cable bundle.Steel sleeve.	LCI Sealant
<a href="#">CLIV</a>	Metallic or nonmetallic electrical boxes.	Putty/Putty Pads

## General Certificate of Conformance

### Product Data Sheets

[Series LCI Intumescent Sealant](#)

[Series LCC Intumescent Collar](#)

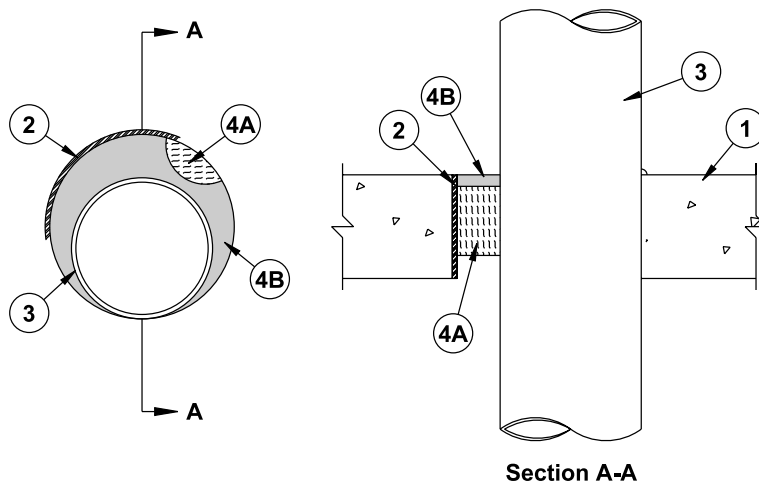
[Series SSP Putty &Putty Pads](#)

### Material Safety Data Sheets

[Series LCI Intumescent Sealant](#)

[Series LCC Intumescent Collar](#)

[Series SSP Putty &Putty Pads](#)



**System No. C-AJ-1353**

November 30, 2001

F Rating — 3 Hr

T Rating — 0 Hr

1. **Floor or Wall Assembly** — Min 2-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete floor. Floor may also be constructed of any min 6 in. thick hollow-core **Precast Concrete Units**\* Wall may also be constructed of any UL Classified **Concrete Blocks**\* Max diam of opening is 10 in. Max diam of opening in floors constructed of hollow-core is 7 in. See **Concrete Blocks (CAZT)** or **Precast Concrete Units (CFTV)** categories in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve** — (Optional) — Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall assembly. Steel sleeve may be installed flush or may project a max 2 in. beyond the floor or wall surfaces.
3. **Through Penetrant** — One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Pipe, conduit or tube to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
  - A. **Steel Pipe** — Nom 12 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
  - B. **Iron Pipe** — Nom 12 in. diam (or smaller) cast or ductile iron pipe.
  - C. **Conduit** — Nom 6 in. diam (or smaller) rigid steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. diam (or smaller) flexible steel conduit.
  - D. **Copper Pipe** — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
  - E. **Copper Tube** — Nom 4 in. diam (or smaller) Regular L (or heavier) copper tube.
- 3A. **Through Penetrating Product\*** — **Flexible Metal Piping** — As an alternate to Item 3, one nom 2 in. diam (or smaller) flexible steel pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Pipe to be rigidly supported on both sides of the floor or wall assembly.
 

**Omega Flex Inc**  
**Titeflex Corp**  
**A Bundy Co**  
**Ward Mfg Inc**
4. **Firestop System** — The firestop system shall consist of the following:
  - A. **Packing Material** — Min 4 pcf mineral wool batt insulation compressed and tightly packed to min 2-1/4 in. thickness. Packing material recessed from top surface of floor or both surfaces of wall as required to accommodate fill material (Item 4B). In floors constructed of hollow-core precast concrete units, packing material to be recessed from both top and bottom surfaces of floor, as required to accommodate fill material (Item 4B). When steel sleeve projects from top of floor or from both sides of wall, the thickness of mineral wool batt packing material should be increased by an amount equal to the distance that the sleeve extends past the floor or wall surface.
  - B. **Fill, Void or Cavity Material\*** — **Sealant** — Min 1/4 in. thickness of fill material applied within annulus, flush with top surface of floor assembly or top edge of steel sleeve. In walls, min 1/4 in. thickness of fill material applied flush with both surfaces of wall assembly or both ends of steel sleeve. In floors constructed of hollow-core precast concrete units, fill material installed symmetrically on both side of floor. At point contact location, apply min 1/4 in. diam bead of fill material at pipe/concrete interface or pipe/steel sleeve interface on top surface of floor or both surfaces of wall or precast concrete units.

**Specified Technologies Inc** — SpecSeal LCI Sealant

\*Bearing the UL Classification Mark

## FIRST AID MEASURES

### First Aid

**INHALATION:** Remove to fresh air.

**SKIN CONTACT:** Wash thoroughly.

**EYE CONTACT:** Irrigate eyes with running water for at least 15 minutes. Get medical attention if irritation develops.

**INGESTION:** None applicable.

## FIRE FIGHTING MEASURES

FLASH POINT >163 deg. C based on most volatile component.

EXTINGUISHING MEDIA..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: .....As for surrounding fire.

## ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

## HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYE PROTECTION REQUIREMENTS:**.....Safety glasses/goggles.

**SKIN PROTECTION REQUIREMENTS:** .....Gloves.

**RESPIRATOR REQUIREMENTS:** .....None.

**VENTILATION REQUIREMENTS:**.....None.

### Exposure Guidelines

None.

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM ..... Red solid with minimal odor

SPECIFIC GRAVITY ..... 1.49

PERCENT VOLATILES..... none

SOLUBILITY IN WATER..... Very slight

## STABILITY AND REACTIVITY

STABILITY: ..... This is a stable material.

CONDITIONS TO AVOID..... Storage >55 deg. C

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:.....None special.

## TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

May be irritating to skin and eyes and may aggravate existing skin and eye conditions.

Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist from heated material.

None of the components are listed as carcinogens.

## ECOLOGICAL INFORMATION

No data. Not anticipated to be environmental hazard.

## DISPOSAL CONSIDERATIONS

### Waste Disposal:

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

## TRANSPORTATION INFORMATION

DOT – not regulated.

## REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Article.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

## OTHER INFORMATION

### NPCA-HMIS Rating

Health : 1

Flammability : 0

Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

### STATE RIGHT-TO-KNOW LAWS

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

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

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: Possible traces of formaldehyde and acrylonitrile.

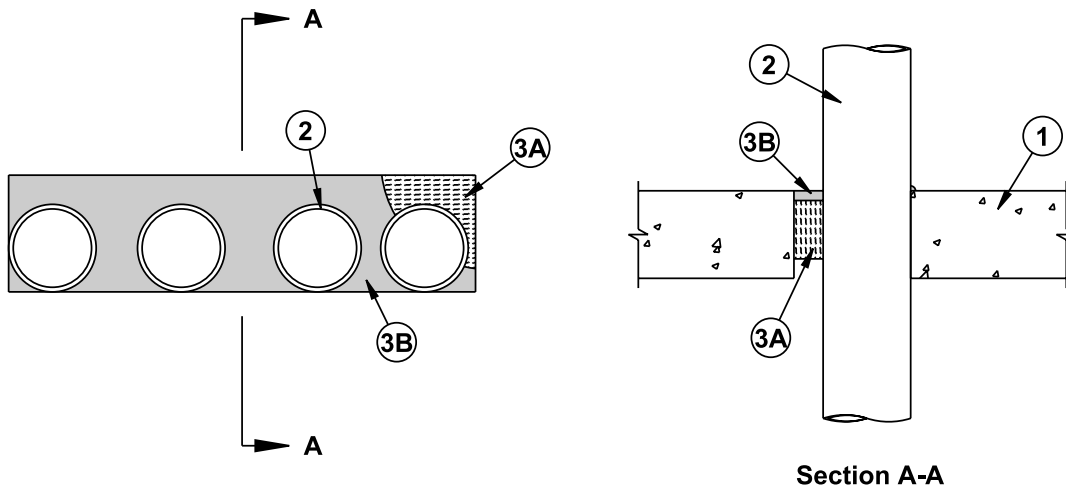
WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: None known.

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

### Responsibility for MSDS :

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876



**System No. C-AJ-1361**

October 2000

F Rating — 2 Hr

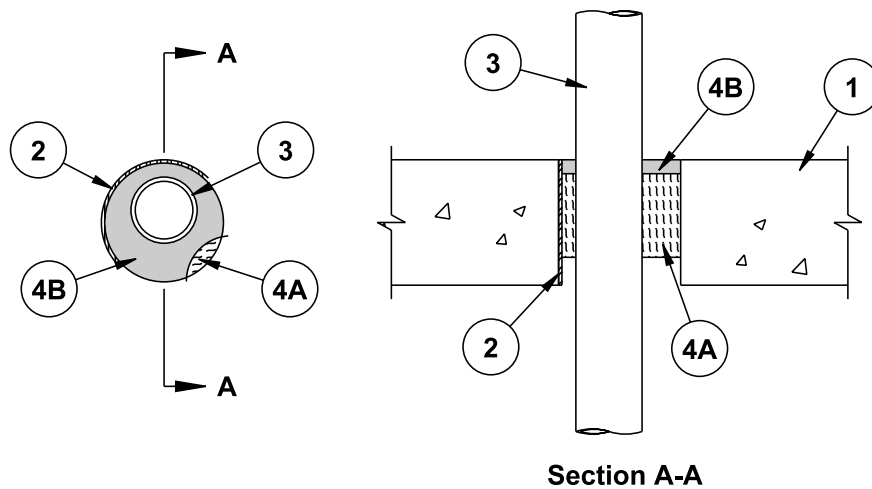
T Rating — 0 and 1/4 Hr (See Item 2)

1. **Floor or Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete floor. Floor may also be constructed of any min 6 in. thick hollow-core **Precast Concrete Units\***. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max area of opening is 144 sq in. with a max diam of 24 in. Max area of opening in floors constructed of hollow-core concrete is 49 sq in. with a max diam of 7 in.  
See **Concrete Blocks (CAZT)** or **Precast Concrete Units (CFTV)** categories in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants** — One or more pipes, conduits or tubing to be installed within the opening. The space between the pipes, conduits or tubes shall be min 1 in. to max 2 in. The annular space between the pipes, conduits or tubing and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
  - A. **Steel Pipe** — Nom 4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
  - B. **Iron Pipe** — Nom 4 in. diam (or smaller) cast or ductile iron pipe.
  - C. **Conduit** — Nom 4 in. diam (or smaller) rigid steel conduit, steel electrical metallic tubing (EMT) or flexible aluminum or steel conduit.
  - D. **Copper Pipe** — Nom 4 in. diam (or smaller) regular (or heavier) copper pipe.
  - E. **Copper Tube** — Nom 4 in. diam (or smaller) Type L (or heavier) copper tube.

**When Through Penetrant A, B or C is used, the T Rating is 1/4 hr. When Through Penetrant D or E is used, the T Rating is 0 Hr.**
3. **Firestop System** — The firestop system shall consist of the following:
  - A. **Packing Material** — Min 4 pcf mineral wool batt insulation compressed and tightly packed to min 3 in. thickness. Packing material recessed from top surface of floor or both surfaces of wall or precast concrete unit as required to accommodate fill material (Item 3B).
  - B. **Fill, Void or Cavity Material\*** — **Sealant** — Min 1/2 in. thickness of fill material applied within annulus, flush with top surface of floor assembly or both surfaces of wall assembly. In floors constructed of hollow-core precast concrete, fill material installed symmetrically on both sides of floor assembly. At point contact locations, min 1/4 in. diam bead of fill material applied at metallic pipe/concrete interface on top surface of floor or on both surfaces of wall or precast concrete units.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. C-AJ-2292**

December 03, 2001

F Rating — 2 Hr

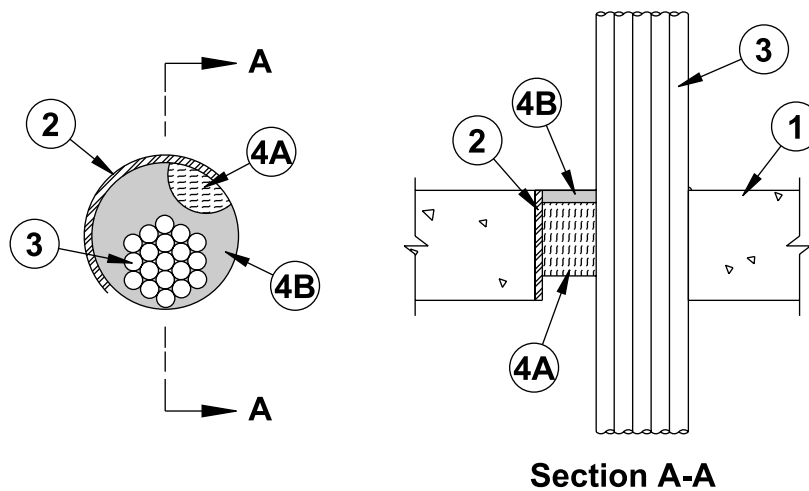
T Ratings — 0 and 2 Hr (See Item 2)

1. **Floor or Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete floor. Floor may also be constructed of any min 6 in. thick hollow-core **Precast Concrete Units\*** Wall may also be constructed of any UL Classified **Concrete Blocks\*** Max diam of opening is 4 in.  
See **Concrete Blocks (CAZT)** or **Precast Concrete Units (CFTV)** categories in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve** — (Optional) — Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces. **When steel sleeve is used, T Rating is 0 hr. When steel sleeve is not used, T Rating is 2 hr.**
3. **Through Penetrant** — One nonmetallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 1/2 in. to max 1-1/8 in. Pipe, conduit or tube to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes, conduits and tubes may be used:
  - A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe for use in closed (process or supply) piping systems.
  - B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 2 in. diam (or smaller) SDR17 chlorinated polyvinyl chloride (CPVC) pipe for use in closed (process or supply) piping systems.
  - C. **Rigid Nonmetallic Conduit+** — Nom 2 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).
  - D. **Electrical Nonmetallic Tubing+** — Nom 2 in. diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70).
4. **Firestop System** — The firestop system shall consist of the following:
  - A. **Packing Material** — Min 3 in. thickness of min 4 pcf mineral wool batt insulation compressed and tightly packed into opening. Packing material recessed from top surface of floor or both surfaces of wall or precast concrete units.
  - B. **Fill, Void or Cavity Material\* — Sealant** — Min 1/2 in. thickness of fill material installed within annulus, flush with top surface of floor or both surfaces of wall assembly. In floors constructed of precast hollow core units, fill material installed to min 1/2 in. depth flush with each surface of the floor.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Mark

+Bearing the UL Listing Mark



**System No. C-AJ-3177**

September 2000

F Rating — 2 Hr

T Rating — 1/2 Hr

1. **Floor or Wall Assembly** — Min 2-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete floor. Floor may also be constructed of any min 6 in. thick hollow-core **Precast Concrete Units\***. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max diam of opening is 6 in.  
See **Concrete Blocks (CAZT)** or **Precast Concrete Units (CFTV)** categories in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve** — (Optional) — Nom 6 in. diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall assembly. Steel sleeve may be installed flush or may project max 2 in. beyond the floor or wall surfaces.
3. **Cables** — Aggregate cross sectional area of cables in opening to be max 34 percent of the cross sectional area of the opening. Tight bundle of cables to be installed in the opening. The annular space between the cable bundle and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Cable bundle to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of cables may be used:
  - A. Max 200 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 750 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 3/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TEK cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable (Romex) with PVC insulation and jacket.
  - H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
3. **Through Penetrating Product\*** — One or more max 4/C No. 2/0 AWG (or smaller) aluminum or steel **Armored Cable+** or **Metal Clad Cable+** installed within the opening. Max aggregate cross-sectional area of cables to be 34 percent of the cross-sectional area of the opening. Annular space between through-penetrating products and periphery of opening to be min 0 in. (point contact) to max 2 in. Through penetrating product rigidly supported on both sides of floor or wall assembly.

**AFC CABLE SYSTEMS INC**

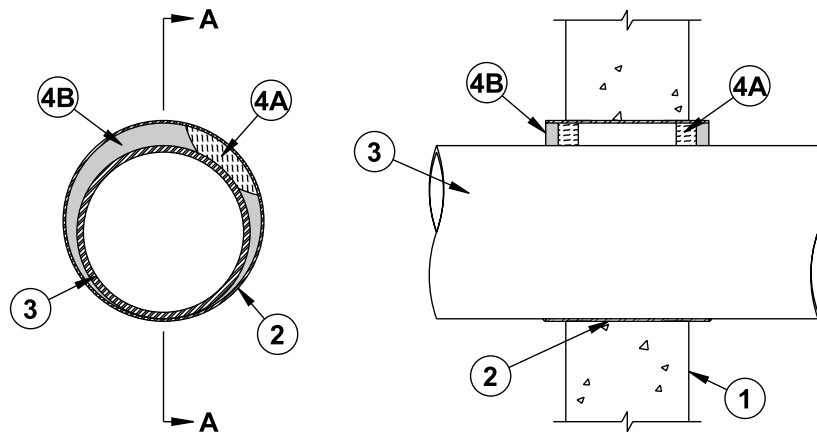
4. **Firestop System** — The firestop system shall consist of the following:
  - A. **Packing Material** — Min 3 in. thickness of min 4 pcf mineral wool batt insulation compressed and tightly packed into opening. Packing material recessed from top surface of floor or both surfaces of wall or precast concrete units. When steel sleeve projects from top of floor or from both sides of wall, the thickness of mineral wool batt packing material should be increased by an amount equal to the distance that the sleeve extends past the floor or wall surface. When 1 in. of fill material (Item 4B) is used, mineral wool packing material thickness may be reduced to 1-1/2 in.
  - B. **Fill, Void or Cavity Material\*** — **Sealant** — Min 1/2 in. thickness of fill material applied within annulus, flush with top surface of floor assembly or top edge of steel sleeve. In walls, min 1/2 in. thickness of fill material applied within annulus flush with both surfaces of wall assembly or both ends of steel sleeve. When thickness of concrete is less than 4-1/2 in., min 1 in. depth of sealant applied within annulus flush with top of floor/top edge of sleeve or both sides of wall/ ends of sleeve. In floors constructed of hollow-core precast concrete units, fill material installed symmetrically on both surface of floor. At point contact location, apply min 1/4 in. diam bead of fill material at cable/concrete or cable/steel sleeve interface on top surface of floor or on both surfaces of wall or precast concrete units.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Mark

+Bearing the UL Listing Mark





**Section A-A**

**System No. W-J-1099**

October 11, 2000

F Rating — 2 Hr

T Ratings — 1/4, 3/4 and 1 Hr (See Item 3)

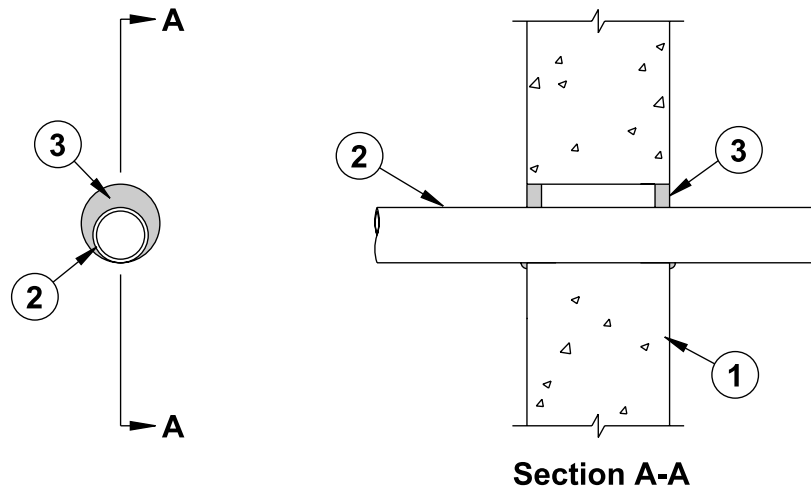
1. **Wall Assembly** — Min 6 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max diam of opening is 2 in. larger than OD of through penetrant.  
See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Steel Sleeve** — Cylindrical sleeve fabricated from 0.0125 in thick (30 gauge) galv sheet steel and having a min 2 in. lap along the longitudinal seam. Length of the sleeve to be equal to or max 2 in. greater than the thickness of the wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular opening in concrete. The ends of the steel sleeve shall be flush with or extend a max 1 in. beyond each surface of the wall.  
As an alternate, steel sleeve may consist of nom 10 in. diam (or smaller) Schedule 5 (or heavier) steel pipe sleeve cast or grouted into concrete. The ends of the steel sleeve shall be flush with or extend a max 1 in. beyond each surface of the wall.
3. **Through Penetrant** — One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the steel sleeve shall be min 0 in. (point contact) to max 2 in. Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
 

A. <b>Steel Pipe</b> — Nom 8 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
B. <b>Iron Pipe</b> — Nom 8 in. diam (or smaller) cast or ductile iron pipe.
C. <b>Conduit</b> — Nom 6 in. diam (or smaller) rigid steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. diam (or smaller) flexible steel conduit.
D. <b>Copper Pipe</b> — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
E. <b>Copper Tube</b> — Nom 4 in. diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in.	1 hr
Steel or iron pipe, steel conduit or EMT	8 in.	3/4 hr
Copper pipe or tube	4 in.	1/4 hr
- 3A. **Through Penetrating Product\* — Flexible Metal Piping** — As an alternate to Item 3, one nom 2 in. diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and the steel sleeve shall be min 0 in. (point contact) to max 2 in. Pipe to be rigidly supported on both sides of the wall assembly. **When flexible metal piping is used, T Rating is 1 hr.**  
**OMEGA FLEX INC**  
**TITFLEX CORP**  
**A BUNDY CO**  
**WARD MFG INC**
4. **Firestop System** — The firestop system consists of the following items:
  - A. **Packing Material** — Min 1 in. thickness of min 4 pcf mineral wool batt insulation compressed and tightly packed into each end of steel sleeve. Packing material recessed from each end of steel sleeve. When alternate steel pipe sleeve is used, packaging material may be omitted from the firestop system.
  - B. **Fill, Void or Cavity Material\* — Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with each end of steel sleeve. At point contact location, min 1/4 in. diam bead of fill material applied at metallic pipe/steel sleeve interface on both surfaces of wall. Optionally, a min 1/4 in. diam bead of fill material shall be applied around the circumference of the steel sleeve at its egress from each side of the wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-J-2076**

October 11, 2000

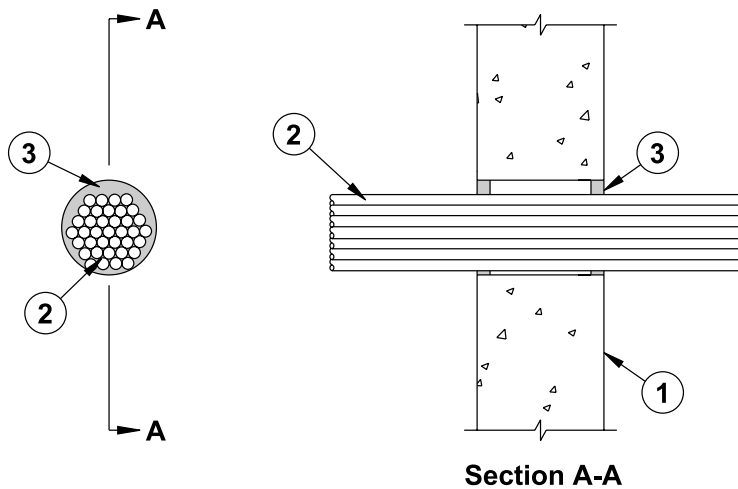
F Rating — 2 Hr

T Ratings — 0, 1/4 and 1-3/4 Hr (See Item 2)

1. **Wall Assembly** — Min 6 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max diam of opening is 3-1/2 in.  
See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
  2. **Through Penetrant** — One nonmetallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes, conduits and tubes may be used:
    - A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
    - B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
    - C. **Rigid Nonmetallic Conduit+** — Nom 2 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (point contact) to max 1 in.
    - D. **Electrical Nonmetallic Tubing+** — Nom 2 in diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (point contact) to max 1 in.
    - E. **Cross Linked Polyethylene (PEX) Tubing** — Nom 1 in. diam (or smaller) SDR9 PEX tubing for use in. closed (process or supply) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
    - F. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 1/4 in. to max 3/4 in.
- When Item 2A or 2B is used, the T Rating is 1/4 hr. When Item 2C, 2D, or 2E is used, the T Rating is 1-3/4 hr. When Item 2F is used, T Rating is 0 hr.**
3. **Fill, Void or Cavity Material\*** — **Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. diam bead of fill material applied at nonmetallic pipe/concrete interface on both surfaces of wall

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-J-3062**

October 11, 2000

F Rating — 2 Hr

T Ratings — 1/4 and 3/4 Hr (See Item 2A)

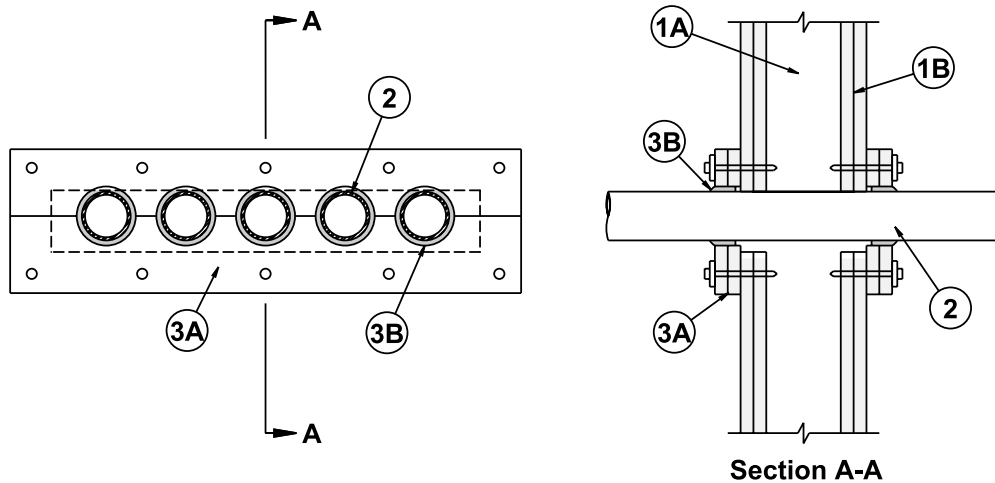
1. **Wall Assembly** — Min 6 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max diam of opening is 5 in.  
See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Cables** — Max 4-1/2 in. diam tight bundle of cables to be installed eccentrically or concentrically within the opening. The annular space between the cables and the periphery of the opening shall be min 0 in. (point contact) to max 1/2 in. Cable bundle to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of cables may be used:
  - A. Max 200 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 2/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TEK cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable (Romex) with PVC insulation and jacket.
  - H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
- 2A. **Through Penetrating Product\*** — As an alternate to the cables (Item 2), max 4 in. diam tight bundle of max 4/C No. 2/0 AWG (or smaller) aluminum or steel **Armored Cable+** or **Metal Clad Cable+** installed within the opening. Annular space between through-penetrating products and periphery of opening to be min 0 in. (point contact) to max 1 in. Through penetrating product rigidly supported on both sides of floor or wall assembly. **When Armored Cable or Metal Clad Cable is used, T Rating is 1/4 hr.**

**AFC CABLE SYSTEMS INC**

3. **Fill, Void or Cavity Material\* — Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. Sealant to be forced into interstices of cable bundle to max extent possible. At point contact location, min 1/4 in. diam bead of fill material applied at cable bundle/concrete interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-L-1093**

March 05, 2001

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1 and 1-1/2 Hr (See Item 1)

1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** — Wall framing shall consist of min 3-5/8 in. wide steel channel studs spaced max 24 in. OC.
  - B. **Gypsum Board\*** — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 66 sq in. with max dimension of 22 in.

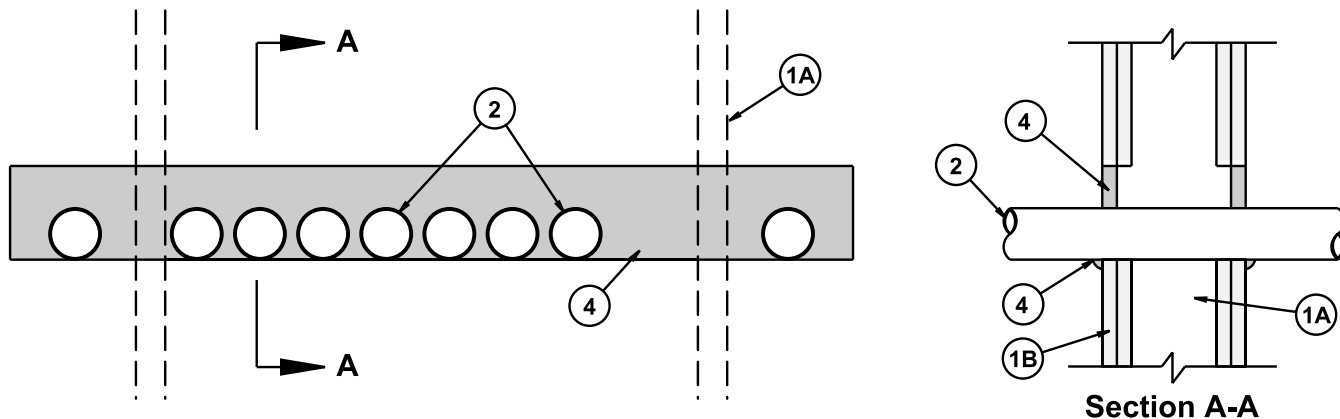
**The hourly F and T Ratings of the firestop system are dependent on the hourly fire rating of the wall assembly in which it is installed as shown in the table below:**

Rating of Wall Hr	F Rating Hr	T Rating Hr
2	2	1-1/2
1	1	1

2. **Through-Penetrants** — One or more pipes, conduits or tubing to be installed within the opening. The space between pipes, conduits or tubing shall be a min of 1/2 in. to a max of 1 in. The space between pipes, conduits or tubing and periphery of opening shall be min 0 in. (point contact) to max 1-1/4 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, conduits or tubing may be used:
  - A. **Steel Pipe** — Nom 2 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
  - B. **Iron Pipe** — Nom 2 in. diam (or smaller) cast or ductile iron pipe.
  - C. **Conduit** — Nom 2 in. diam (or smaller) steel electrical metallic tubing or galv steel conduit.
3. **Firestop System** — The firestop system shall consist of the following:
  - A. **Gypsum Board\*** — Two layers of 5/8 in. thick wallboard cut to fit the contour the through penetrants on both surfaces of the wall. The annular space between the through penetrants and the cutouts of the gypsum wallboard shall be a min of 1/4 in. to a max 3/8 in. Gypsum wallboard shall extend a min of 2 in. beyond the periphery of the opening on both surfaces of the wall. Prior to securing the gypsum wallboard to both surfaces of the wall, a min 1/2 in. thickness of fill material (Item 3B) applied within the joints of each layer of gypsum wallboard. On both surfaces of the wall, each layer of gypsum wallboard to be secured to wall by means of 3 in. long Type G steel screws spaced 6 in. OC.  
See **Gypsum Board** (CKNX) category in Vol. 1 of the UL Fire Resistance Directory for names of manufacturers.
  - B. **Fill, Void or Cavity Material\*** — **Sealant** — On both surfaces of the wall, a min 1/2 in. thickness of fill material applied within the joints of each layer of gypsum wallboard (Item 3A). After installation of both layers of gypsum wallboard, 1 in. thickness of fill material applied within annular space between the cutouts of the gypsum wallboard and the penetrating items. Additional fill material to be installed such that a min 1/4 in. thick crown of fill material applied around the outer circumference of the through penetrants on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LC 150, 151, 152 or 155 Sealant, SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant

\*Bearing the UL Classification Mark



**System No. W-L-1168**

October 20, 2000

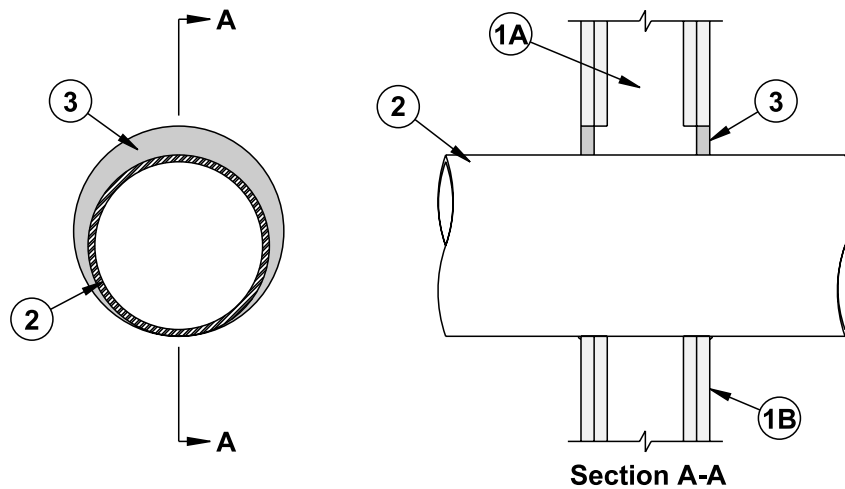
F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 3/4 and 1 Hr (See Item 4)

1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** — Wall framing shall consist of min 3-5/8 in. wide steel studs spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners, as specified in the individual U400 Series design. Max height of opening is 4 in. Max width of opening is 36 in.
2. **Through Penetrants** — Multiple pipes or conduits installed in single layer array within the firestop system. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (point contact) to max 3 in. The separation between pipes and conduits to be min 1/4 in. to max 3 in. Pipes and conduits to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipe or conduit may be used:
  - A. **Steel Pipe** — Nom 2 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
  - B. **Conduit** — Nom 2 in. diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT).
3. **Forming Material** — (Optional, Not Shown) — Foam backer rod, mineral wool batt insulation or glass fiber insulation packed into opening and recessed min 5/8 in. from each surface of the wall to accommodate fill material.
4. **Fill Void or Cavity Materials\* — Sealant** — Min 5/8 in. thickness of fill material installed to completely fill annular space between pipes, conduits and gypsum wallboard flush with each surface of wall. Min 1/4 in. diam bead of fill material applied to the pipe/wall interface at the point contact locations on both sides of the wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LC150 Sealant, SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant. **When SpecSeal LC150 Sealant is used, T Rating is 3/4 hr otherwise, T Rating 1 hr .**

\*Bearing the UL Classification Marking



**System No. W-L-1222**

October 04, 2000

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1/4, 3/4 and 1 Hr (See Item 2)

1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or 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. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
- B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in.

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

2. **Through Penetrant** — One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

- A. **Steel Pipe** — Nom 8 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
- B. **Iron Pipe** — Nom 8 in. diam (or smaller) cast or ductile iron pipe.
- C. **Conduit** — Nom 6 in. diam (or smaller) rigid steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. diam (or smaller) flexible steel conduit.
- D. **Copper Pipe** — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
- E. **Copper Tube** — Nom 4 in. diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in.	1 hr
Steel or iron pipe, steel conduit or EMT	8 in.	3/4 hr
Copper pipe or tube	4 in.	1/4 hr

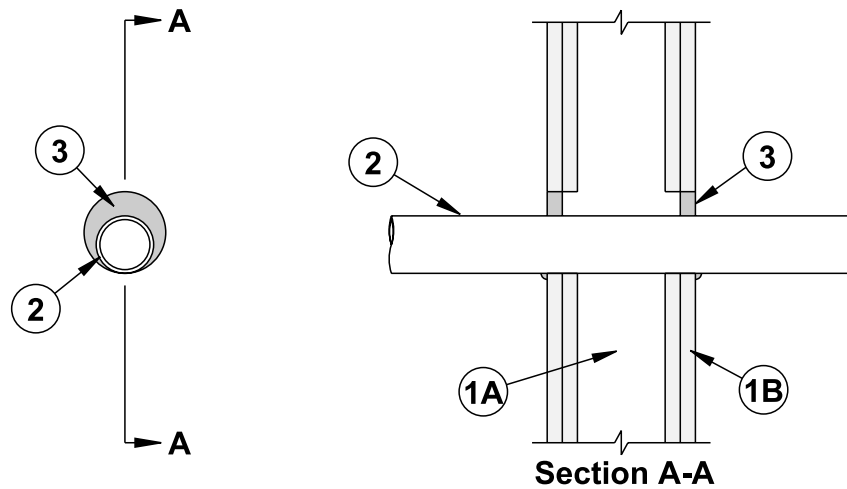
- 2A. **Through Penetrating Product\*** — **Flexible Metal Piping** — As an alternate to Item 2, one nom 1-1/4 in. diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. Pipe to be rigidly supported on both sides of the wall assembly.

**OMEGA FLEX INC**  
**TITFLEX CORP**  
**A BUNDY CO**  
**WARD MFG INC**

3. **Fill, Void or Cavity Material\*** — **Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-L-2241**

October 04, 2000

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 0, 1/4, 1 and 1-3/4 Hr (See Item 2)

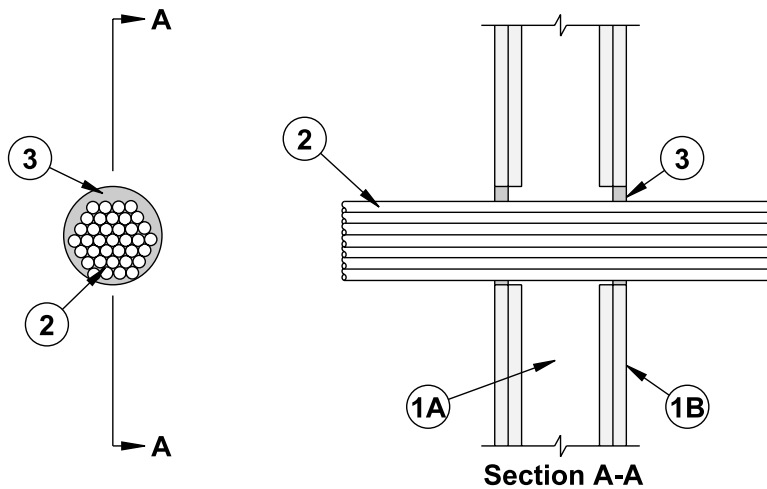
1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 3-3/8 in.

**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.**
2. **Through Penetrant** — One nonmetallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes, conduits and tubes may be used:
  - A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
  - B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
  - C. **Rigid Nonmetallic Conduit+** — Nom 2 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (point contact) to max 1 in.
  - D. **Electrical Nonmetallic Tubing+** — Nom 2 in. diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70). Annular space shall be min 0 in. (point contact) to max 1 in.
  - E. **Cross Linked Polyethylene (PEX) Tubing** — Nom 1 in. diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) piping systems. Annular space shall be min 0 in. (point contact) to max 1 in.
  - F. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 1-1/2 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Annular space shall be min 1/4 in. to max 3/4 in.

**When Item 2A or 2B is used, the T Rating is 1/4 hr. When Item 2C, 2D, or 2E is used, the T Rating is 1 hr and 1-3/4 hr for 1 hr and 2 hr fire rated walls, respectively. When Item 2F is used, T Rating is 0 hr.**
3. **Fill, Void or Cavity Material\*** — Sealant — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. diam bead of fill material applied at nonmetallic pipe/gypsum board interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-L-3169**

October 04, 2000

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1/4 and 3/4 Hr (See Item 2A)

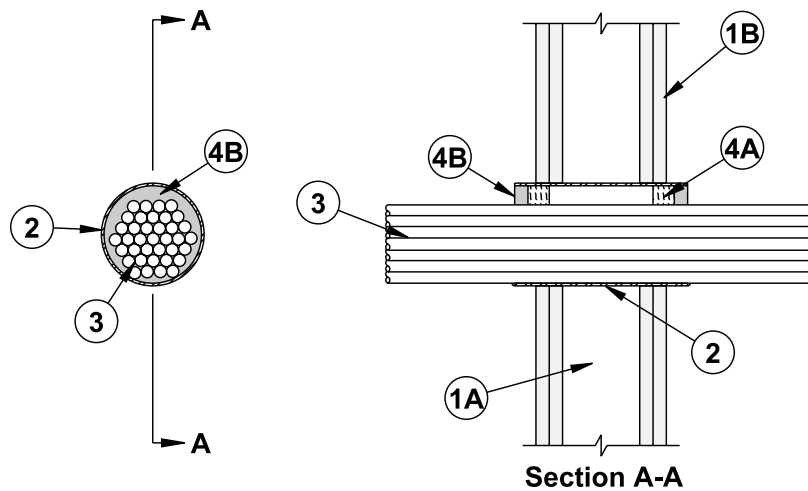
1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 5 in.

**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.**
2. **Cables** — Max 4-1/2 in. diam tight bundle of cables to be installed eccentrically or concentrically within the opening. The annular space between the cables and the periphery of the opening shall be min 0 in. (point contact) to max 1/2 in. Cable bundle to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of cables may be used:
  - A. Max 200 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 2/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TEK cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable (Romex) with PVC insulation and jacket.
  - H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
- 2A. **Through Penetrating Product\*** — As an alternate to the cables (Item 2), max 4 in. diam tight bundle of max 4/C No. 2/0 AWG (or smaller) aluminum or steel **Armored Cable+** or **Metal Clad Cable+** installed within the opening. Annular space between through-penetrating products and periphery of opening to be min 0 in. (point contact) to max 1 in. Through penetrating product rigidly supported on both sides of floor or wall assembly. **When Armored Cable or Metal Clad Cable is used, T Rating is 1/4 hr.**
3. **Fill, Void or Cavity Material\*** — **Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. Sealant to be forced into interstices of cable bundle to max extent possible. At point contact location, min 1/4 in. diam bead of fill material applied at cable bundle/gypsum board interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking





**System No. W-L-3170**

October 04, 2000

F Ratings — 1 and 2 Hr (See Item 1)  
T Ratings — 1/4 and 1 Hr (See Item 3A)

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 or U400 Series Wall or 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. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 6 in.

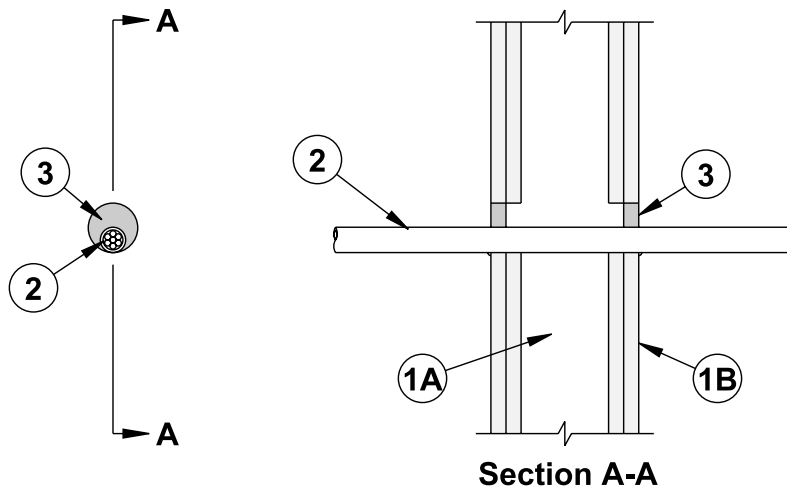
**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.**
2. **Steel Sleeve** — Cylindrical sleeve fabricated from 0.0125 in. thick (30 gauge) galv sheet steel and having a min 2 in. lap along the longitudinal seam. Length of the sleeve to be equal to or max 2 in. greater than the thickness of the wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers. The ends of the steel sleeve shall be flush with or extend a max 1 in. beyond each surface of the wall.  
As an alternate, steel sleeve may consist of nom 6 in. diam (or smaller) Schedule 5 (or heavier) steel pipe sleeve friction-fitted into circular cutouts in the gypsum board layers. The ends of the steel sleeve shall be flush with or extend a max 1 in. beyond each surface of the wall.
3. **Cables** — Max 4-1/2 in. diam tight bundle of cables to be installed eccentrically or concentrically within the opening. The annular space between the cables and the periphery of the opening shall be min 0 in. (point contact) to max 1-1/2 in. Cable bundle to be rigidly supported on both sides of the wall assembly. The following types and sizes of cables may be used:
  - A. Max 200 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 2/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TEK cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable (Romex) with PVC insulation and jacket.
  - H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
- 3A. **Through Penetrating Product\*** — As an alternate to the cables (Item 3), max 4-1/2 in. diam tight bundle of max 4/C No. 2/0 AWG (or smaller) aluminum or steel **Armored Cable+** or **Metal Clad Cable+** installed within the opening. Annular space between through-penetrating products and periphery of opening to be min 0 in. (point contact) to max 1-1/2 in. Through penetrating product rigidly supported on both sides of wall assembly. **When Armored Cable or Metal Clad Cable is used, T Rating is 1/4 hr.**

**AFC CABLE SYSTEMS INC**

4. **Firestop System** — The firestop system shall consist of the following:
  - A. **Packing Material** — Min 1 in. thickness of 4 pcf mineral wool batt insulation compressed and tightly packed into each end of sleeve. Recess packing material as required to accommodate fill material (Item 4B).
  - B. **Fill, Void or Cavity Material\*** — **Sealant** — Min 1/2 in. thickness of fill material applied within annulus, flush with each end of steel sleeve. At point contact location, min 1/4 in. diam bead of fill material applied at cable bundle/steel sleeve interface on both sides of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking



**System No. W-L-3171**

October 04, 2000

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1/4 and 3/4 Hr (See Item 2A)

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 or U400 Series Wall or 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. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
  - B. **Gypsum Board\*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 1 in. larger than OD of cable (Item 2).

**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.**
2. **Cable** — One cable to be installed eccentrically or concentrically within the opening. The annular space between the cable and the periphery of the opening shall be min 0 in. (point contact) to max 1 in. Cable to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of cable may be used:
  - A. Max 200 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 2/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TEK cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable (Romex) with PVC insulation and jacket.
  - H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
- 2A. **Through Penetrating Product\*** — As an alternate to the cable (Item 2), one max 4/C No. 2/0 AWG (or smaller) aluminum or steel **Armored Cable+** or **Metal Clad Cable+** installed within the opening. Annular space between through-penetrating product and periphery of opening to be min 0 in. (point contact) to max 1 in. Through penetrating product rigidly supported on both sides of wall assembly. **When Armored Cable or Metal Clad Cable is used, T Rating is 1/4 hr.**
3. **Fill, Void or Cavity Material\*** — **Sealant** — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. diam bead of fill material applied at cable/gypsum board interface on both surfaces of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal LCI Sealant

\*Bearing the UL Classification Marking

# Wall Opening Protective Materials (CLIV)

This category covers proprietary compositions which are used to maintain the hourly ratings of fire resistive walls and partitions containing flush mounted devices such as outlet boxes, electrical cabinets and mechanical cabinets. The individual Classifications indicate the specific applications and the method of installation for which the materials have been evaluated.

The basic standard used to investigate products in this category is ANSI/UL 263, "Fire Tests of Building Construction and Materials".

## SPECIFIED TECHNOLOGIES INC

R14288

SUITE 2 200 EVANS WAY, SOMERVILLE NJ 08876

**SpecSeal Power Shield EP23 Box Inserts**, for use with max 2 by 3 by 2-1/4 in. deep flush device UL Listed Metallic Outlet Boxes without internal clamps installed with steel extension rings and steel cover plates in 2 h fire rated gypsum wallboard wall assemblies framed with min 3-5/8 in. deep steel studs and constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the Fire Resistance Directory. One 1-7/8 by 2-3/4 in. insert adhered to the interior back wall of the outlet box in accordance with the instructions supplied with the product. Installation to comply with Article 370-16 of the National Electrical Code (NFPA 70). When protective material is used within outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back-to-back.

**SpecSeal Power Shield EP24 Box Inserts**, for use with max 2-1/8 by 4 by 2-1/8 in. deep flush device UL Listed Metallic Outlet Boxes without internal clamps installed with steel mud rings and steel cover plates in 2 h fire rated gypsum wallboard wall assemblies framed with min 3-5/8 in. deep steel studs and constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the Fire Resistance Directory. One 1-7/8 by 3-3/4 in. insert adhered to the interior back wall of the outlet box in accordance with the instructions supplied with the product. Installation to comply with Article 370-16 of the National Electrical Code (NFPA 70). When protective material is used within outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back-to-back.

**SpecSeal Power Shield EP44 Box Inserts**, for use with max 4 by 4 by 2-1/8 in. flush device UL Listed Metallic Outlet Boxes without internal clamps installed with steel mud rings and steel cover plates in 2 h fire rated gypsum wallboard wall assemblies framed with min 3-5/8 in. deep steel studs and constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the Fire Resistance Directory. One 3-3/4 by 3-3/4 in. insert adhered to the interior back wall of the outlet box in accordance with the instructions supplied with the product. Installation to comply with Article 370-16 of the National Electrical Code (NFPA 70). When protective material is used within outlet boxes on both sides of the wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back-to-back.

**SpecSeal Putty Pads**, for use with max 4-11/16 by 4-11/16 in. flush device UL Listed metallic outlet boxes installed with steel cover plates in 1 and 2 h fire rated gypsum wallboard wall assemblies framed with min 3-1/2 in. deep wood or steel studs and constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory. Min 3/16 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and completely seal against the stud within the stud cavity. An additional 3/16 in. thickness of putty to be formed around the connector securing the end of each electrical metallic tube or conduit to the box. When used with metallic outlet boxes larger than 4 by 4 in., a ball of putty is to be installed to plug the open end of each electrical metallic tube or conduit within the outlet box. When max 4 by 4 in. metallic outlet boxes are used, the ball of putty in the open end of each electrical metallic tube or conduit within the outlet box is optional. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on the opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back-to-back.

**SpecSeal Putty Pads** for use with max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlon Electrical Products and made from polyvinyl chloride, max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Allied Moulded Products Inc. and made from fiber-reinforced thermosetting plastic or max 4-1/16 by 3-5/8 by 3-1/8 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Thomas & Betts Corp. and made from fiber-reinforced thermosetting plastic. Boxes shall also bear a 2 h rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel or plastic cover plates. Putty pads and boxes for use in 1 and 2 h fire rated gypsum wallboard/wood stud wall assemblies constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Outlet box secured to wood stud by means of two nailing tabs in conjunction with nails supplied with the outlet box. Min 3/16 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) including nailing tabs and completely seal against the stud within the stud cavity. An additional 3/16 in. thickness of putty to be formed around the end of each nonmetallic sheathed cable at its connection to the box and to extend a minimum of 1 in. from the box onto the nonmetallic sheathed cable within the stud cavity. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back-to-back.



Specified  
Technologies  
Inc.

200 Evans Way, Suite 2  
Somerville, N. J. 08876  
Phone: (908) 526-8000  
Fax: (908) 526-9623  
Toll Free: (800) 992-1180

## GENERAL CERTIFICATE of CONFORMANCE

**Description: SpecSeal® Firestop Products**

**Included Products:**

<i>Series SSS Intumescent Sealant</i>	<i>Series SSB Intumescent Firestop Pillows</i>
<i>Series LCI Intumescent Sealant</i>	<i>Series ASI00 Elastomeric Spray</i>
<i>Series LC Latex Endothermic Sealant</i>	<i>Series AS200 Elastomeric Spray</i>
<i>Series SSP Intumescent Putty</i>	<i>Series ES100 Elastomeric Sealant</i>
<i>Series EP Power Shield™ Box Insert</i>	<i>Series SSM Firestop Mortar</i>
<i>Series SSWRED Intumescent Wrap Strips</i>	<i>Pensil Series PEN200 Silicone Foam</i>
<i>Series SSWBLU Intumescent Wrap Strips</i>	<i>Pensil Series PEN300 Silicone Sealant</i>
<i>Series SSC Intumescent Firestop Collars</i>	<i>Pensil Series PEN300SL Silicone Sealant</i>
<i>Series LCC Intumescent Firestop Collars</i>	

**These products are tested to the following standards where applicable:**

**ASTM STANDARD:**

<b>E 814</b>	Fire Tests of Through-Penetration Fire Stops
<b>E 119</b>	Fire Tests of Building Construction and Materials
<b>E 1966</b>	Fire-Resistive Joint Systems
<b>E 84</b>	Surface Burning Characteristics of Building Materials
<b>E 1399</b>	Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint Systems

**UL STANDARD**

<b>1479</b>	Fire Tests of Through-Penetration Firestops
<b>263</b>	Fire Tests of Building Construction and Materials
<b>2079</b>	Tests for Fire-Resistance of Building Joint Systems
<b>723</b>	Tests for Surface Burning Characteristics of Building Materials

**Chemical Content Statements:**

No asbestos, PCB's or water-soluble intumescent ingredients are used or contained in these products.

James P. Stahl, Jr.  
Technical Manager

February 1, 2002

Date



# Material Safety Data Sheet

01-JAN-2003

## SpecSeal® TYPE LCI SEALANT

### CHEMICAL PRODUCT/COMPANY IDENTIFICATION

#### Material Identification

PRODUCT NAME.....SpecSeal® LCI Sealant

CHEMICAL FAMILY.....Mixture

#### Company Identification

#### MANUFACTURER/DISTRIBUTOR

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876

#### PHONE NUMBERS

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

### COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER
Proprietary mixture	-----

### HAZARDS IDENTIFICATION

\*\*\*\*\*EMERGENCY OVERVIEW\*\*\*\*\*

\* Possible skin and eye irritant. Pale, red paste. \*

\*\*\*\*\*

#### Potential Health Effects:

**EYE:** Contact may cause irritation.

**SKIN:** Contact may cause irritation.

**INGESTION:** Relatively non-toxic.

**INHALATION:** Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist.

**CHRONIC (CANCER) INFORMATION:** Not classified as carcinogenic.

**LONG TERM TOXIC EFFECTS:** None known.



# Material Safety Data Sheet

01-JAN-2003

## SpecSeal® LCC FIRESTOP COLLAR

### CHEMICAL PRODUCT/COMPANY IDENTIFICATION

#### Material Identification

PRODUCT NAME.....SpecSeal® LCC Firestop Collar  
CHEMICAL FAMILY.....Does not apply

#### Company Identification

#### MANUFACTURER/DISTRIBUTOR

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876

#### PHONE NUMBERS

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

### COMPOSITION/INFORMATION ON INGREDIENTS

Metal collar with contained rubber strip.

### HAZARDS IDENTIFICATION

\*\*\*\*\*EMERGENCY OVERVIEW\*\*\*\*\*

\* Non-hazardous metal collar with contained rubber strip. \*

\*\*\*\*\*

#### Potential Health Effects:

**EYE:** Contact may cause physical irritation.  
**SKIN:** None anticipated.  
**INGESTION:** Not likely.  
**INHALATION:** None anticipated.  
**CHRONIC (CANCER) INFORMATION:** None known.  
**LONG TERM TOXIC EFFECTS:** None known.

### FIRST AID MEASURES

#### First Aid

**INHALATION:** None applicable.  
**SKIN CONTACT:** None applicable.  
**EYE CONTACT:** Irrigate eyes with running water for at least 15 minutes. Get medical attention if irritation develops.  
**INGESTION:** None applicable.

## FIRE FIGHTING MEASURES

Flash point: Not established.

EXTINGUISHING MEDIA..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: .....As for surrounding fire.

## ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

## HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYE PROTECTION REQUIREMENTS:**..... Safety glasses/goggles.

**SKIN PROTECTION REQUIREMENTS:** ..... None.

**RESPIRATOR REQUIREMENTS:** ..... None.

**VENTILATION REQUIREMENTS:**..... If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

**Exposure Guidelines**

**Exposure Limits**

None.

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM ..... Solid

SPECIFIC GRAVITY ..... NA

PERCENT VOLATILES..... 0

SOLUBILITY IN WATER..... Insoluble

## STABILITY AND REACTIVITY

STABILITY: ..... This is a stable material.

CONDITIONS TO AVOID:..... None.

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:..... None special.

## TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

Should only cause physical irritation only.

Components not designated as carcinogens by IARC, ACGIH, OSHA and NTP.

## ECOLOGICAL INFORMATION

No data but not anticipated to be an environmental hazard.

## DISPOSAL CONSIDERATIONS

Waste Disposal:

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

## TRANSPORTATION INFORMATION

DOT – not regulated.

## REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Article.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

## OTHER INFORMATION

NPCA-HMIS Rating

Health : 0

Flammability : 1

Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

### STATE RIGHT-TO-KNOW LAWS

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

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

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: May contain traces of substances known to the State of California to cause cancer.

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

-----

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

### Responsibility for MSDS :

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876



## FIRST AID MEASURES

### First Aid

**INHALATION:** Remove to fresh air.

**SKIN CONTACT:** Wash thoroughly.

**EYE CONTACT:** Irrigate eyes with running water for at least 15 minutes. Get medical attention if irritation develops.

**INGESTION:** None applicable.

## FIRE FIGHTING MEASURES

Not a fire hazard.

EXTINGUISHING MEDIA.....Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: .....As for surrounding fire.

## ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

## HANDLING AND STORAGE

Store under ambient conditions. No special handling required.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYE PROTECTION REQUIREMENTS:**.....Safety glasses/goggles.

**SKIN PROTECTION REQUIREMENTS:** .....Gloves.

**RESPIRATOR REQUIREMENTS:** .....None.

**VENTILATION REQUIREMENTS:**.....If needed, use local exhaust ventilation to keep airborne concentrations below the TLV.

### Exposure Guidelines

#### Exposure Limits

**PEL(OSHA)** : Particulates (Not Otherwise Classified) 15 mg/m<sup>3</sup>, 8 Hr. TWA, total dust 5 mg/m<sup>3</sup>, 8 Hr. TWA, respirable dust

**TLV(ACGIH)**: None Established

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM ..... Pale, red paste with minimal odor

SPECIFIC GRAVITY..... 1.10

PERCENT VOLATILES..... 22

EVAPORATION RATE..... >1

BOILING POINT ..... 100 deg. C

SOLUBILITY IN WATER..... Infinitely dilutable

## STABILITY AND REACTIVITY

STABILITY: ..... This is a stable material.

CONDITIONS TO AVOID..... Storage >55 deg. C

HAZARDOUS POLYMERIZATION:..... Will not occur.

INCOMPATIBILITIES:.....None special.

## TOXICOLOGICAL INFORMATION

Mixture not tested but based on components:

May be irritating to skin and eyes and may aggravate existing skin and eye conditions.

None of the components are listed as carcinogens.

## ECOLOGICAL INFORMATION

No data.

## DISPOSAL CONSIDERATIONS

### Waste Disposal:

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

## TRANSPORTATION INFORMATION

DOT – not regulated.

## REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Reported/Included.

Section 313 Supplier Notifications.

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

## OTHER INFORMATION

### NPCA-HMIS Rating

Health : 1  
Flammability : 0  
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

### STATE RIGHT-TO-KNOW LAWS

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

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS): NJTSRN-LCI300

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: Possible traces of formaldehyde, ethyl acrylate, acetaldehyde, acrylamide and acrylonitrile.

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

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

### Responsibility for MSDS :

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876



# Material Safety Data Sheet

01-JAN-2003

## SpecSeal® Firestop Putty

### CHEMICAL PRODUCT/COMPANY IDENTIFICATION

#### Material Identification

PRODUCT NAME.....SpecSeal® Firestop Putty  
CHEMICAL FAMILY.....Mixture

#### Company Identification

#### MANUFACTURER/DISTRIBUTOR

Specified Technologies, Inc.  
200 Evans Way  
Somerville, NJ 08876

#### PHONE NUMBERS

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

### COMPOSITION/INFORMATION ON INGREDIENTS

#### INGREDIENT NAME

Proprietary mixture

#### CAS NUMBER

-----

### HAZARDS IDENTIFICATION

\*\*\*\*\*EMERGENCY OVERVIEW\*\*\*\*\*

\* Possible skin and eye irritant. Red solid. \*  
\*\*\*\*\*

#### Potential Health Effects:

**EYE:** Contact may cause irritation and redness.

**SKIN:** Contact may cause irritation and redness.

**INGESTION:** Relatively non-toxic.

**INHALATION:** Irritation of the nose, throat, and lungs may result from over-exposure to vapors or mist from heated material.

**CHRONIC (CANCER) INFORMATION:** Not classified as carcinogenic.

**LONG TERM TOXIC EFFECTS:** None known.



Specified Technologies, Inc.

# PRODUCT DATA SHEET

## SpecSeal<sup>®</sup> Series LCI Intumescent Sealant



### 1. PRODUCT DESCRIPTION

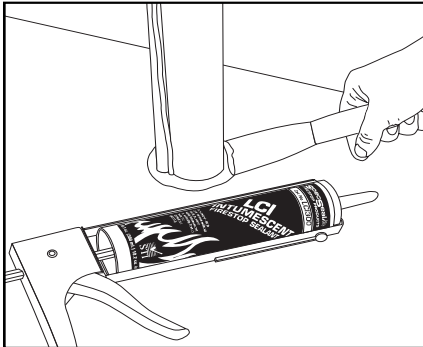
SpecSeal<sup>®</sup> LCI Sealant is a versatile and economical intumescent product intended for firestopping a wide array of applications in small commercial or grouped residential construction and other structures with similar applications. SpecSeal<sup>®</sup> LCI Sealant is available in a single grade that has excellent caulking properties as well as high build properties on vertical or overhead surfaces. This single grade may be caulked (standard cartridge or bulk loaded), knifed or troweled. In addition, SpecSeal<sup>®</sup> LCI does not contain PCB's or asbestos.

SpecSeal<sup>®</sup> LCI Sealant is storage stable (when stored according to the manufacturer's recommendations), is asbestos free and will not separate or shrink when dried. SpecSeal<sup>®</sup> LCI Sealant will adhere to all common construction and penetrant materials and contains no solvents that might adversely effect plastic pipes or cable jackets.

### 2. APPLICATIONS

See Table A for a summary application list.

SpecSeal<sup>®</sup> LCI Sealant has a broad application base designed to seal a wide variety of common penetrations in light commercial and grouped residential construction. Penetrant types include insulated and non-insulated metallic pipes and tubes, non-metallic pipes and tubes, and common electrical service and power distribution, telephone, data, and TV cabling. This product is also used in conjunction with other SpecSeal<sup>®</sup> Products such as SpecSeal<sup>®</sup> Firestop Collars and Wrap Strips to protect larger plastic pipes.



### 3. PHYSICAL PROPERTIES

See Table B.

### 4. PERFORMANCE

SpecSeal<sup>®</sup> LCI Sealant is the basis for systems that meet the exacting criteria of ASTM E814 (UL1479) as well as to the time-temperature requirements of ASTM E119 (UL263). LCI provides up to a 2-hour fire rating for typical service penetrations through concrete or wood floors, concrete or masonry walls, as well as gypsum board walls (3-hour for metallic pipe, conduit and tubing). LCI meets Class A finish requirements for Flame Spread and Smoke Development when tested in accordance with ASTM E84 (UL723). LCI Sealant is also acoustically tested, demonstrating excellent sound attenuation properties.



FILL, VOID OR CAVITY MATERIALS CLASSIFIED BY UNDERWRITERS LABORATORIES INC. © FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS.

3L73

SEE UL FIRE RESISTANCE DIRECTORY



CLASSIFIED FILL, VOID, OR CAVITY MATERIALS FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS. SEE UL DIRECTORY OF PRODUCTS CERTIFIED FOR CANADA AND UL FIRE RESISTANCE DIRECTORY



### 5. SPECIFICATIONS

The firestopping sealant shall be a water-resistant, intumescent latex sealant. The sealant when exposed to high heat or flame shall exhibit a free expansion of up to 8 times its original volume. The firestopping sealant shall contain no water soluble nor hygroscopic ingredients and shall be acoustically tested. The sealant shall be UL Classified and tested to the requirements of ASTM E814 (UL1479) and shall meet Class A finish requirements when tested in accordance with ASTM E84 (UL723).

#### SPECIFIED DIVISIONS

DIV.	7	07840	Through-Penetration Firestopping
DIV.	13	13900	Special Construction Fire Suppression & Supervisory Systems
DIV.	15	15250	Mechanical Insulation – Fire Protection
DIV.	16	16050	Basic Electrical Materials & Methods

### FEATURES

- **Economical** High performance without the high price!
- **Highly Intumescent** Expands up to 10X.
- **Excellent Smoke Seal**
- **Safe** for contact with plastics.
- **Water Resistant** Will not re-emulsify when dry.
- **Water-Based** for easy installation, cleanup, and disposal.
- **Acoustically Tested** Reduces noise transmission
- **Safe...** Low VOC's, No Solvents, Non-Halogenated



Call STI's automated faxing system for the latest Product and System Information toll-free at 888-526-6800!



Specified Technologies, Inc.

STI Product Data Sheet • Series LCI Intumescent Sealant • FOD-5062 03/2003

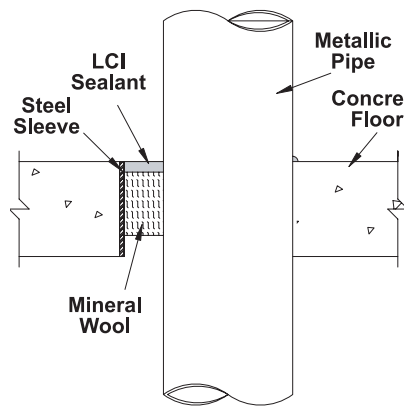
www.stifirestop.com • Toll Free 800-992-1180

Page 1 of 4

**Table A: APPLICATIONS**

- **Metallic Pipes** including steel, iron, or copper pipe and tubing.
- **Nonmetallic Pipes, Conduits & Tubing** including PVC, CPVC, ABS, and PEX.
- **Electrical & Electronic Cabling** including service entrance, power distribution, computer, telephone, and television.
- **Metal Ductwork** including HVAC, bath and dryer vents.
- **Insulated Pipes** including heating, cooling, and condensation applications.
- **Complete Wood Floor firestopping package** for electrical, plumbing, HVAC, telephone, and television.

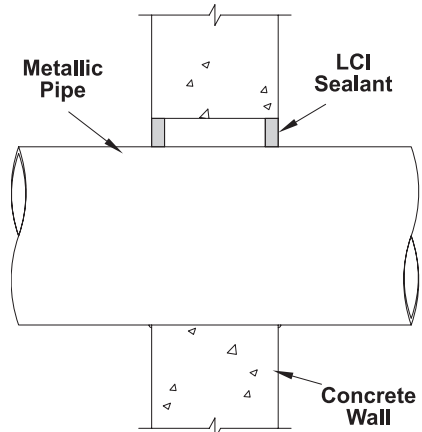
**Fig 1: METALLIC PIPES - Concrete/Masonry Floors & Walls**



**UL System No. C-AJ-1353**

F Rating: 3 Hr • T Rating: 0 Hr  
 Steel or Iron Pipe: <12", Copper Pipe: <4"  
 Annulus: 0" to 2"  
 Sealant Depth: 1/4"

Forming Material: Nom 4 pcf mineral wool (2 1/4" Depth)



**UL System No. W-J-1098**

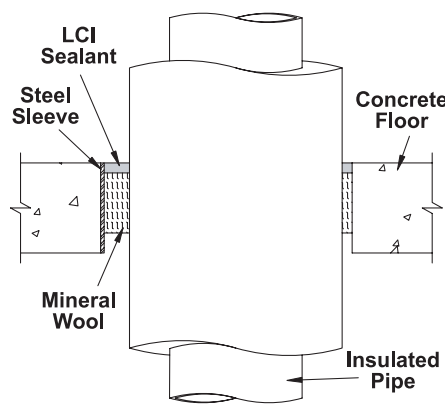
F Rating: 2 Hr • T Rating: 1/4, 3/4 & 1 Hr  
 Steel or Iron Pipe: <8", Copper Pipe: <4"  
 Steel or Iron Pipe: <12", Copper Pipe: <4"  
 Annulus: 0" to 2"  
 Sealant Depth: 5/8"

**Table B: Physical Properties**

<b>Product Name</b>	Series LCI Sealant
<b>Color</b>	Pale Red
<b>Odor</b>	Mild Latex
<b>Density</b>	9.0 Lb/Gal
<b>pH</b>	9.0
<b>Expansion Begins</b>	320°F (160°C)
<b>Volume Expansion</b>	10X Free Expansion
<b>In-Service Temp.</b>	≤ 130°F (54°C)
<b>Flame Spread</b>	0*
<b>Smoke Development</b>	5*
<b>STC Rating</b>	50
<b>VOC Content**</b>	0.00lbs/gal (0.0 g/l)

\* Tested to ASTM E84 (UL723) at 14% surface coverage (modified test for sealants and caulks)  
 \*\*ASTM D 3960 and EPA Federal Reference Method 24

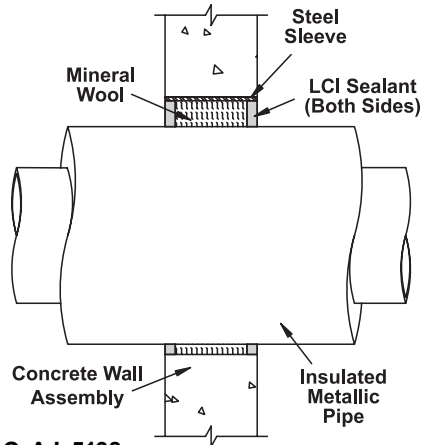
**Fig 2: INSULATED METALLIC PIPES - Concrete/Masonry Floors & Walls**



**UL System No. C-AJ-5138**

F Rating: 2 Hr • T Rating: 3/4 or 1 Hr  
 Steel or Iron Pipe: 6", Copper Pipe: 4"  
 Pipe Covering: Max. 2" fiber glass or mineral wool pipe insulation.  
 Annulus: 1/4" to 1-5/8" • Sealant: 1/2"

Forming: Nom. 4 pcf mineral wool (3" depth)



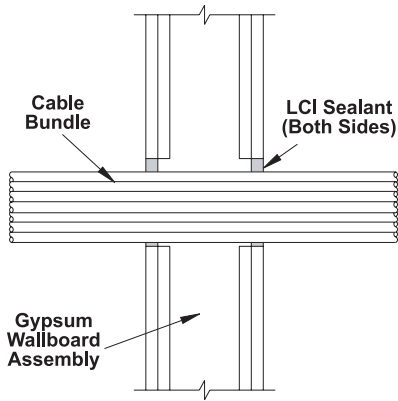
**Table C: SEALANT REQUIREMENTS IN CUBIC INCHES PER 1/4 INCH OF INSTALLED DEPTH\***

Pipe Size		Diameter of Opening (in.)											
Trade Size	Pipe O.D.	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10	12	14	26
0.5"	0.840	0.3	0.6	1.6	3.0	4.8	6.9	9.5	12.4	19.5	28.1	38.3	132.6
1"	1.315	0.1	0.4	1.4	2.8	4.6	6.7	9.3	12.2	19.3	27.9	38.1	132.4
1.5"	1.900			1.1	2.4	4.2	6.4	8.9	11.9	18.9	27.6	37.8	132.0
2"	2.375			0.7	2.0	3.8	6.0	8.5	11.5	18.5	27.2	37.4	131.6
2.5"	2.875			0.1	1.5	3.3	5.4	8.0	10.9	18.0	26.7	36.9	131.1
3"	3.500				0.7	2.5	4.7	7.2	10.2	17.2	25.9	36.1	130.3
3.5"	4.000					1.8	3.9	6.5	9.4	16.5	25.1	35.3	129.6
4"	4.500					0.8	3.0	5.6	8.5	15.6	24.2	34.4	128.7
6"	6.625	<i>*Different Sealant Depth?</i>						1.1	4.0	11.1	19.7	29.9	124.2
8"	8.625	1 1/2" Multiply by 2								4.9	13.6	23.8	118.0
10"	10.750	5/8" Multiply by 2.5									5.6	15.8	110.0
12"	12.750	1" Multiply by 4										6.6	100.8
24"	24.000	1-1/4" Multiply by 5											19.6

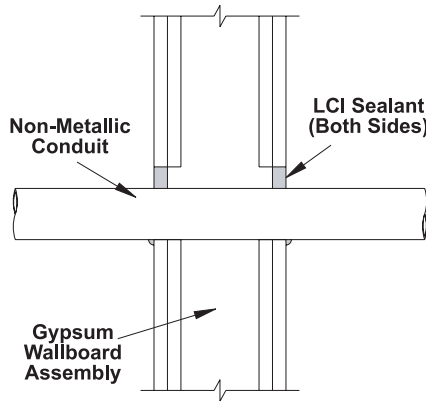
IMPORTANT NOTE: This table is for estimation purposes only. Consult UL Fire Resistance Directory or STI Product & Application Guide for specific installation requirements and limitations



**Fig. 3: ELECTRICAL, DATA OR COMMUNICATIONS - Gypsum Walls**



**UL System No. W-L-3169**  
 F Rating: 1, 2 Hr • T Rating: ¼ and ¾  
 Up to 4" cable bundle  
 Annulus: 0" to 4½" • Sealant: 5/8"



**UL System No. W-L-2241**  
 F Rating: 1, 2 Hr • T Rating: ¼, 1, 1-3/4  
 <2" Rigid PVC or ENMT, CPVC, ABS  
 Annulus: 0-1" • Sealant 5/8"

## 6. INSTALLATION INSTRUCTIONS

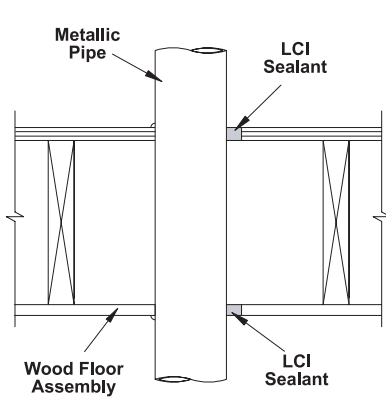
**GENERAL:** Areas to be protected must be clean and free of oil, loose dirt, rust or scale. Installation temperatures must be between 35°F (2°C) and 100°F (38°C). Allow product to dry a minimum of 24 hours before exposure to moisture.

**SYSTEM SELECTION:** Selection of an appropriate firestop system design is critical to the fire protection process. Space limitations preclude highly detailed information pertaining to individual application systems. Please consult the Product & Application Guide as well as the UL® Fire Resistance Directory for additional information.

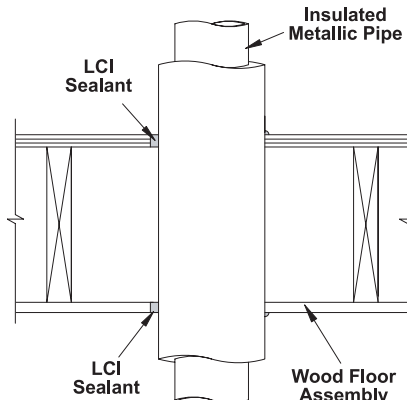
**FORMING:** Some installations may require forming as either an integral part of the system or as an option to facilitate installation. In systems where forming is required, mineral wool batts with a minimum nominal density of 4 PCF are generally required. Cut forming material oversize to allow for tight packing. Position forming material to allow for the proper depth of fill material.

**FILL MATERIAL:** SpecSeal® LCI may be installed by caulking using a standard caulking gun or from bulk containers using a bulk loading caulk gun, or by manually troweling using a mason's trowel or putty knife. If the sealant tends to pull back from a surface, clean the surface with a damp rag or sponge and reapply. Work sealant into all areas exercising care to eliminate voids or seams. The surface of the sealant can be smoothed using a putty knife dipped in water. Adding water to the sealant itself is not recommended. Sealant (when dry) may be painted using most non-solvent based paints.

**Fig. 4: BARE & INSULATED METALLIC PIPES - Wood Floor Assemblies**

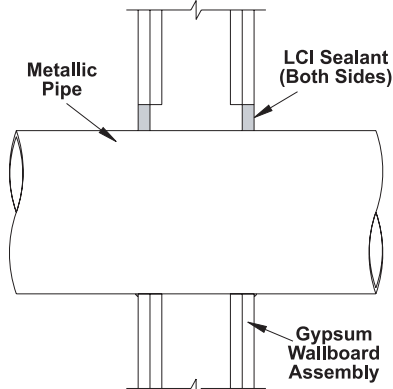


**UL System No. F-C-1074**  
 F Rating: 1 & 2 Hr • T Rating: ¼, ½ and 1 Hr  
 Steel, Iron or Copper: 4" • Chase wall optional.  
 Annulus: 0" to 1" • Sealant: 5/8" bottom, ¾" top

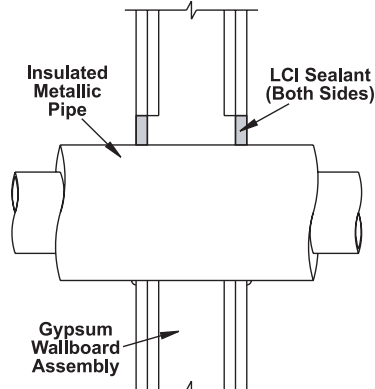


**UL System No. F-C-5043**  
 F Rating: 1 Hr • T Rating: ¾ and 1 Hr  
 Steel, Iron or Copper: 4"  
 Pipe covering: 1" Fiber Glass, Mineral fiber or AB/PVC • Chase wall optional.  
 Annulus: 0" to 1" • Sealant: 5/8" bottom, ¾" top.

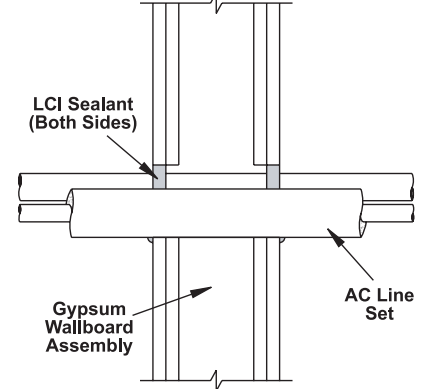
**Fig. 5: BARE & INSULATED METALLIC PIPES - Gypsum Walls**



**UL System No. W-L-1222**  
 F Rating: 1, 2 Hr • T Rating: ¼, ¾, 1 Hr  
 Steel or Iron pipe: 8", Copper pipe: 4"  
 Annulus: 0" to 2" • Sealant: 5/8"



**UL System Nos. W-L-5121, W-L-5122**  
 F Rating: 1, 2 Hr • T Rating: ¼ and 1 Hr  
 Steel or Iron pipe: 6", Copper pipe: 4"  
 Pipe covering: Max. 2" fiber glass, ¾" AB/PVC or 2" mineral fiber  
 Annulus: 0" to 1-1/2" • Sealant: 5/8"



**UL System No. W-L-8025**  
 F Rating: 1, 2 Hr • T Rating: ¼ Hr  
 AC Line Set: Two copper tubes, one with ¾" AB/PVC and thermostat wire  
 Annulus: 0" to 1" • Sealant 5/8"



In gypsum wallboard penetrations, apply a minimum cove bead of 1/4" at the interface of the penetrant with both exterior wall surfaces.

**SMOKE SEALING:** In some applications including firestop collars, SpecSeal® LCI Sealant is recommended as a smoke seal. It is suggested in these applications that the sealant be applied to both sides of walls. In floor applications, a sealing bead is suggested top and bottom.

**LIMITATIONS:** SpecSeal LCI Sealant is water-based and cures through the evaporation of water. Low temperatures as well as high humidity may retard drying. Non-porous or impermeable backing materials, plates, or coatings may retard the drying process. Do not paint or seal in any way that prevents contact with air until sealant has dried through completely.

**7. MAINTENANCE**

No maintenance is normally required, however a periodic inspection of rated barriers is recommended to make sure that any new openings, modifications of previously installed firestops, or areas exhibiting physical damage, have been properly sealed or repaired. Subsequent sealing or repairs should be accomplished using SpecSeal® products per the original approved design.

**RETROFIT:** When adding or removing penetrants, care should be taken to minimize damage to the seal. Reseal using SpecSeal® products per the approved design. NOTE: New penetrants of a different nature than the original design may require a totally new firestop design or extensive modifications to the existing design. Reseal all openings as per the requirements of the modified design.

**8. TECHNICAL SERVICE**

Specified Technologies Inc. provides toll free technical support to assist in product selection and appropriate installation design. UL Systems, Material Safety Data Sheets and other technical information is available at the Technical Library at [www.stifirestop.com](http://www.stifirestop.com) or through STI's automated attendant fax back system at 888-526-6800.

**9. PRECAUTIONARY INFORMATION**

Consult Material Safety Data Sheet for additional information on the safe handling and disposal of this material.

**10. AVAILABILITY**

SpecSeal® Series LCI Sealant is available from authorized STI distributors. Consult factory for the names and locations of the nearest sales representatives or distributors. Available packages

**TABLE D: ORDERING INFORMATION**

CAT. NO.	DESCRIPTION	
LCI300	Sealant 10.1 oz Tube	18.2 Cu In (300 ml)
LCI305	Sealant 5 Gal Pail	1,155 Cu In (19.0 Liters)
LCI320	Sealant 20 oz Sausage	36 Cu in. (592 ml)
LCI329	Sealant 29 oz Quart Tube	52 Cu in. (858 ml)



**Additional SpecSeal Products...**

**Series SSS Sealant**

The industry's most versatile sealant provides the firestopping solutions for a wide range of combustible and noncombustible applications. Water-based intumescent sealant expands up to 8X!

**Intumescent Wrap Strips**

Two grades of intumescent wrap strips provide an unmatched combination of flexibility, economy, and expansion (up to 30X). Systems for plastic pipes including FR Polypropylene up to 8" trade size!

**SSC & LCC Firestop Collars**

Easy to install, economical protection for ABS and PVC pipes (both solid and foam core) as well as CPVC, PVDF, and FRPP. LCC Collars are available up to 4" and SSC Collars are available up to 6" trade size.

**Firestop Mortar**

Lightweight, versatile and economical! The best choice for large or complex installations.

**SSP Firestop Putty**

Available both in bar form and in pads, putty provides easy retrofit for through-penetrations and economical protection for electrical boxes.

**Pensil® Silicones**

Sealants and foam for through-penetrations and construction joints. Unexcelled aging characteristics and flexibility.

**Elastomeric Joint Seals**

New economical products for sealing construction joints. Choose caulk or spray applied products tested to UL2079.

**CITY OF NEW YORK MEA 130-96M**

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

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

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No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

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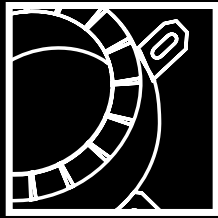
**Specified Technologies Inc.**

200 Evans Way • Somerville, NJ 08876

Phone: (800) 992-1180 • Fax: (908) 526-9623

STI on the WEB: [www.stifirestop.com](http://www.stifirestop.com)





# SERIES LCC FIRESTOP COLLARS



## FEATURES

- **Rapid Expansion:**  
Closes off burning pipes quickly.
- **Small Profile:**  
Use it in all the tight spots!
- **Flexible & Durable:**  
No loose flakes (eye hazards).
- **Water Resistant:**  
No water soluble or hygroscopic ingredients.
- **Economical:**  
Lower installed cost.
- **High Volume Char:**  
Expands up to 60 times!



FIRESTOP DEVICE CLASSIFIED BY  
UNDERWRITERS LABORATORIES INC. ®  
FOR USE IN THROUGH-PENETRATION  
FIRESTOP SYSTEMS. SEE UL FIRE  
RESISTANCE DIRECTORY

## Table A: PHYSICAL PROPERTIES

### Available Sizes

1.5", 2", 3", and 4"

### Shell Construction

Galvanized Steel

### Expansion Begins

320°F (160°C)

### Volume Expansion

32 to 64X (free expansion)

### In Service Temp

≤120°F (49°C)

## 1. PRODUCT DESCRIPTION

The SpecSeal® Series LCC Firestop Collar is a factory-manufactured device designed to protect plastic pipes penetrating fire-rated walls and floors. Utilizing a heavy gauge galvanized metal collar to house a molded intumescent insert, the SpecSeal® LC Collar is specifically sized to fit 1-1/2", 2", 3", and 4" trade sized pipes. When exposed to temperatures in excess of 320°F (160°C), the SpecSeal® LC Collar's molded insert begins to expand (intumesce) rapidly to form a dense, highly insulative char. Its free expansion ranges from 32-64 times original (pre-expanded) volume. Expansion continues up to 1,000°F.

## 2. APPLICATIONS

SpecSeal® LC Collars are used to protect a variety of plastic pipes including PVC, PVC Foam Core (ccPVC), CPVC, ABS, and ABS Foam Core (ccABS) in both vented (DWV) and closed (electrical conduit and water supply) installations.

SpecSeal® LC Collars are suitable for use in all common constructions including concrete floors, concrete over steel deck, concrete walls, concrete block walls, gypsum board walls, as well as wood floor assemblies.

## 3. PHYSICAL PROPERTIES

See Table A. This material is extremely stable. Long term aging studies indicate no significant loss of physical properties nor significant change in expansion properties after elevated temperature and/or humidity testing. Consult factory for additional information.

## 4. PERFORMANCE

SpecSeal® LC Collars are the basis for systems that meet the exacting criteria of ASTM E814 (UL1479). Systems have been tested for all common forms of masonry construction and the most common plastic pipes with ratings up to two hours. Consult factory for information not available in UL Fire Resistance Directory as of this printing.

## 5. SPECIFICATIONS

The firestop system shall be a factory assembled firestop collar utilizing a molded, flexible intumescent insert. The intumescent insert shall provide a minimum of 30X free expansion and shall contain no water soluble expansion ingredients. The specified material shall be approved for a wide range of applications including PVC, PVC Foam Core, CPVC, ABS, and ABS Foam Core pipes when used by itself or in combination with other products from the same manufacturer. The collar shall be UL Classified and tested to the requirements of ASTM E814 (UL1479).

## SPECIFIED DIVISIONS

- DIV. 7 07840 Thermal & Moisture Protection – Firestopping
- DIV. 13 13900 Special Construction Fire Suppression & Supervisory Systems
- DIV. 15 15250 Mechanical Insulation – Fire Protection
- DIV. 16 16050 Basic Electrical Materials & Methods

## 6. INSTALLATION

**GENERAL:** The installation of this product may require the application of a smoke seal utilizing SpecSeal® Series LCI Sealant as well as suitable mechanical fasteners for attachment to the floor or wall surface. Sealant and floor or wall attachment hardware must be purchased separately. SpecSeal® LC Collars are very compact in design and therefore require relatively small cored openings. See Table C for collar dimensions and recommended opening sizes.

**SYSTEM SELECTION:** Proper methods and materials are critical to firestopping. A number of methods have been developed to suit a wide variety of firestopping applications. Consult the UL Fire Resistance Directory, STI's LC Intumescent Product & Application Guide, or the Technical Library at [www.stifirestop.com](http://www.stifirestop.com) for the latest in tested application designs. Additional product literature or information may also be obtained by calling your local distributor, sales rep. or STI toll free at (800) 992-1180.

**SMOKE SEALING:** Some applications may require the application of sealant into the annulus around the pipe as a smoke seal. Consult the UL Classified design for installation requirements including depth and location of caulking. Where required, apply sealant to a clean surface, free of dirt, oil, rust, or scale. Caulk annulus completely shut. Sealant may be smoothed out or the collar may be set directly into the wet sealant.

**For the latest Product and System Information, Call STI'S FACTS-ON-DEMAND  
automated information attendant system by dialing toll-free (888)526-6800!**



**PACKING MATERIALS:** In some applications where the collar diameter is insufficient to completely cover the opening around the pipe, some tested designs may require mineral wool packing material to be installed into the annulus prior to the installation of the collar.

**FASTENERS:** Always use the correct type of fasteners shown in the appropriate UL Classified design. All fasteners should be steel (lead or plastic fasteners are unsuitable and should not be used). 1 1/4" or 1 1/2" fender washers are used in conjunction with all wall or floor fasteners. All fasteners should be installed as per the recommendations of the manufacturer.

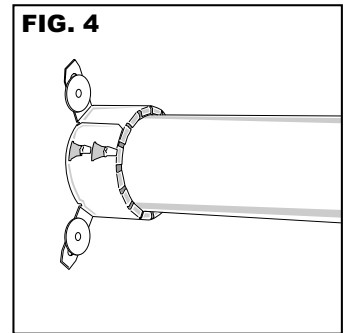
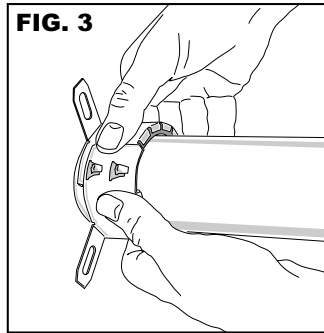
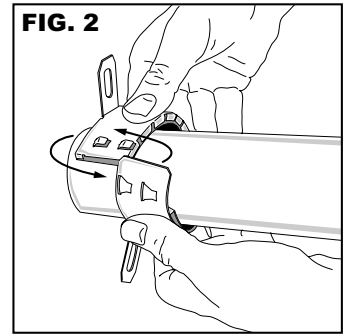
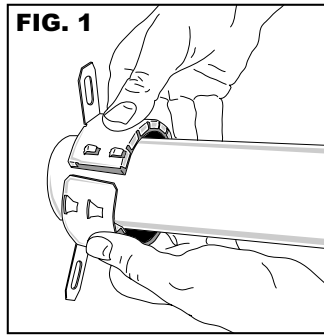
**CONCRETE:** Expanding wedge type anchors (1/4" x 1 3/4") are recommended. Self-tapping steel concrete fasteners are also approved for some installations. Powder activated fasteners may be used at the discretion of the installer and subject to the recommendations of the fastener manufacturer.

**GYPSUM WALLBOARD:** Toggle bolts or molly-type expanding anchors are suitable for collar attachment.

**GYPSUM BOARD-WOOD FLOOR FLOOR/CEILING ASSEMBLIES:** Toggle bolts are suggested for gypsum wallboard ceiling attachment. Collars mounted internally and fastened to wood may use standard #8 x 1/2" round head wood screws for attachment.

**INSTALLATION FOR SURFACE MOUNTING:**

1. Install SpecSeal® Firestop Sealant (if required).
2. With anchor tabs facing the mounting surface, flex collar open and wrap around pipe (See Fig. 1)
3. Collar uses a double hook tab and slot closure. Overlap collar so that the slots align over hook tabs (See Fig. 2)
4. Press slots down and back (towards mounting surface) over hooks and lock into the closed position (See Fig. 3)
5. Slide collar to mounting surface and mark fastener locations. Rotate collar or slide away from mounting surface to allow holes to be drilled. Reposition collar and install fasteners and fender washers. Tighten fasteners completely to finish collar installation.



**Table B: COLLAR DIMENSIONS & RECOMMENDED CORE SIZES**

The following dimensions are provided for installation purposes only. All dimensions have been rounded up to the next 1/10th in.

Cat No. LCC	150	200	300	400
Trade Size	1.5"	2"	3"	4"
Opening Size	2"	2.5"	4"	5"
A	4"	4.4"	5.4"	6.2"
B	2.3"	2.8"	4.3"	5.5"
C	1.5"	1.5"	1.5"	1.5"

**7. MAINTENANCE**

**INSPECTION:** Installations should be inspected periodically for subsequent damage. Any damage should be repaired using SpecSeal® products per the original approved design.

**8. TECHNICAL SERVICE**

Specified Technologies Inc. provides toll free technical support to assist in product selection and appropriate installation design. UL System designs suitable for submittal or specification purposes are available on request. A complete library of technical information is provided at the company's website [www.stifirestop.com](http://www.stifirestop.com).

**9. PRECAUTIONARY INFORMATION**

No unusual hazards are known or expected. Observe normal safety procedures during installation.

**10. AVAILABILITY**

SpecSeal® Firestop Collars are available from authorized STI distributors nationwide. Consult factory for the names and locations of the nearest sales representatives or distributors.

**Table D: ORDERING INFORMATION**

Cat. No.	Description
LCC150	For 1.5" Trade Size Plastic Pipe
LCC200	For 2.0" Trade Size Plastic Pipe
LCC300	For 3.0" Trade Size Plastic Pipe
LCC400	For 4.0" Trade Size Plastic Pipe

**Series LCI Sealant:** A versatile and economical intumescent product for firestopping a wide array of applications in small commercial or grouped residential construction.

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

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

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

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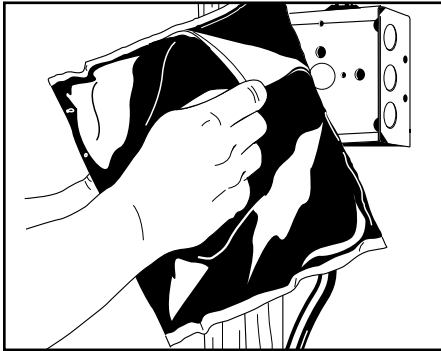
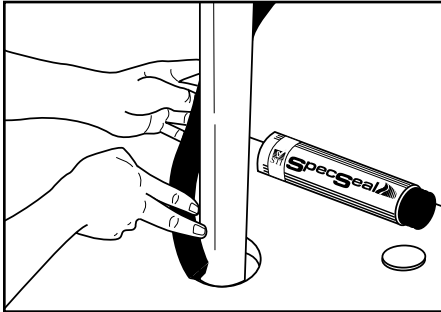


Specified Technologies, Inc.

# PRODUCT DATA SHEET



## Series SSP Putty & Putty Pads



### 1. PRODUCT DESCRIPTION

SpecSeal® Series SSP Putty is a non-hardening, intumescent compound designed to seal through-penetrations as well as certain membrane penetrations against the spread of fire, smoke and toxic gasses. SpecSeal® Putty expands up to 8 times its original size when exposed to high temperatures or flames.

Requiring no tools, SpecSeal® Putty is soft and pliable making it easy to install by hand packing into openings. Its aggressive adhesion makes it suitable for use with all common construction materials as well as cable jacketing and pipes. SpecSeal® Putty remains soft and easy to reuse or retrofit.

SpecSeal® Putty Pads provide this same level of protection in a release lined pad for easy application to electrical boxes or other penetrants. The pad is conveniently sized to fit a typical 1-1/2" deep 4S box with no cutting or piecing required. Faced on both sides with a convenient poly liner, SpecSeal® Putty Pads are easily applied with no mess or excessive residue.

### 2. APPLICATIONS

Series SSP Putty and Putty Pads are used to seal through-penetrations as well as construction gaps and blank openings. SpecSeal® Putty Pads are used to seal around electrical boxes to reduce sound transmission (see Technical Update) and increase fire resistance. These pads also provide a metered method of application when sealing through-penetrations and in some applications, are used to provide a cushion to allow movement due to settling, expansion and contraction, or vibration.

### 3. PHYSICAL PROPERTIES

See Table A.

### 4. PERFORMANCE

SpecSeal® Series SSP Putty is the basis for systems that meet the exacting criteria of ASTM E814 (UL1479). Systems have been tested for all common forms of construction and most common penetrants with ratings up to 3 hours. Sound attenuation properties have also been tested as per ASTM C919 and E90.

Additionally, SpecSeal® Putty Pads have been tested to UL263 (ASTM E119, NFPA 251) and are classified for up to 2 hours as a Wall Opening Protective Material for

### 5. SPECIFICATIONS

The firestopping putty shall be a one-part, two-stage intumescent, non-hardening compound. The putty, when exposed to high heat or flame shall be capable of expanding a minimum of 5 times. Range of continuing expansion shall be from 230°F to >1,000°F. The putty shall be soft and pliable with aggressive adhesion and shall not contain any water-soluble intumescent ingredients. The putty shall be UL Classified and/or FM Systems Approved and tested to the requirements of ASTM E814 (UL1479).

### SPECIFIED DIVISIONS

DIV.	7	07840	Through-Penetration Firestopping
DIV.	13	13900	Special Construction Fire Suppression & Supervisory Systems
DIV.	15	15250	Mechanical Insulation – Fire Protection
DIV.	16	16050	Basic Electrical Materials & Methods

**CLASSIFIED**  
  
 3L73  
**FILL, VOID OR CAVITY MATERIALS CLASSIFIED BY UNDERWRITERS LABORATORIES INC.® FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS.**  
 SEE UL FIRE RESISTANCE DIRECTORY  
**UNDERWRITERS LABORATORIES INC.® CLASSIFIED WALL PROTECTION MATERIAL. SEE PRODUCT CATEGORY IN UL FIRE RESISTANCE DIRECTORY**

**CLASSIFIED**  
  
**CLASSIFIED FILL, VOID, OR CAVITY MATERIALS FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS. SEE UL DIRECTORY OF PRODUCTS CERTIFIED FOR CANADA AND UL FIRE RESISTANCE DIRECTORY**

**FM**  
 APPROVED

### FEATURES

- **Non-Hardening** Easy retrofit!
- **Two Stage Intumescence** features aggressive expansion.
- **Endothermic Fillers** absorb heat & release water.
- **Highly Adhesive Formula** Stays put. Allows movement.
- **Soft & Pliable** for easy installation.
- **No Water-Soluble Expansion Ingredients** means better water resistance!
- **Sound Deadening!** Excellent sound attenuation properties. Reduces noise transmission.



**Facts On Demand**

Call STI's automated faxing system for the latest Product and System Information toll-free at 888-526-6800!



Specified Technologies, Inc.

STI Product Data Sheet • Series SSP Firestop Putty & Putty Pads • FOD-5010 03/2003

www.stifirestop.com • Toll Free 800-992-1180

**Table A:**  
**PHYSICAL PROPERTIES**

<b>Product Name</b>	Series SSP Putty
<b>Color</b>	Red
<b>Odor</b>	None
<b>Density</b>	1.45
<b>Solids</b>	100%
<b>Expansion Begins</b>	230°F
<b>Volume Expansion</b>	> 500% (free expansion)
<b>In-Service Temp.</b>	130°F
<b>STC Rating</b>	51
<b>VOC Content**</b>	0.00 lbs/gal (0.0g/l)

\*\*ASTM D 3960 and EPA Federal Reference Method 24.

use with both metallic and nonmetallic outlet or switch boxes installed in gypsum wallboard assemblies (steel and wood stud assemblies). Boxes protected with SpecSeal® Putty Pads have been successfully tested with box spacing reduced to less than 16". (Not tested nor approved for boxes installed directly back to back).

## 5. SPECIFICATIONS

See Page 1

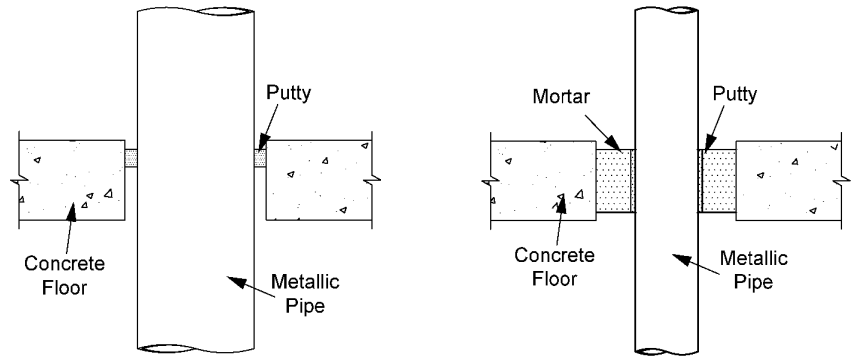
## 6. INSTALLATION INSTRUCTIONS

**GENERAL:** Areas to be protected must be clean and free of oil, loose dirt, rust or scale. Installation, storage, and in-service temperatures must be below 130°F. No drying or curing is required.

**SYSTEM SELECTION:** Please consult the STI Product and Application Guide as well as the UL® Fire Resistance Directory for applicable through-penetration firestop systems.

**FORMING:** Some installations may require forming as either an integral part of the system or as an option to facilitate installation. In systems where forming is required, mineral wool batts (1-1/2" nom. thickness, 4 lb./cu. ft. density) are recommended. Some gypsum wallboard systems utilize fiberglass. Cut forming material oversize to allow for tight packing. Recess forming material at a depth which allows for the proper depth of fill material.

**Fig. 1: METALLIC PIPE PENETRATIONS - CONCRETE/MASONRY FLOOR**



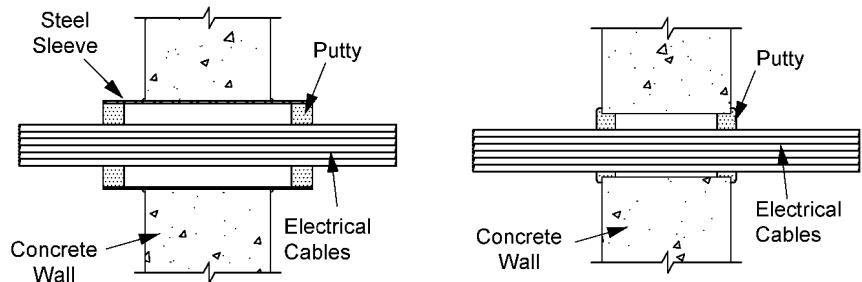
**UL System No. C-AJ-1090**

F Rating: 2 hr • T Rating: 0 hr  
Steel or Iron Pipe: 6", EMT 4"  
Annulus: Nominal 11/16"  
Putty Depth: 1"  
Forming Material: Optional

**UL System No. C-AJ-8055**

F Rating: 2 hr • T Rating: 0 hr  
Steel or Iron Pipe: 6", EMT 4"  
Annulus: 1" to 6 1/2"  
SpecSeal Mortar Depth: 3 1/2"  
SpecSeal Putty Pad: 1 Layer Encircling

**Fig. 2: METALLIC PIPE PENETRATIONS - WALLS**



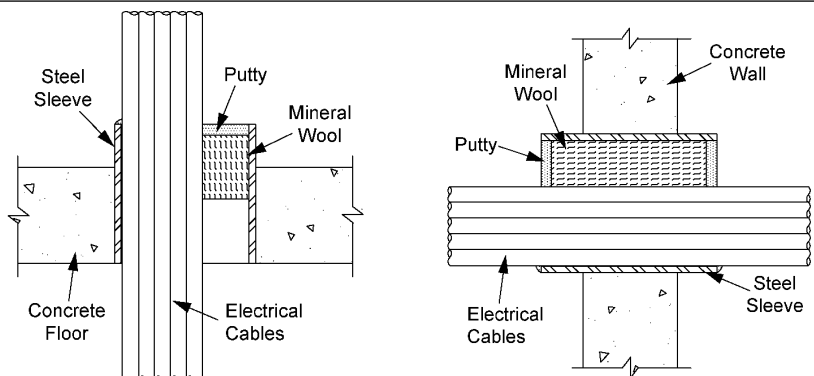
**UL System No. W-J-3090**

F Rating - 2 Hr • T Rating - 3/4 Hr  
Electrical, Telephone or Data Cables  
Annulus: Min 0"  
Putty Depth: 1" of Putty on both sides.

**UL System No. W-J-3046**

F Rating - 2 Hr • T Rating - 0 Hr  
Electrical, Telephone or Data Cables  
Annulus: 1/4" to 3/4"  
Putty Depth: 5/8" of Putty on both sides.

**Fig. 3: CABLE PENETRATIONS - CONCRETE/MASONRY FLOORS & WALLS**



**UL System No. C-AJ-3154**

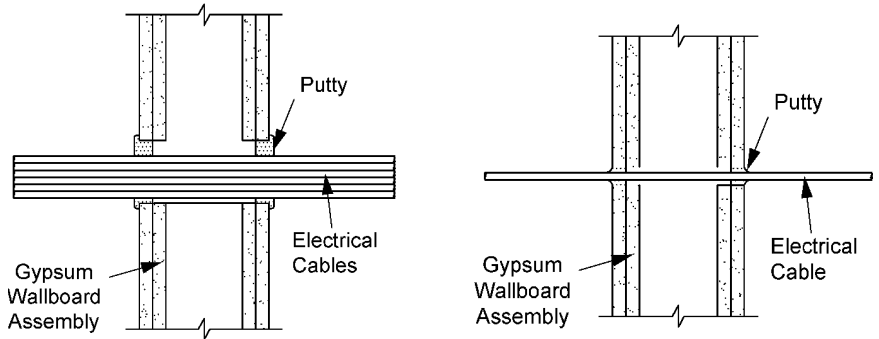
F Rating - 1, 2, 3 & 4 Hr • T Rating - 0, 1/2 & 2 3/4 Hr  
Optional Sleeve - PVC or Steel • Electrical, Telephone or Data Cables • Annulus: 0" to 2"  
Forming Material: Nom 4 pcf mineral wool • Putty Depth: 1/2" of Putty; 1" for 4 Hr

**FILL MATERIAL:** SpecSeal® Putty may be installed by hand packing into the penetration. Care should be exercised to work the putty into and against all contact surfaces. Install putty to required depth. Work putty into all areas, exercising care to eliminate voids or seams. Where possible, space all penetrants adequately to allow putty to be packed into all voids and assure a good smoke seal. Most firestop system designs utilize a 1" depth of SpecSeal® Putty.

**PUTTY PADS:** SpecSeal® Putty Pads are available as a 7.25" x 7.25" x 3/16" poly release faced pad for protection of recessed electrical boxes and as a through-penetration sealant. The pad is sized to fit a common 1-1/2" deep 4S electrical box. To install remove release liner from one side of pad. Align edge of pad to top of box and center pad. Adhere pad to top of box and bring pad down over the back of the box. Adhering pad to all outer surfaces will create excess material at the corners. Pinch pleat material together and fold against sides of box or trim off as desired. Putty pad must be applied to a uniform depth of 3/16" (one layer of pad) over the exterior surface of box for both 1 and 2 hour applications. Optionally, additional putty may be packed into conduit fittings to prevent the transmission of smoke through the conduit system.

Pads may also be used in through-penetrations. Strips of pad may be cut off and packed around penetrants. Pad strips may also be applied to penetrants in a mortar system to create a firestop as well as a cushion to absorb movement due to expansion and contraction or vibration.

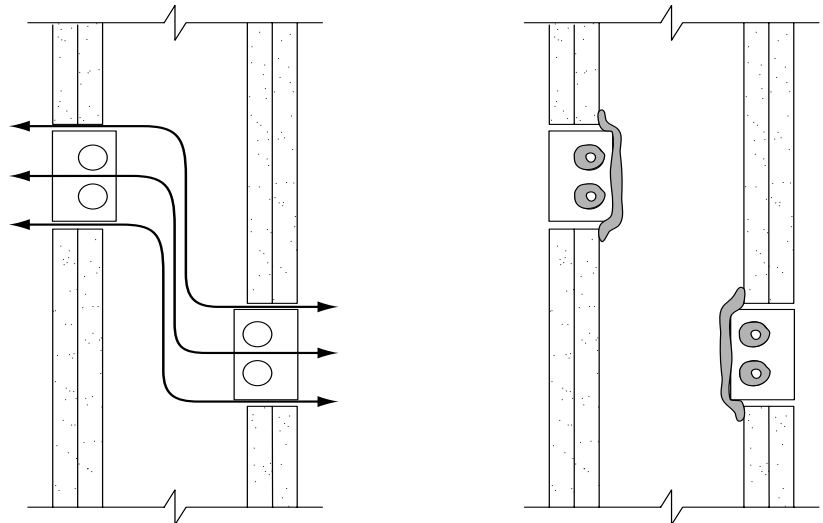
**Fig. 4: CABLE PENETRATIONS - GYPSUM BOARD WALLS**



**UL System No. W-L-3135**  
 F Rating – 1 & 2 Hr • T Rating – 0 Hr  
 Electrical, Telephone or Data Cables  
 Annulus: 1/4" to 3/4"  
 Putty Depth: 5/8" of Putty on both sides.

**UL System No. W-L-3024**  
 F Rating – 1 & 2 Hr • T Rating – 0, 1/2, 1 & 2 Hr  
 Electrical, Telephone or Data Cables  
 Annulus: 0" to 1/4"  
 Putty Depth: 5/8" of Putty on both sides.

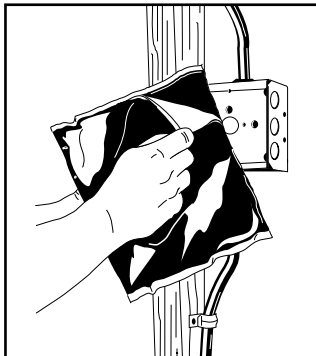
**Fig. 5: EXAMPLE OF MAINTAINING STC VALUES OF WALL AND CREATING AN EFFECTIVE SOUND BARRIER**



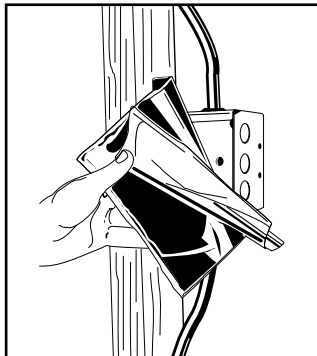
Arrows show path of sound travel.

Putty pad reduces sound transmission by blocking path of sound travel.

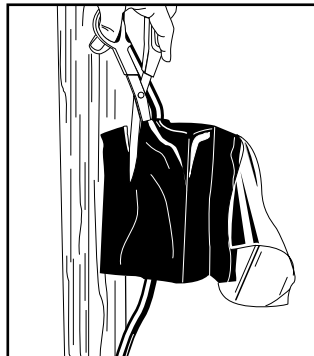
**INSTALLATION OF PUTTY PADS ON ELECTRICAL BOXES (Protective Wall Opening Material)**



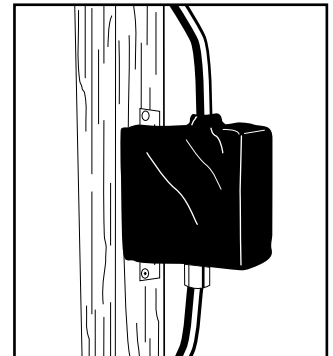
**STEP 1**



**STEP 2**



**STEP 3**



**STEP 4**

Remove poly liner from one side of pad (Step 1). Align pad to the side of box partially overlapping the stud and adhere. Working to the opposite side of the box to the edges (Step 2). If wall membrane is in place, pack putty into gaps between box and gypsum board slightly overlapping inner wallboard surface. If membrane is to be installed after pad installation, overlap front edge of box so that putty will be compressed around edges of box as wallboard is installed. Cut slits in pad to fit around conduits or cables (Step 3). Press pad to surface of top, bottom, and sides of box (Step 4). Trim excess at corners and apply to conduit fittings connected to the box. Remove exposed poly liner. Optionally, putty may be packed into inside of conduit fittings to prevent passage of smoke.



CLEAN UP: Remove excess material from all contact surfaces immediately. Clean hands or skin using a waterless hand cleaner. When using water-emulsifiable soaps, apply soap and work over areas of skin contact prior to applying water.

## 7. MAINTENANCE INSPECTION

Installations should be inspected periodically for subsequent damage. Any damage should be repaired using SpecSeal® products per the original approved design.

Retrofit: When adding or removing penetrants, care should be taken to tightly reseal the penetration. Reseal using SpecSeal® Putty per the approved design.

## 8. TECHNICAL SERVICE

Specified Technologies Inc. provides toll free technical support to assist in product selection and appropriate

installation design. UL Systems, Material Safety Data Sheets and other technical information is available at the Technical Library at [www.stifirestop.com](http://www.stifirestop.com) or through STI's automated attendant fax back system at 888-526-6800.

## 9. PRECAUTIONARY INFORMATION

Consult Material Safety Data Sheet for additional information on the safe handling and disposal of this material. Wash areas of skin contact with soap and water. Avoid contact with eyes. DO NOT APPLY TO EXPOSED ELECTRICAL CONDUCTORS.

## 10. AVAILABILITY

SpecSeal® Series SSP Putty is available from authorized STI distributors nationwide. Consult factory for the names and locations of the nearest sales representatives or distributors. ■■■■■

**TABLE C: ORDERING INFORMATION**

CAT. NO.	DESCRIPTION	CASE QUAN.
SSP100	36 in <sup>3</sup> (0.6 liter) bar	6
SSP4S	7.25" x 7.25" x 3/16" pad	20
SSP9S	9.00" x 9.00" x 3/16" pad	20

### Additional SpecSeal Products...

#### Series SSS Sealant

The industry's most versatile sealant provides the firestopping solutions for a wide range of combustible and noncombustible applications. Water-based intumescent sealant expands up to 8X!

#### Series LCI Sealant

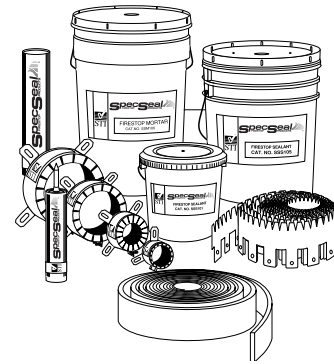
A versatile and economical intumescent product for firestopping a wide array of applications in small commercial or grouped residential construction.

#### SSB Firestop Pillows

Durable, monolithic pillows for installations requiring quick and easy retrofitting. Systems designed for pipes, cables and cable tray in all types of construction!

#### Intumescent Wrap Strips

Two grades of intumescent wrap strips provide an unmatched combination of flexibility, economy, and expansion (up to 30X). Systems for plastic pipes including FR Polypropylene up to 8" trade size!



#### Pensil® Silicones

Sealants and foam for through-penetrations and construction joints. Unexcelled aging characteristics and flexibility.

#### Firestop Mortar

Lightweight, versatile and economical! The best choice for large or complex installations.

#### Molded Firestop Collars

Easy to install, economical protection for ABS and PVC pipes (both solid and foam core) as well as CPVC, PVDF, and FRPP. Collars available up to 6" trade size.

#### Elastomeric Joint Seals

New economical products for sealing construction joints. Choose caulk or spray applied products tested to UL2079.

## CITY OF NEW YORK MEA 130-96M

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