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<th>REVIEWED</th>
<th>MAKE CORRECTIONS NOTED</th>
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**DATE:** 7/07/14  
**BY:** MJJ

**THIS APPROVAL DOES NOT RELIEVE THE SUBCONTRACTOR/VENDOR OF ANY RESPONSIBILITY FOR CONFORMANCE WITH DRAWINGS, SPECIFICATIONS, DIMENSIONAL REQUIREMENTS, OR FIELD MEASUREMENTS**
# FIRESTOPPING SUBMITTAL

**INTEGRA COVE APARTMENTS**  
ORLANDO, FL

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Date: July 7, 2014  
Prepared For: J.A. CROSON COMPANY  
SORRENTO, FL

<table>
<thead>
<tr>
<th>ASSEMBLY PENETRATED</th>
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<td>1 hour</td>
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**SHOP DRAWING REVIEW**

Review of shop drawings or samples shall not relieve the contractor for any deviation from the requirements of the contract documents unless the contractor has informed the Engineer in writing of such deviation at the time of submission and has obtained written approval of the specific deviation; nor shall the review relieve the contractor from responsibility for errors or omissions in the shop drawings or samples. Review does not authorize any changes involving additional cost unless stated in separate letter or change order.

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<th>NO EXCEPTIONS TAKEN</th>
<th>MAKE CORRECTIONS NOTED</th>
<th>AMEND &amp; RESUBMIT</th>
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**KTD Consulting Engineers, Inc.**

Date: 07/07/2014  
By: [Signature]

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GENERAL CERTIFICATE OF CONFORMANCE

FEBRUARY 2014

Description:
SpecSeal® Firestop Products; Pensil® Silicone Sealants; EZ-Path® Fire Rated Pathways; Ready® Sleeve Firestop Sleeves; STI Firestop Products

Included Products:

SpecSeal® Series SSS Intumescent Sealant
SpecSeal® Series ESP Intumescent Sealant
SpecSeal® Series EL Elastomeric Sealant
Pensil® PEN300 Silicone Sealant
BlazeStop™ WF300 Firestop Caulk
SpecSeal® Series SSP Putty & Putty Pads
SpecSeal® Series SSB Firestop Pillows
SpecSeal® Series LCC Firestop Collars
SpecSeal® Series FP Firestop Plugs
EZ-Path® Series 22
Ready® Sleeve
SpecSeal® Series SSAMW Mineral Wool
SpecSeal® Series CS105 Cable Spray
SpecSeal® Series LCI Intumescent Sealant
SpecSeal® Series SIL300 Silicone Sealant
Pensil® PEN300 Silicone Sealant
SpecSeal® Series AS200 Elastomeric Spray
SpecSeal® Series EP PowerShield™ Box Insert
SpecSeal® Series CS Composite Sheet
SpecSeal® Series SSC Firestop Collars
SpecSeal® Series CD Cast-In Firestop Devices
EZ-Path® Series 33
Easy® Sleeve Split
SpecSeal® SpeedFlex® Fire Rated Joint Profile
SpecSeal® SpeedFlex® Track Top Gasket
SpecSeal® Series LC Firestop Sealant
SpecSeal® Series SIL300SL Silicone Sealant
Pensil® PEN200 Silicone Foam
SpecSeal® Series FT Fast Tack™ Firestop Spray
SpecSeal® Series SSM Firestop Mortar
SpecSeal® Series SSW Wrap Strips
SpecSeal® Series RTC Firestop Collars
FyreFlange® Firestop Angle
EZ-Path® Series 44 or 44+
EZ-Path® Firestop Grommet
SpecSeal® Closet Flange Firestop Gasket
Series TBW Thermal Barrier Wrap

These products are tested to one or more of the following standards:

• ASTM E814 (ANSI/UL1479) Standard Test Method for Fire Tests of Penetration Firestop Systems
• UL Subject 1724, Fire Tests for Electrical Circuit Protective Systems
• CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems
• CAN/ULC S101 Standard Methods of Fire Endurance Tests of Building Construction and Materials

Chemical Content Statement:
No asbestos, PCB’s, lead, or water-soluble intumescent ingredients are used or contained in these products.

James P. Stahl Jr., CFPS
Vice President of Engineering

Paul M. Jankowski
Quality Control Manager

Certificate of Conformance • Technical Service 1-800-992-1180 • www.stifirestop.com
1. **Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. The F and T Ratings of the firestop system are equal to the rating of the floor-ceiling assembly. The general construction features of the floor-ceiling assembly are summarized below:

A. **Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture** as specified in the individual Floor-Ceiling Design. Diam of opening hole-sawed in flooring shall be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of through penetrant (Item 3) or branch piping (Item 4). As an option, the opening for the branch piping (Item 4) may be rectangular, 8 by 12 in. (203 by 305 mm) max, for 1 hr rated assemblies only. Cutout to be patched on underside of subfloor using one layer of min 3/4 in. (19 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum wallboard (Item 1C) sized to lap min 2 in. (51 mm) beyond each edge of rectangular cutout. Diam of opening hole sawed through patch to accommodate branch piping (Item 4) to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of branch piping. Patch split into two pieces at opening hole-sawed for branch piping. Two pieces positioned around branch piping, with cut edges tightly-butt, and screw attached to the underside of subfloor using 1-1/4 in. (32 mm) long Type S steel screws spaced max 6 in. (152 mm) OC.

B. **Wood Joists** - For 1 hr fire-rated floor-ceiling assemblies nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assembly, nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging with ends firestopped.

C. **Furring Channels** - (Not Shown) - Resilient galv steel furring installed perpendicular to wood joists between first and second layers of gypsum board (Item 1D) in 2 hr fire-rated assembly.

D. **Gypsum Board** - Nom 4 ft (1.22 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. First layer of gypsum board nailed to wood joists. Second layer of gypsum board (2 hr fire-rated assembly) screw-attached to furring channels. Diam of opening shall be max 1/2 in. (13 mm) larger than nom diam of through penetrant (Item 3).

2. **Chase Wall** - (Optional, not shown) - The through-penetrant (Item 3) may be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and which includes the following construction features:

A. **Studs** - Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

B. **Sole Plate** - Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening hole-sawed in sole plate to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of through penetrant (Item 3).

C. **Top Plate** - The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of through penetrant (Item 3).

D. **Gypsum Board** - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall or Partition Design.
3. **Through Penetrants** - One nonmetallic pipe to be centered within the firestop system. Pipe to be rigidly supported on both sides of floor-ceiling assembly. The annular space between pipe and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm). Pipe may be installed with continuous point contact where it passes through gypsum board ceiling. The following types and sizes of nonmetallic pipes may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping system.

   C. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

4. **Branch Piping** - (Optional)-One nonmetallic pipe with or without.nom 4 in. (102 mm) diam (or smaller) toilet flange that corresponds to the type of branch piping. The following types and sizes of nonmetallic pipes may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

5. **Firestop System** - The details of the firestop system shall be as follows:

   A. **Fill, Void or Cavity Material** - Wrap Strip - Nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. or 2 in. (38 or 51 mm) wide strips. Nom 1-1/2 in. or 2 in. (38 or 51 mm) wide strips tightly wrapped around through penetrant (item 3) with the edges butted against the underside of the gypsum board ceiling (Item 1D) or top plate of chase wall (Item 2C) around the entire perimeter of the hole-sawed opening. For nom 1/2 in. to 2 in. (13 to 51 mm) diam pipes, a min of one layer of wrap strip is required. For nom 2-1/2 in. to nom 4 in. (64 to 102 mm) diam pipes, a min of two layers of wrap strip is required. Each layer of wrap strip to be installed with butted seams, butted seams in successive layers to be staggered or aligned. Wrap strip layer(s) secured together with masking tape.

   - **SPECIFIED TECHNOLOGIES INC** - SpecSeal RED Wrap Strip or SpecSeal BLU Wrap Strip

   B. **Steel Collar** - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick galv sheet steel available from wrap strip manufacturer. Collar shall be nom 1-1/2 in. or 2 in. (38 or 51 mm) deep dependent upon wrap strip width with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for attachment to underside of ceiling or top plate. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, folded 90 degrees toward through penetrant surface to maintain the annular space and to retain the wrap strips. Collar wrapped around wrap strips and through-penetrant with a 1 in. (25 mm) wide overlap along its perimeter joint and secured with a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp at the mid-height of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 steel sheet metal screws. The length of the steel screws is dependent upon the number of layers of wrap strip used within the steel collar. For steel collars incorporating a single layer of wrap strip, the length of the steel screws shall be 1/4 in. (6 mm) long. For steel collars incorporating two or more layers of wrap strip, the length of the steel screws shall be 3/8 in. (10 mm) long. Collar secured to the bottom of ceiling with min 3/16 in. (5 mm) diam by 2 in. (51 mm) long toggle bolts in conjunction with min 1/4 in. (6 mm) by 1-1/4 in. (32 mm) diam steel fender washers. Collar secured to bottom of chase wall top plate with min 3/4 in. (19 mm) long steel wood screws in conjunction with min 1/4 in. (6 mm) by 1 in. (25 mm) diam steel fender washers, respectively. The number of screws is dependent upon the nom diam of the through penetrant. Two screws, symmetrically located, are required for nom 1/2 in. (13 mm) through 2 in. (51 mm) diam through-penetrants. Three screws, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through-penetrants. Four screws, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through-penetrants. Steel collar is not required to be installed around branch piping at the underside of the flooring.

   - **SPECIFIED TECHNOLOGIES INC** - SpecSeal Firestop Collar, SpecSeal LCC Collar

   C. **Firestop Device** - (Not Shown)-As an alternate to Items 5A and 5B for through-penetrant (Item 3), a firestop device consisting of a steel collar lined with intumescent material and sized to fit the specific diam of the nonmetallic pipe may be used. Firestop device to be installed on underside of ceiling or top plate in accordance with the accompanying installation instructions. When pipe is contained within the cavity of a wall, the minimum number of fasteners may be reduced. For nom 2 in. diam (or smaller) pipes, the minimum number of opposing fasteners is two. For nom 3 in. diam (or smaller) pipes, the minimum number of fasteners is three.

   - **SPECIFIED TECHNOLOGIES INC** - SpecSeal Firestop Collar, SpecSeal LCC Collar

   D. **Fill, Void or Cavity Material** - Sealant - Min 3/4 in. (19 mm) thickness of fill material applied within annular space around perimeter of through penetrant (Item 3) and branch piping (Item 4), flush with top surface of floor or top of chase wall sole plate. Min 1/2 in. (13 mm) diam bead applied at point contact locations at pipe/floor interface and the pipe/plate interface.

   - **SPECIFIED TECHNOLOGIES INC** - Type WF300 Caulk

*Bearing the UL Classification Mark*
1. **Floor Assembly** - The 1 hr fire rated wood truss or combination wood and steel truss Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance Directory, as summarized below:
   
   **A. Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture** as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1/2 in. to 1 in. (13 to 25 mm) larger than the outside diam of nonmetallic pipe (Items 3 and 4).
   
   **B. Joists** - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and ends firestopped.
   
   **C. Gypsum Board** - Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick, attached as described in the individual Floor-Ceiling Design.

2. **Chase Wall** - The through penetrant (Item No. 3) shall be routed through a single, double or staggered wood studs/gypsum board chase wall and shall include the following construction features:
   
   **A. Studs** - Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber studs.
   
   **B. Sole Plate** - Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening or length of notch-out in sole plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than outside diam of pipe.
   
   **C. Top Plate** - The single or double top plate shall consist of one or two nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening or length of notch-out in top plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than outside diam of pipe.
   
   **D. Gypsum Board** - Min 1/2 in. (13 mm) thick rated or nonrated gypsum board.
3. **Through Penetrant** - One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of floor-ceiling assembly. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (0 to max 13 mm). The following types and sizes of nonmetallic pipes may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 3 in. (76 mm) 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 system.

   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

4. **Branch Piping** - (Optional) - One nonmetallic pipe to be connected to through penetrant (Item 3) and installed within opening in subfloor. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). The following types and sizes of nonmetallic pipes may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. **Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 3 in. (76 mm) 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 system.

5. **Fill, Void or Cavity Materials** - Caulk or Sealant - Min 3/4 in. (19 mm) thickness of caulk applied within annular space around perimeter of through penetrant (Item 3), flush with top surface of floor or sole plate and flush with bottom surface of top plate. Min 3/4 in. (19 mm) thickness of caulk applied within annular space around perimeter of branch piping (Item 4), flush with top surface of floor. Min 1/2 in. (13 mm) diam bead applied at the pipe/floor interface.

   **SPECIFIED TECHNOLOGIES, INC.** - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or Type WF300 Firestop Caulk

   *Bearing the UL Classification Mark*
1. **Floor Assembly** - The 1 hr fire rated wood truss or combination wood and steel truss Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance Directory, as summarized below:
   A. **Joists** - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.
   B. **Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture** as specified in the individual Floor-Ceiling Design. Diam of opening in flooring shall be 3/16 to 5/8 in. (5 to 16 mm) larger than the outside diam of nonmetallic pipe or conduit (Item 2).
   C. **Gypsum Board** - Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design.

2. **Chase Wall** - (Optional) - The through penetrants (Item 2) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm), 2 by 8 in. (51 by 203 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
   B. **Sole Plate** - Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates or double nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted together. Circular opening to be centered in sole plate. Max diam of opening in sole plate is 3 in. (76 mm).
   C. **Top Plate** - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates or double nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted together. Circular opening to be centered in top plate. Max diam of opening in top plate is 3 in. (76 mm).
   D. **Gypsum Board** - Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. **Through Penetrant** - One nonmetallic pipe or conduit to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 0 in. (point contact) to max 1/2 in. (0 to 13 mm). Pipe to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipes may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** - Nom 2 in. (51 mm) 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.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

   **Note:** When the annular space is max 3/16 in. (5 mm), the T Rating is 0 Hr.

4. **Fill, Void or Cavity Materials** - **Caulk** - Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of sole plate or subfloor. Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with bottom surface of lower top plate or gypsum board. At the point contact location or when the annulus between the through penetrant and sole plate or subfloor or top plate or gypsum board is 1/8 in. (3 mm) or less, min 1/2 in. (13 mm) diam bead of fill material applied at the through penetrant/plate interface.
   
   **SPECIFIED TECHNOLOGIES INC** - Type WF300 Caulk

   *Bearing the UL Classification Mark
1. **Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

   A. **Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture** as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 by 12 in. (203 by 305 mm). Cutout to be patched on underside of subfloor using one layer of min 3/4 in. (19 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum wallboard (Item 1C) sized to lap min 2 in. (51 mm) beyond each edge of rectangular cutout. Diam of opening hole-sawed through patch to accommodate drain piping (Item 2) to be 1 in. (25 mm) larger than outside diam of drain piping and positioned such that drain piping is centered in opening. Patch split into two pieces at opening hole-sawed for bathtub drain piping. Two pieces positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1-1/4 in. (32 mm) long Type S steel screws spaced max 6 in. (152 mm) OC.

   B. **Wood Joists** - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.

   C. **Gypsum Board** - Nom 4 ft (1.22 m) wide by 5/8 in. (16 mm) thick, attached as described in the individual Floor-Ceiling Design.

2. **Drain Piping** - Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 cellular or solid core polyvinyl chloride (PVC) or acrylonitrile butadiene styrene (ABS) pipe and drain fittings cemented together and provided with PVC or ABS bathtub waste/overflow fittings. The annular space shall be a min 3/8 in. (10 mm) to max 5/8 in. (16 mm).

3. **Fill, Void or Cavity Material** - **Sealant** - Min 5/8 in. (16 mm) depth of fill material applied within annular space, flush with both surfaces of plywood or gypsum wallboard patch.

   SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

   *Bearing the UL Classification Marking
1. **Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

   A. **Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture** as specified in the individual Floor-Ceiling Design. Max diam of opening is 5 in. (127 mm).

   B. **Wood Joists** - Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists trusses or **Structural Wood Members** with bridging as required with ends firestopped.

   C. **Furring Channels** - (Not Shown) - Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between gypsum board (Item 1D) and wood joists as required in the individual Floor-Ceiling Design.

   D. **Gypsum Board** - Nom 4 ft (1.22 mm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists as specified in the individual Floor-Ceiling Design.

2. **Closet Flange** - Polyvinyl chloride (PVC) or acrylonitrile butadiene styrene (ABS) closet flange installed in hole-sawed opening in flooring system with flange secured to top of flooring with steel screws. Diam of circular opening through flooring (Item 1A) to be max 1/2 in. (13 mm) larger than outside diam of closet flange.

3. **Drain Piping** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC or ABS drain piping and fittings. Short length of pipe with 90 degree elbow fitting cemented into bottom socket of closet flange. Drain piping to soil stack cemented into elbow.

4. **Fill, Void or Cavity Material** - **Sealant** - Fill material forced into annulus between closet stub and periphery opening in flooring to max extent possible, flush with bottom surface of floor. Additional fill material to be installed such that a min 3/8 in. (10 mm) crown is formed around the closet stub on bottom surface of floor.

   SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

5. **Water Closet** - (Not Shown) - Floor mounted vitreous china water closet.

*Bearing the UL Classification Mark*
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 specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:

   A. Studs - Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC.

   B. Gypsum Board* - Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Designs.
   For nom 2-1/2 in. (64 mm) diam and smaller pipes and conduits, diam of opening shall be max 1/4 in. (6 mm) larger than nom pipe diam. For pipes and conduits greater than nom 2-1/2 in. (64 mm) diam of opening shall be max 1/2 in. (13 mm) larger than nom pipe diam.

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

2. Through Penetrants - One nonmetallic pipe or conduit to be centered within opening with a max annular space between pipe or conduit and periphery of 1/8 in. (3.2 mm) for nom 2-1/2 in. (64 mm) diam and smaller pipes and conduits and 1/4 in. (6 mm) for pipes and conduits greater than 2-1/2 in. (64 mm) diam. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes and conduits may be used.

   A. Polyvinyl Chloride (PVC) Pipe - Nom 4 in. (102 mm) 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.

   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

   C. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   D. Rigid Nonmetallic Conduit+ - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).

3. Firestop System - The firestop system consists of the following:

   A. Fill, Void or Cavity Material* - Sealant - Min 1/4 in. (6 mm) thickness applied within annulus, flush with both surfaces of wall.

   SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

   B. Firestop Device* - Galv steel collar lined with an intumescent material sized to fit the specific diam of the through penetrant. Device shall be installed around through penetrant in accordance with the accompanying installation instructions. Device incorporates anchor tabs for securement to both surfaces of wall assembly by means of 3/16 in. (4.8 mm) diam steel toggle bolts in conjunction with min 1-1/4 in. (32 mm) diam steel fender washers.
C. **Fill, Void or Cavity Material - Wrap Strip** - (Optional, Not Shown) - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated below:

<table>
<thead>
<tr>
<th>Fire Rating of Wall Hr</th>
<th>Max Dia. of Through Penetrant In. (mm)</th>
<th>No. of Wrap Strip Layers</th>
<th>F Rating</th>
<th>T Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-1/2 (38)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1-1/2 (38)</td>
<td>1</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>1</td>
<td>2 (51)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2 (51)</td>
<td>1</td>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>1</td>
<td>2 (51)</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2 (51)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4 (102)</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4 (102)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip**

D. **Steel Collar** - (Optional, Not Shown) - Used in conjunction with Item 3C, collar fabricated from coils of precut 0.016 in. (0.4 mm) thick galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.

Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.

*Bearing the UL Classification Marking

+Bearing the UL Listing Mark
1. **Wall Assembly** - The 1 or 2 h fire rated gypsum board/wood stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   
   A. **Studs** - Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC.
   
   B. **Gypsum Board** - Thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 Series Design in the UL Fire Resistance Directory. Diam of opening to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than outside diam of through penetrant.

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

2. **Through Penetrants** - One nonmetallic pipe to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe and edge of through opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Nonmetallic pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

   A. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 2 in. (51 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   
   B. **Polyvinyl Chloride (PVC) Pipe** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid-core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   
   C. **Cross-linked Polyethylene (PEX) Tubing** - Nom 2 in. (51 mm) diam (or smaller) SDR9 PEX tube for use in closed (process or supply) piping systems.
   
   D. **Rigid Nonmetallic Conduit** - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).
   
   E. **Electrical Nonmetallic Tubing** - Nom 2 in. (51 mm) diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70). See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.

   For closed piping systems, the hourly T Rating of the firestop system is equal to the hourly assembly rating of the wall assembly in which it is installed. For vented piping systems, the hourly T Rating of the firestop system is 0 Hr.

3. **Fill, Void or Cavity Material** - **Caulk** - For 2 h F Rating, min 1-1/4 in. (32 mm) thickness of fill material applied within the annulus, flush with both surfaces of the wall. For 1 h F Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of the wall. A min 1/4 in. (6 mm) diam bead of caulk shall be applied at the pipe/gypsum board interface at the point contact location on both sides of the wall.

**SPECIFIED TECHNOLOGIES INC** - Type WF300 Caulk

*Bearing the UL Classification Mark

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

   A. **Studs** - Wall framing to consist of nom 2 by 6 in. (51 by 152 mm) (or larger) wood or steel channel studs or doubled or staggered nom 2 by 4 in. (51 by 102 mm) (or larger) wood studs spaced in accordance with the individual U300, U400, or V400 Series Wall and Partition Designs.

   B. **Gypsum Board** - Thickness, type, number of layers, as specified in the individual Wall and Partition Design. Max diam of opening is 5 in. (127 mm).

   The hourly F and T Ratings are equal to the hourly rating of the wall assembly in which it is installed.

2. **Tub and Shower Valve** - Single-handled tub/shower valve assembly with nonmetallic/nonferrous and stainless steel materials connected to nom 1/2 in. (13 mm) cross-linked polyethylene (PEX), copper, brass, or iron supply pipes/tubes. Nom 7 in. (178 mm) stainless steel escutcheon plate to lap min 1 in. (25 mm) beyond periphery of opening.

3. **Fill, Void or Cavity Material** - **Sealant or Putty** - Min 1/2 in. (13 mm) depth of fill material applied within opening flush with wall surface.

   SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, SpecSeal Series SIL300 Sealant, SpecSeal Putty, Pensil 300 Sealant, or Type WF300 Firestop Caulk (U300 Walls only)

   *Bearing the UL Classification Mark
1. **Wall Assembly** - The 1 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** - (Not Shown) - Wall framing to consist of min 2 by 6 in. (51 by 152 mm) wood or steel channel studs spaced in accordance with the individual U300, U400, or V400 Series Wall and Partition Designs.
   B. **Batts and Blankets** - Glass fiber or mineral wool batt insulation placed to fill stud cavity containing nonmetallic DWV pipe with clean-out tee (Item 2). Glass fiber insulation to have a min density of 0.9 pcf (14 kg/m³) and a min R-13 thermal insulation rating. Mineral wool batt insulation to have a min density of 3 pcf (48 kg/m³).
   See **Batts and Blankets (BKNV)** Category in the Building Materials Directory and **Batts and Blankets (BZJZ)** Category in the Fire Resistance Directory for names of Classified Companies.
   C. **Gypsum Board** - One layer of nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 5 in. (127 mm).

2. **Piping System** - One nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC or ABS pipe with PVC or ABS clean-out tee, with threaded plug, for use in vented (drain, waste or vent) piping system installed within stud cavity. The threaded PVC or ABS clean-out plug is to be centered behind opening in gypsum board.

3. **Fill, Void or Cavity Material** - **Putty or Sealant** - Min 3/4 by 5/16 in. (19 by 8 mm) continuous band of putty or min 1/2 in. (13 mm) diam continuous bead of sealant applied as a gasket around perimeter of opening.
   **SPECIFIED TECHNOLOGIES INC** - SpecSeal Putty, SpecSeal SSS Series Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or Type WF300 Firestop Caulk (U300-Series Wall and Partition Designs only)

4. **Cover Plate** - Min 6-1/2 in. (165 mm) diam 24 gauge (or heavier) stainless steel cover plate secured to PVC or ABS clean-out plug with stainless steel screw through center of plate. Cover plate to be tightened squarely to wall and shall overlap surface of gypsum board min 3/4 in. (19 mm) around entire perimeter of opening.

*Bearing the UL Classification Mark*
APPLICATIONS

Type WF300 Caulk is used to seal through penetrations and gaps in fire resistance rated wood frame construction such as floor/ceilings and walls or partitions. Most common penetrating items were successfully tested with WF300.

PRODUCT DESCRIPTION

Type WF300 Caulk is a latex based, high solids firestop caulk. This material, when properly installed, effectively seals penetration openings in wood frame construction against the spread of fire, smoke and combustion byproducts.

Type WF300 Caulk is a single stage intumescent. When exposed to elevated temperatures, WF300 expands rapidly to seal off voids left by the burning or melting of combustible materials.

Type WF300 Caulk is storage stable (when stored according to manufacturer’s recommendations) and will not separate or shrink when dried. WF300 adheres tenaciously to common construction materials such as lumber and gypsum board as well as typical penetrant materials.

FEATURE | BENEFIT
--- | ---
- Water Based | Easy installation, cleanup and disposal
- Intumescent | Expands with heat
- Water-Resistant | Will not re-emulsify
- Paintable | 

PERFORMANCE

Type WF300 Caulk is the basis for systems that meet the exacting criteria of ASTM E 814 (ANSI/UL1479) as well as the time/temperature requirements of ASTM E 119 (ANSI/UL263). UL Systems have been tested for wood frame construction and common penetrating items with ratings up to 2 hours. See UL Directory for system information.

PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Properties</th>
<th>Series WF300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Red</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Latex</td>
</tr>
<tr>
<td>Density</td>
<td>11.4 lbs/gal (1.36 kg/L)</td>
</tr>
<tr>
<td>Solids Content</td>
<td>81%</td>
</tr>
<tr>
<td>pH</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>In Service Temperature</td>
<td>190°F (54°C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>40°F (4°C) - 95°F (35°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
<th>Series WF300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flame Spread</td>
<td>0°</td>
</tr>
<tr>
<td>Smoke Developed</td>
<td>20°</td>
</tr>
<tr>
<td>STC Rating (ASTM E90/ASTM C919)</td>
<td>61</td>
</tr>
<tr>
<td>VOC Content (EPA Method 24/ASTM D3960)</td>
<td>33.3 lb/gal (40.0 g/L)</td>
</tr>
<tr>
<td>Expansion Begins</td>
<td>350°F (176°C)</td>
</tr>
<tr>
<td>Volume Expansion</td>
<td>&gt;5X Free Expansion</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>2 Years</td>
</tr>
</tbody>
</table>

*ASTM E 84 (UL723) @ 14% surface coverage (modified test for caulks and sealants)
SPECIFICATIONS

The firestopping sealant shall be a water-resistant, intumescent, latex sealant Type WF Firestop Caulk. The sealant when exposed to high heat or flame shall exhibit a free expansion of up to 4 times its original volume. The firestopping sealant shall contain no water soluble nor hygroscopic ingredients. 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

SEALANT REQUIREMENTS IN CUBIC INCHES PER 1/4 INCH OF INSTALLED DEPTH

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Pipe Diameter</th>
<th>Diameter of Opening (in.)</th>
<th>Trade Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
<td>0.840</td>
<td>0.3</td>
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<tr>
<td>1&quot;</td>
<td>1&quot;</td>
<td>1.315</td>
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<td>1.1</td>
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<tr>
<td>3&quot;</td>
<td>3&quot;</td>
<td>3.500</td>
<td>0.7</td>
</tr>
<tr>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>4.000</td>
<td>1.8</td>
</tr>
<tr>
<td>4&quot;</td>
<td>4&quot;</td>
<td>4.500</td>
<td>0.8</td>
</tr>
</tbody>
</table>

| 6"       | 6.625 | 1.1 | 4.0 | 11.1 | 19.7 | 29.9 | 124.2 |
| 8"       | 8.625 | 1.0 | 3.5 | 6.5 | 9.4 | 16.5 | 25.1 | 35.3 | 129.6 |
| 10"      | 10.750 | 0.8 | 3.0 | 5.6 | 8.5 | 15.6 | 24.2 | 34.4 | 128.7 |
| 12"      | 12.750 | 0.7 | 2.5 | 4.7 | 7.2 | 10.2 | 17.2 | 25.9 | 35.1 | 130.3 |
| 24"      | 24.000 | 0.6 | 1.5 | 3.8 | 6.5 | 9.4 | 16.5 | 25.1 | 35.3 | 129.6 |

*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.

Metric Conversion Table available upon request.
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 to 100° F (2° C to 38° C). Allow product to dry a minimum of 24 hours before prior to exposure to moisture.

SYSTEM SELECTION: Select appropriate UL Classified System. Refer to UL Fire Resistance Directory for more information.

FORMING: Although not generally required, backing materials may be utilized to facilitate the installation of WF300 Caulk. In most wood frame construction applications, open or close cell polyethylene or polyurethane backer rod may be used.

FILL MATERIAL: Type WF300 Caulk may be installed by caulking using a standard caulk 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 pulls back from surface, clean the surface with a damp rag or sponge and reapply. Work caulk into all areas and exercise care to eliminate voids or seams. Surface of caulk can be smoothed using a putty knife dipped in water. Adding water to caulk itself is not recommended. Type WF300 (when dry) may be sanded and painted using most non-solvent based paints. In gypsum board construction, overlapping onto gypsum board paper by a minimum 1/4” (6 mm) is recommended to assure adequate adhesion is maintained.

LIMITATIONS: Type WF300 Caulk is water based and cures through the evaporation of water. Low temperatures, high humidity, the use of non-porous or impermeable backing materials, cover plates or coatings may retard the drying process. Do not paint or seal in any way that prevents contact with air until caulk has dried through completely. Type WF300 Caulk has been designed to be safe for contact with plastics and has been used extensively and successfully with a variety of different types of plastic pipes, tubes, and plastic cable insulations or jackets. Variations in these materials, however, make it impossible to guarantee compatibility. STI strongly recommends that the user consult with the manufacturer of the pipe, tubing, or cable in question regarding any known sensitivities or potential restrictions before applying this product.

MAINTENANCE

Inspection: Installations should be inspected periodically for subsequent damage. Any damage should be repaired using Type WF300 Caulk per the original approved design.

Retrofit: When adding or removing penetrants, care should be taken to minimize damage to the seal. Reseal using Type WF300 Caulk per the original 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.
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 through the Technical Library at www.stifirestop.com.

PRECAUTIONARY INFORMATION
Consult Material Safety Data Sheet for additional information on the safe handling and disposal of this material. Wash areas of skin contact with soap and water. Avoid contact with eyes. SEALANT IS CONDUCTIVE UNTIL DRY.

AVAILABILITY
Type WF300 Caulk is available from authorized STI distributors. Visit the company website at www.stifirestop.com for complete list of names and locations of nearest sales representatives or distributors. Available packages and additional STI products for wood frame construction are listed below.

ORDERING INFORMATION
WF300 Intumescent Firestop Caulk is available in caulk tubes, sausages and pails.

Cat. No. Description
WF310 10.1 oz. Tube (300 ml) 18.2 cu.in.
WF329 29 oz. Tube (858 ml) 52 cu.in.
WF320 20 oz. Sausage (592 ml) 36 cu. in.
WF305 5 Gal. Pail (19.0 liters) 1,155 cu. in.

Additional STI Products for Wood Frame Construction...
SmokeBlock™ Sealer
A noncombustible caulk meeting ASTM E 138 for use in sealing penetrants and gaps in non-rated construction.

CITY OF NEW YORK MEA 440-04-M

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

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

LIMITATIONS AND EXCLUSIONS:
THIS WARRANTY IS IN LIEU OF ALL OTHER REPRESENTATIONS EXPRESSED OR IMPLIED (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE) AND UNDER NO CIRCUMSTANCES SHALL SPECIFIED TECHNOLOGIES INC. BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL PROPERTY DAMAGE OR LOSSES. PRIOR TO USE, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND THE USER ASSUMES ALL RISKS AND LIABILITY FOR SUBSEQUENT USE.

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

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Specified Technologies Inc.
200 Evans Way • Somerville, NJ 08876  |  Toll Free: 800-992-1180 • F: 908.526.9623
SERIES LCC FIRESTOP COLLARS

APPLICATIONS
SpecSeal® Series LCC 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® Series LCC 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.

PRODUCT DESCRIPTION
The SpecSeal® Series LCC 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® Series LCC Firestop Collar is specifically sized to fit 1-1/2", 2", 3", and 4" (38mm, 51mm, 76mm and 102 mm) trade sized pipes. When exposed to temperatures in excess of 320°F (160°C), the SpecSeal® Series LCC 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 (538°C).

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!

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.

PERFORMANCE
SpecSeal® Series LCC 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.

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
<table>
<thead>
<tr>
<th>DIV.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>07840</td>
<td>Through-Penetration – Firestopping</td>
</tr>
<tr>
<td>13</td>
<td>13900</td>
<td>Special Construction Fire Suppression &amp; Supervisory Systems</td>
</tr>
<tr>
<td>15</td>
<td>15250</td>
<td>Mechanical Insulation – Fire Protection</td>
</tr>
<tr>
<td>16</td>
<td>16050</td>
<td>Basic Electrical Materials &amp; Methods</td>
</tr>
</tbody>
</table>

INSTALLATION INSTRUCTIONS
GENERAL: The installation of this product may require the application of a smoke seal utilizing SpecSeal® Series LCCI 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® Series LCC Collars are very compact in design and therefore require relatively small cored openings. See Table B 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 Product & Application Guide, or the Technical Library at 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.

Table A:
<table>
<thead>
<tr>
<th>PHYSICAL PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Sizes:</td>
</tr>
<tr>
<td>1-1/2&quot; (38mm)</td>
</tr>
<tr>
<td>2&quot; (51mm)</td>
</tr>
<tr>
<td>3&quot; (76mm)</td>
</tr>
<tr>
<td>4&quot; (102mm)</td>
</tr>
<tr>
<td>Shell Construction:</td>
</tr>
<tr>
<td>Expansion Begins:</td>
</tr>
<tr>
<td>Volume Expansion:</td>
</tr>
<tr>
<td>In Service Temp:</td>
</tr>
<tr>
<td>Shelf Life:</td>
</tr>
</tbody>
</table>

INSTALLATION INSTRUCTIONS CONTINUED

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.

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 wood 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" (31 mm or 38 mm) 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", 6 mm x 44 mm) or similar 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 #6 x 1 1/2" (13 mm) 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. Fasten washers completely to finish collar installation. (See Fig 4.)

MAINTENANCE

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

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.

PRECAUTIONARY INFORMATION

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

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.

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

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