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REVISIONS

KELLER SPRINGS LOFTS

LOFT APARTMENTS IN ADDISON, TEXAS

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PROJECT

11129

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FIRE PROTECTION

C08 **DS1017** **C08**

1 or 2 Hour Rated Firestop For Metallic Piping Through Gypsum Board Walls Using SpecSeal® Putty or SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- Rated gypsum wallboard assembly.
- Max 4" Steel pipe or conduit, Copper pipe or tubing or EMT. Nominal annular space required.
- Fiberglass insulation material wrapped around the through penetrant, secured with a steel wire and centered within the opening. Recess packing material to accommodate fill material.
- SpecSeal® Series 100 Sealant or SpecSeal® Putty installed to required depth as tabulated below:

F Rating	Fill Material
1 Hr	60" with 3/4" crown
2 Hr	94" with 1 1/4" crown

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. WL-1009
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

G01 **DS1018** **G01**

1 or 2 Hour Rated Firestop For Electrical Cable Through Gypsum Board Walls Using SpecSeal® Series 100 Sealant or SpecSeal® Putty

Figure 1

Figure 2

Figure 3

Cable Type	Hourly Rating	Putty Depth
Telephone Cable	1	5/8"
Romax	2	3/4"

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. WL-0003
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

C23 **DS1067** **C23**

1 or 2 Hour Rated Firestop For Multiple Pipes and Cables Through Gypsum Board Walls Using SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- Rated gypsum wall board assembly.
- Wood or steel studs installed horizontally. When steel studs are used, the maximum spacing shall be 16" O.C.
- Four pipes, conduits or tubing installed within the opening. Annular space between penetrants shall be a nominal 1/8". Annular space between penetrants and periphery of opening shall range from 5/8" minimum to 1-1/2" maximum. The following types and sizes may be used:
 - Maximum 3/4" steel pipe or conduit (EMT).
 - Maximum 2" iron or copper pipe.
 - Pipe may be covered with 1" of fiberglass or mineral wool pipe insulation.
- Electrical, telephone, or datacable tightly bundled together. The space between the cables and the periphery of the opening shall range from 1" minimum to 2-7/8" maximum. Any of the following may be used:
 - Max 25 pair, No. 24 AWG (or smaller) PVC insulated and jacketed cables.
 - Max 4 pair, No. 18 AWG, Romax cable.
 - Max 4 pair, No. 18 AWG thermostat cables.
- Maximum 2" trade size PVC pipe or conduit (EMT).
- Mineral wool batt (minimum 8" per inch) packed tightly and installed to full depth of wall, recessed to accommodate fill material.
- SpecSeal® Series 100 Sealant. Minimum 1 1/4" thickness of fill material applied within annulus, flush with both surfaces of wall.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. WL-0003
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D08 **DS1067** **D08**

1 or 2 Hour Rated Firestop For Nonmetallic Piping Through Wood Floors Using SpecSeal® SSWRED Wrap Strip & SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- One or two hour rated wood floor/ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- SpecSeal® SSWRED Wrap Strip. One layer wrapped around each pipe at its ingress from both sides of the floor-ceiling assembly. Fully annular sealant applied to periphery of wrap strip at floor interface. Caulk is not required around collar but for a minimum 1/4" overlap at seam.
- SpecSeal® Series 100 Sealant. Fully annular sealant applied to periphery of wrap strip at floor interface. Caulk is not required around collar but for a minimum 1/4" overlap at seam.
- Max 2" trade size nonmetallic pipe (vented or conduit).
- PVC Cellular Con.
- CPVC.
- EMT.
- Nominal 1/4" annular space required.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0019
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D18 **DS1070** **D18**

1 or 2 Hour Rated Firestop For Plastic (Non-Metallic) Pipes Through Wood Floors Using SpecSeal® Collars & SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- One or two hour rated floor-ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- Max 4" nonmetallic pipe (vented or closed) or conduit.
- PVC Cellular Con.
- EMT.
- Nominal 1/4" annular space required.
- SpecSeal® Series 100 Sealant installed within top annulus to a 3/4" depth with 1/8" crown.
- SpecSeal® Firestop Collar. Fasten collar to ceiling with fender washers and toggle bolts.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0020
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

H01 **DS1072** **H01**

1 or 2 Hour Rated Firestop For Telephone or Data Cable Through Wood Floors Using SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- One hour rated floor/ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- Optional one or two hour chase wall. See NOTE below.
- One cable installed within the opening. The annular space shall be packed to a depth of 90%. One of the following types and sizes provide a 1 hour rating:
 - Max 100 pair No. 24 AWG (or smaller) telephone or data cable.
 - Max 3/4" No. 20 AWG (or smaller) SER cable.
 - Max 4/0 No. 20 AWG (or smaller) aluminum or steel Armored or Metal-Clad cable.
 - Max 3/4" No. 12 AWG (or smaller) Romax® cable.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System Numbers FC-0021 & FC-0016
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

M01 **DS1074** **M01**

Construction & Installation of Wrap Strip Collars (Page 1 of 2)

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

- Wrap strips applied to pipe or conduit in successive layers and temporarily secured with masking tape.
- Restraint collar is cut to length, sufficient to provide a 1" overlap and mounting tabs are bent to 90° angles away from collar. See Figure 2.
- Restraint collar is wrapped tightly around wrap strip(s) and secured with three #8 blind metal screws applied within the annulus, flush with bottom side of ceiling. In chase wall/floor, restraint applied within the annulus, flush with top surface of floor or within sole plate. Minimum 5/8" of sealant applied within the annulus at the top plate of chase wall.
- Retainer tabs are bent 90° toward pipe or conduit. Tabs may be bent against pipe (see Fig. 3) or flattened to a length sufficient to contain all wrap strip layers.
- Collar is slid against floor or wall and secured with appropriate steel fasteners and fender washers.

Important Note: See individual drawing or system being used for specific requirements concerning:

- Wrap strip type, size, length and number of layers.
- Restraint collar, type and length.
- Collar to substrate fastening method and requirements.

M01 **DS1074** **M01**

Construction & Installation of Wrap Strip Collars (Page 2 of 2)

Figure 6

Figure 7

Figure 8

Figure 9

Col. No.	One Stack Two Stacks
SSWRED	GSWRCZ WSCBRED
SSBWLU	SSWRC WSCB

- Number of wrap strip layers is determined from Figure 8.
- First and second stack of wrap strips applied to pipe or conduit in individual layers and temporarily secured with masking tape.
- Preformed metalwork is placed around the wrap strip and secured with two stainless steel hose clamps. See Figure 9 for metal work part number.
- Collar is slid against floor or wall and fastened using the number and type of fasteners as detailed in the appropriate system.

M02 **DS1075** **M02**

Steel Sleeve Installation Information

Figure 1

Figure 2

- Diameter of sleeve is determined by measuring hole size.
- Sleeve pipe (50 gauge) is cut 9" longer than thickness of wall or floor.
- Four mounting tabs of 1-1/2" length and 1" width are cut out of each end of sleeve pipe, see Figure 2.
- Mounting holes are made in tabs approximately 1/2" from end of sleeve.
- Sleeve pipe is cut to a diameter smaller than that of hole, positioned within opening and released.
- Sleeve pipe seam is locked and mounting tabs are bent 90° toward wall or floor.
- Sleeve is fastened to wall or floor using fender washers with toggle bolts or expanding anchors to finish installation.

***Note:** At the option of the installer, sheet metal can be used in place of sleeve pipe. Sheet metal sleeve should allow for a minimum 1/4" overlap at seam.

***Note:** For sleeves less than 6" in diameter, three mounting tabs can be used.

DS1159

1 Hour Rated Firestop For Plastic (Non-Metallic) Plumbing Systems In Wood Floors Using SpecSeal® Firestop Collars & SpecSeal® Series 100 Sealant

Figure 1

- One hour rated floor/ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- SpecSeal® Firestop Collar. Fasten collar to ceiling with fender washers and toggle bolts.
- SpecSeal® Series 100 Sealant installed within top annulus to a 3/4" depth with 1/8" crown.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System Numbers FC-0024 & FC-0027
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D15 **DS1151** **D15**

1 Hour Rated Firestop For Plastic (Non-Metallic) Piping Systems In Wood Floors Using SpecSeal® Firestop Collars & SpecSeal® Series 100 Sealant

Figure 1

Figure 2

- One hour rated floor/ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- One hour rated chase wall assembly. Note: Studs must be wide enough to accommodate pipe and collar.
- PVC, CPVC or ABS pipe (vented or closed) or RNC.
 - PVC & ABS may be cellular or solid core.
 - Max pipe shall be 4" trade size.
 - Nominal 1/4" annular space.
- SpecSeal® SSWRED Wrap Strip Collar. Place appropriate number of layers around pipe, enclose with 30 gauge steel restraining collar (SSWRCZ) and secure with three #8 blind metal screws, or one stainless steel hose clamp. See Figure 3 and page M01 for more information. Fasten collar to underside of top plate (within wall cavity) using 3/8" #8 wood screws and 1/4" x 1" fender washers. See Figure 3 for number of mounting tabs required to be fastened.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0026
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D05 **DS1152** **D05**

1 Hour Rated Firestop For Nonmetallic Pipes Through Wood Floor-Ceiling Assemblies Using SpecSeal® Series 100 Sealant

Figure 1

Figure 2

Penetrant	Max Size
PVC Pipe	1"
PVC Cellular Con.	1"
RNCM	1"
CPVC Pipe	1"
PA Pipe	1"

- One hour rated wood floor-ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- Nonmetallic pipe, conduit or tubing (closed). Nominal 5/8" annular space required. See Figure 3 for more information.
- SpecSeal® Series 100 Sealant. Min 3/4" thickness of fill material applied within annulus, flush with top surface of the floor. Min 5/8" thickness of fill material applied within the annulus, flush with bottom surface of ceiling. Additional sealant installed such that a min 1/8" crown is formed around penetrant.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0022
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D11 **DS1153** **D11**

1 Hour Rated Firestop For Plastic (Non-Metallic) Plumbing Systems In Wood Floors Using SpecSeal® Series 100 Sealant & SpecSeal® Wrap Strip

Figure 1

Figure 2

- One hour rated floor/ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- Max 2" trade size PVC or ABS (DWV) pipe and cast fittings with PVC and ABS bathtub overflow fittings.
- Gypsum wallboard patch. Repair opening in plywood wallboard with two layers of gypsum wallboard. Gypsum wallboard to extend a minimum of 2" beyond the periphery of the opening and secured to subfloor with three #8 blind metal screws and 1/4" x 1" fender washers. Annular space wallboard to be 1/2" to 5/8" larger than drain piping.
- SpecSeal® SSWRED Wrap Strip. One layer wrapped around pipe or fitting and secured with two layers of aluminum foil tape (SSWFT). Top edge of wrap strip to extend 1/2" above top surface of gypsum wallboard patch.
- SpecSeal® Series 100 Sealant. Min 1 1/4" thickness applied at the wallboard/wrap strip interface on bottom surface of gypsum wallboard patch. Additional fill material applied to exposed edge of wrap strip and installed in gap between wrap strip layer and wall.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0026
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D12 **DS1155** **D12**

1 Hour Rated Firestop For Plastic Plumbing Systems In Wood Floors Using SpecSeal® Products

Figure 1

Figure 2

Up to Trade Size	2"	3"	4"
Layers of Wrap Strip Required	1	2	2
Min. Restraint Collar Length	11"	16.5"	19.0"
Fastening Screw Length	1 1/2"	1 1/2"	1 1/2"
Minimum No. Fasteners	2	3	3

- One hour rated wood floor assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- SpecSeal® SSWRED Wrap Strip. Place one layer around two inch drain, fully enclose with aluminum foil tape (SSWFT) and center within floor. Annular sealant installation of wrap strip shall range from point contact to 1/4" maximum.
- SpecSeal® Series 100 Sealant. Fully annular sealant applied to periphery of wrap strip at floor interface. Caulk is not required around collar but for a minimum 1/4" overlap at seam.
- Max 2" trade size nonmetallic pipe (vented or closed).
- PVC & ABS may be solid or cellular core.
- Max pipe shall be 2" trade size.
- Nominal 1/4" annular space required.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0024
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements

D10 **DS1156** **D10**

1 Hour Rated Firestop For Nonmetallic Piping Through Wood Floors Using SpecSeal® Wrap Strip & SpecSeal® Series 100 Sealant

Figure 1

- One hour rated floor-ceiling assembly consisting of:
 - Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.
 - Joists, steel or combination lumber and steel joists, trusses or structural wood members with bridging as per the individual U.L. Floor-Ceiling Design.
 - Plywood sub-floor with finished floor as req'd.
- SpecSeal® SSWRED Wrap Strip. One layer wrapped around pipe, enclosed with one layer of aluminum foil tape (SSWFT) and centered within floor.
- SpecSeal® Series 100 Sealant installed into annulus to a max extent with additional fill material installed such that a min 1/8" crown is formed around pipe.

NOTE: The products used in this design system have been tested as follows:

- ASTM E814 (UL1479). Refer to System No. FC-0024
- ASTM E119 (Time/Temperature Exposure) (Cotton Waste Ignition)
- Annular Space Requirements