



08-22-2011

REVISIONS

# KELLER SPRINGS LOFTS

LOFT APARTMENTS IN ADDISON, TEXAS

ISSUED  
AUGUST 22, 2011



4144 N. Central Expy.  
Suite 855  
Dallas, TX 75204  
214.520.8878  
bgoarchitects.com

DATE

08-05-2011

PROJECT

11129

SHEET NUMBER

# 14.7

FIRE PROTECTION

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**DS1157 D06**

### 1 Hour Rated Firestop For Chase Enclosed Nonmetallic Piping Through Wood Floors Using SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**  
**Figure 3**

Penetrant	Max. Piping Size System	Annulus	UL Sys. No.
PVC or CPVC	2" V or O	0" to 1/2"	FC2102
CPVC	2" V or O	0" to 1/2"	FC2102
PEX	2" V or O	0" to 1/2"	FC2102
ABS or ABS	2" V or O	0" to 1/2"	FC2102
PE	1" Closed	0"	FC2002
PEX-AL-PEX	1" Closed	0"	FC2002

- One hour rated wood floor-ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- SpecSeal® Series 100 Sealant installed to a 3/4" thickness within annulus, flush with top surface of floor. Minimum 5/8" thickness of fill material applied within annulus, flush with bottom surface of lower top plate of chase wall assembly.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System Numbers FC-102 & FC-2002 (Cold Water Ignition)  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1176 Q09**

### 1 or 2 Hour Rated Firestop For Metallic Electrical Outlet Boxes Using SpecSeal® Putty Pads

**Figure 1**  
**Figure 2**

- Rated gypsum wall board assembly.
- Nominal 4" x 4" square flush device U.L. Listed metallic outlet box.
- Conduit leading to electrical box.
- SpecSeal® Putty Pad. Completely cover exterior surfaces of both boxes within the stud cavity with an additional 1/4" of putty formed around the end of each electrical metallic tube or conduit at the connection to the boxes. When moldable putty pad outlet box protective material is used as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24" provided that the boxes are not installed back-to-back.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to U.L. Category CLV (Cold Water Ignition) (Refer to Volume One 1007 D13)  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1178 H03**

### 1 Hour Rated Firestop For Plastic (Non-Metallic) Pipes & Cables in Wood Floors Using SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**

- One hour rated wood floor-ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- One 3/4" trade size closed (supply) pipe or conduit made from PVC and one telephone, data or electrical cable.
- Max 100 pair No. 24 AWG (or smaller) telephone or data.
- Max 3/0 No. 12 AWG (or smaller) copper conductor with Romex.
- Note: Romex cable is Approved for use in this System.
- SpecSeal® Series 100 Sealant applied within the annulus, flush with top surface of floor or within side plate. Minimum 5/8" of sealant applied within the annulus at the top plate of chase wall.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-8004  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1179 D09**

### 1 Hour Rated Firestop For Chase Enclosed Nonmetallic Piping in Wood Floors Using SpecSeal® Wrap Strip & SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**

- One hour rated wood floor-ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- Max 2" trade size nonmetallic pipe (vented or closed) or conduit.
- PVC Cellular or Solid Core pipe or conduit.
- CPVC pipe.
- ABS Cellular or Solid Core pipe. Nominal 3/16" annulus required.
- SpecSeal® SWRED Wrap Strip. One layer wrapped around pipe, enclosed with one layer of aluminum foil tape (SSWFT) and sealed into opening so that bottom edge extends 1/4" from bottom surface of lower top plate.
- SpecSeal® Series 100 Sealant installed to make extent with additional sealant installed such that a 1/4" crown is formed around pipe or wrap strip.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-2004  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1181 D04**

### 1 Hour Rated Firestop For Chase Enclosed Insulated Metallic Pipes 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.  
• Joints, 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.
- Max 4" Steel, Iron or Copper pipe or tubing with up to 1" fiberglass pipe insulation or 1/2" AB/PVC foam plastic pipe insulation. The annular space is insulated below:  
Insulation Type: Fiberglass AB/PVC  
Annulus: 0" to 7/8"  
0" to 1-7/8"
- SpecSeal® Series 100 Sealant. Min 3/4" thickness of fill material installed into top annulus, flush with top surface of floor. Min 5/8" thickness of fill material applied within bottom annulus, flush with bottom of lower top plate. Additional fill material installed such that a min 1/8" crown is formed around bottom penetrant.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System Numbers FC-204 & FC-4009  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1183 D07**

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

**Figure 1**  
**Figure 2**

- Rated floor-ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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 nonmetallic pipe (vented or closed) or conduit.  
• PVC pipe or conduit.  
• PVC Cellular Core  
• CPVC  
• ABS  
• ABS Cellular Core.  
Nominal 3/16" annulus required.
- SpecSeal® SWRED Wrap Strip. One layer wrapped around pipe, secured with two layers of aluminum foil tape (SSWFT) and sealed into opening so that strip protrudes 1/4" from bottom surface of ceiling.
- SpecSeal® Series 100 Sealant installed to make extent possible with additional material installed such that a 1/4" crown is formed around wrap strip.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-2004  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1211 D26**

### 1 Hour Rated Firestop For Chase Enclosed Steel Vent Pipe or HVAC Duct Through Wood Floor Assemblies Using SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**

- One hour rated wood floor-ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- Nominal 1 1/2" nominal required.
- SpecSeal® Series 100 Sealant installed to a 3/4" depth at top surface and 5/8" depth at bottom with a 1/8" crown on both sides of the assembly.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-7002  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1214 D16**

### 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.  
• Joints, 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.
- Max 4" PVC (solid or cellular core) or CPVC pipe (vented or closed) or RIG. Nominal 1/4" annulus required.
- SpecSeal® Series 100 Sealant installed within both top and bottom annulus to max extent.
- SpecSeal® SWRED Wrap Strip Collar. Install three 4" layers of wrap strip on each side of pipe. Enclose wrap strip studs with 30 gauge steel restraining collar (SSWRC). Secure oval shaped collar with one stainless steel hose clamp. Collar assembly secured to lower top plate with four #8 wood screws and fender washers.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-2004  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1215 D23**

### 1 Hour Rated Firestop For Chase Enclosed Multiple AC Line Sets in Wood Floors Using SpecSeal® Collars and SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**

- One hour rated wood floor assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- AC Line Sets consisting of multiple:  
• Max 3/4" Steel, Iron or Copper pipe or tube with up to 1/2" AB/PVC foam plastic pipe insulation.  
• Max 3/4" Steel, Iron or Copper pipe or tube.  
• Max 1" PVC or CPVC pipe (vented or closed).  
• Max 4 pair No. 18 AWG thermostat cable.  
Annular space between penetrants and periphery of opening is 1/4" min to 3/4" max. Nominal 1/4" space to be maintained around tube insulation.
- SpecSeal® Series 100 Sealant installed within top annulus to 3/4" depth. Minimum 5/8" depth of sealant applied within bottom annulus. Sealant to be forced into interstices of grouped penetrants to max extent.
- SpecSeal® SWRED Wrap Strip. One layer wrapped around penetrant bundle. Enclose with 30 gauge steel restraining collar (SSWRC). Secure collar with three #8 x 3/4" long sheet metal screws or one stainless steel hose clamp. Fasten collar to lower top plate with #8 steel screws.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-8010  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1216 D21**

### 1 Hour Rated Firestop For Chase Enclosed AC Line Set in Wood Floors Using SpecSeal® Series 100 Sealant and SpecSeal® Wrap Strip

**Figure 1**  
**Figure 2**

- One hour rated wood floor assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- AC Line Set consisting of:  
• Max 3/4" Steel, Iron or Copper pipe or tube with up to 1/2" AB/PVC foam plastic pipe insulation.  
• Max 1/2" Steel, Iron or Copper pipe or tube.  
• Max 1" PVC or CPVC pipe (vented or closed).  
• Max 4 pair No. 18 AWG thermostat cable.  
Annular space between penetrants and periphery of opening is 1/4" min to 3/4" max. Nominal 1/4" space to be maintained around tube insulation.
- SpecSeal® SWRED Wrap Strip. One layer placed around entire bundle, secured with two layers of aluminum foil tape (SSWFT) and secured within ceiling.
- SpecSeal® Series 100 Sealant. Minimum 3/4" depth applied within top annulus. Additional sealant shall be forced into interstices of grouped penetrants to max extent.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. FC-8011  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1285 G02**

### 1 or 2 Hour Rated Firestop For Armored or Metal-Clad Cable Through Gypsum Walls Using SpecSeal® Series 100 or LC150 Sealant

**Figure 1**  
**Figure 2**

- Rated gypsum wall board assembly. Maximum diameter of opening shall be 2".
- Aluminum or steel Armored or Metal-Clad cable, maximum 3/0 No. 4 AWG (or smaller). The annular space within the firestop system shall range from point contact to 13/16" maximum.
- SpecSeal® Series 100 or LC150 Sealant. Minimum 5/8" thickness of fill material applied within the annulus, flush with both surfaces of the wall. At point contact, apply a 90° between the cable and both wall surfaces.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System No. WL-3100  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements

**DS1342 H02**

### 1 Hour Rated Firestop For Electrical, Telephone & Data Cables Through Wood Floors Using SpecSeal® Series 100 Sealant

**Figure 1**  
**Figure 2**  
**Figure 3**

Cable Type & Max. Size	Max No.	UL Sys. No.
2/C (with ground) No. 12 AWG (Romex Type)	7	FC3016
4 pair No. 24 AWG PVC Telephone Cable	2	FC3022
RIM No. 22 AWG PVC Coastal Cable	2	FC3022

- One hour rated wood floor / ceiling assembly consisting of:  
• Gypsum board membrane with fasteners and/or furring strips as required by rated firestop design.  
• Joints, 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.
- One or more cables installed within the opening.  
• SpecSeal® Series 100 Sealant applied within the annulus, flush with top surface of floor or within side plate. Minimum 5/8" of sealant applied within the annulus at the top plate of chase wall.

**NOTE:** The products used in this design system have been tested as follows:  
• ASTM E814 (UL1479). Refer to System Numbers FC-3016 & FC-3022  
• ASTM E119 (Time/Temperature Exposure) (Custom Waste Ignition)  
• Annular Space Requirements