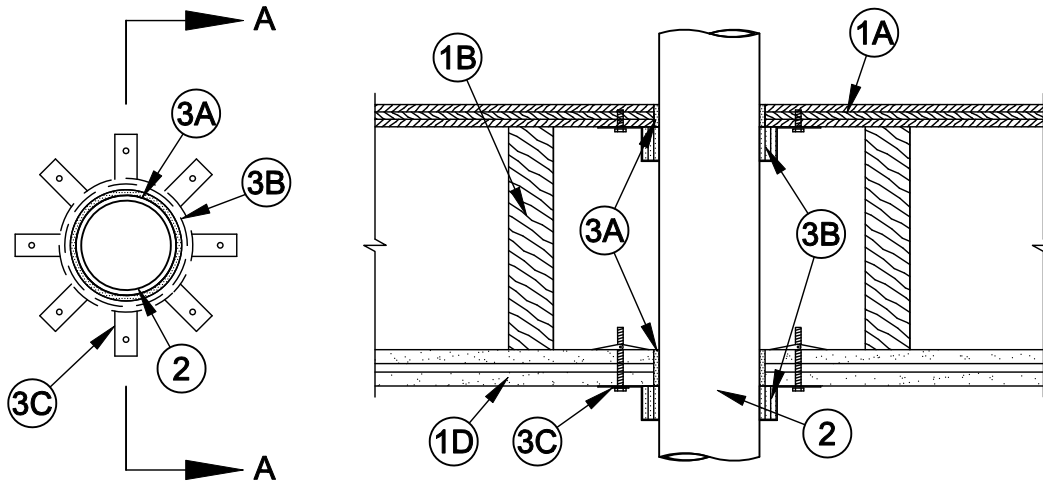




System No. F-C-2022

F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1 and 2 Hr (See Item 1)
L Rating At Ambient - 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

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 hourly fire 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. Max diam of floor opening is 5 in. (127 mm).
 - 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 assemblies, 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.
 - C. **Furring Channels** - (Not Shown) - In 2 hr fire-rated assemblies, resilient galv steel furring installed perpendicular to wood joists between first and second layers of wallboard (Item 1D). Furring channels spaced max 24 in. (610 mm) OC. In 1 hr fire-rated assemblies, resilient galv steel furring installed perpendicular to wood joists between wallboard and wood joists as specified in the individual Floor-Ceiling Design. Furring channels spaced max 24 in. (610 mm) OC.
 - D. **Gypsum Board*** - Nom 4 ft (1220 mm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. First layer of gypsum board secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design. Second layer of gypsum board (2 hr fire-rated assembly) screw-attached to furring channels as specified in the individual Floor-Ceiling Design. The secondary steel collar/wrap strip assembly (Items 3B and 3C) must be installed in the joist cavity prior to installation of gypsum board ceiling. Max diam of ceiling opening is 5 in. (127 mm).



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2. **Through Penetrants** - One nonmetallic pipe or conduit to be installed approximately midway between wood joists and centered within the firestop system. Diam of openings hole-sawed through flooring system and through gypsum wallboard ceiling to be nom 1/4 in. (6 mm) larger than the outside diam of through-penetrant. Pipe or conduit to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes or 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 system.
 - B. **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 No. 70).
 - C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
3. **Firestop System** - The firestop system shall consist of the following:
- A. **Fill, Void or Cavity Material* - Sealant** - Fill material forced into annular spaces to max extent possible, flush with both sides of floor-ceiling assembly.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

- B. **Fill Void or Cavity Material* - Wrap Strip** - 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. 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 the ends butted and held in place with masking tape. The wrap strips are wrapped around the through-penetrant on underside of floor (Item 1A) and underside of gypsum board ceiling (Item 1D). The number of wrap strips required is dependent upon the diam of the through-penetrant as tabulated below:

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

Diam of Thought-Penetrant, In. (mm)	No. of Wrap Strips
2 (51)	1
3 (76)	2
4 (102)	3

- C. **Steel Collar** - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be 1-1/2 in. (38 mm) or 2 in. (51 mm) deep with min four 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 degrees toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and through-penetrant with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of three No. 8 by 3/8 in. (10 mm) steel screws. As an alternate to the steel screws, the steel collar can be 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 midheight of the collar. Collar secured to subfloor with min No. 8 by 3/4 in. (19 mm) long wood screws in conjunction with 1/4 in. (6 mm) by 1-1/4 in. (32 mm) diam steel fender washers. Collar secured to finished gypsum board ceiling with 3/16 in. (4.8 mm) diam by 3-1/2 in. (89 mm) long steel toggle bolts in conjunction with 1/4 in. (6 mm) by 1-1/4 in. (32 mm) diam steel fender washers. The number of screws used is dependent upon the nom diam of the through penetrant. Two screws, symmetrically located, are required for nom 1-1/2 and 2 in. (38 and 51 mm) diam through penetrants. Three screws, symmetrically located, are required for nom 2-1/2 and 3 in. (64 and 76 mm) diam through penetrants. Four screws, symmetrically located, are required for nom 3-1/2 and 4 in. (89 and 102 mm) diam through penetrants.

+Bearing the UL Listing Mark

*Bearing the UL Classification Marking



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