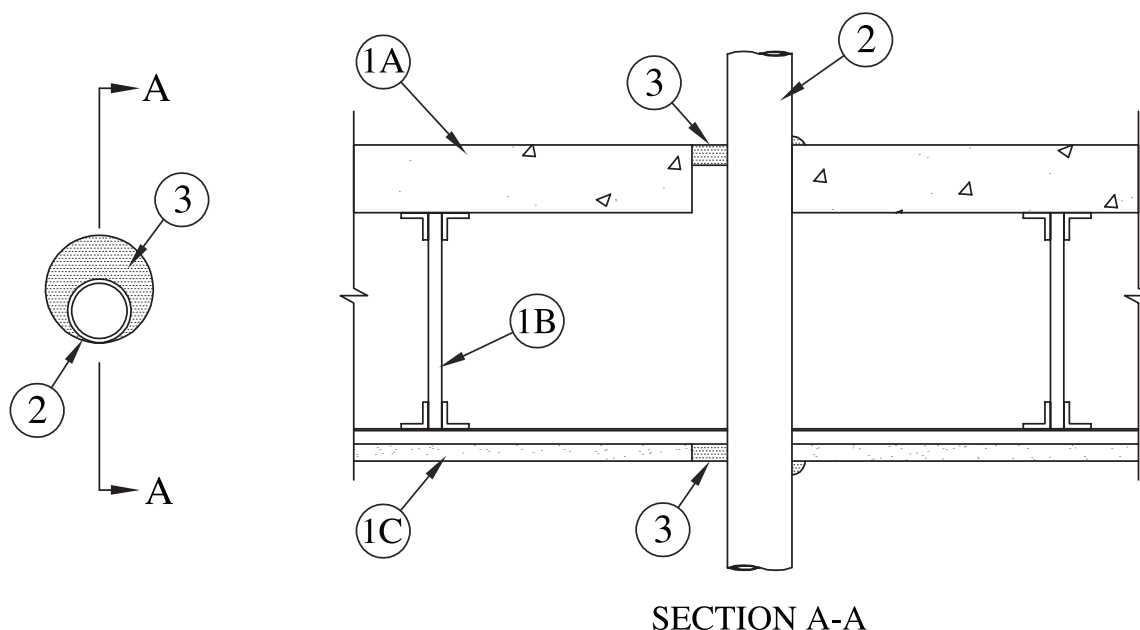


## System No. F-E-2013

November 20, 2009

F Rating – 1 Hr

T Rating – 0 Hr



1. **Floor-Ceiling Assembly** – The 1 hr fire rated concrete and steel joist Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual G500 Series Design in the UL Fire Resistance Directory, as summarized below:
  - A. **Flooring** – Lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete as specified in the individual G500 Series Design. Max diam of opening is 3-1/2 in. (89 mm).
  - B. **Joists** – Steel joists or **Structural Steel Members**\* as specified in the individual G500 Series Design.
  - C. **Gypsum Board**\* – Min 5/8 in. (16 mm) thick, screw-attached to furring channels as specified in the individual G500 Series Design. Max diam of opening is 3-1/2 in. (89 mm).
2. **Through Penetrants** – One nonmetallic pipe or conduit installed eccentrically or concentrically within opening. Annular space between penetrant and periphery of opening to be min 0 in. (0 mm, point contact) to max 1-1/8 in. (29 mm). Penetrant to be rigidly supported on both sides of wall. The following types and sizes of penetrants may be used:
  - A. **Polyvinyl Chloride (PVC) Pipe** – Nom 2 in. (51 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. **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.
  - C. **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).
  - D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** – Nom 1-1/2 in. (38 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 systems.
3. **Fill, Void or Cavity Materials**\* – **Caulk or Sealant** – Min 3/4 in. (19 mm) thickness of caulk applied within annulus, flush with top surface of floor. Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with bottom surface of ceiling. Min 1/4 in. (6 mm) diam bead of caulk applied at point contact locations at penetrant/floor interface on top surface of floor and at penetrant/ceiling interface.
 

**3M COMPANY** – IC 15WB+, CP 25WB+, FireDam 150+ caulk or FB-3000 WT sealant.  
(Note: CP 25WB+ and FireDam 150+ not suitable for use with CPVC pipes.)

\*Bearing the UL Classification Mark

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Through Penetrations

Non-Metallic Pipes

2000 Series

Wood Frame Floor/Ceiling

FE