

CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 706.9 2009 Edition IBC Interpretation 16-14 Issued 7-11-14 BU_09_16_14

706.9 Penetrations. Penetrations of fire walls shall comply with Section 713.

REFERENCED SECTIONS:

706.1 General. Each portion of a building separated by one or more fire walls that comply with the provisions of this section shall be considered a separate building. The extent and location of such fire walls shall provide a complete separation. Where a fire wall also separates occupancies that are required to be separated by a fire barrier wall, the most restrictive requirements of each separation shall apply.

706.2 Structural stability. Fire walls shall have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall for the duration of time indicated by the required fire-resistance rating.

713.2 Installation details. Where sleeves are used, they shall be securely fastened to the assembly penetrated. The space between the item contained in the sleeve and the sleeve itself and any space between the sleeve and the assembly penetrated shall be protected in accordance with this section. Insulation and coverings on or in the penetrating item shall not penetrate the assembly unless the specific material used has been tested as part of the assembly in accordance with this section.

713.3 Fire-resistance-rated walls. Penetrations into or through fire walls, fire barriers, smoke barrier walls and fire partitions shall comply with Sections 713.3.1 through 713.3.3. Penetrations in smoke barrier walls shall also comply with Section 713.5.

713.3.1 Through penetrations. Through penetrations of fire-resistance-rated walls shall comply with Section 713.3.1.1 or 713.3.1.2.

Exception: Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space between the penetrating item and the fire-resistance-rated wall is permitted to be protected as follows:

1. In concrete or masonry walls where the penetrating item is a maximum 6-inch (152 mm) nominal diameter and the area of the opening through the wall does not exceed 144 square inches (0.0929 m²), concrete, grout or mortar is permitted where it is installed the full thickness of the wall or the thickness required to maintain the fire-resistance rating; or
2. The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E 119 or UL 263 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

713.3.1.1 Fire-resistance-rated assemblies. Penetrations shall be installed as tested in an approved fire-resistance-rated assembly.

713.3.1.2 Through-penetration firestop system. Through penetrations shall be protected by an approved penetration firestop system installed as tested in accordance with ASTM E 814 or UL 1479, with a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water and shall have an F rating of not less than the required fire-resistance rating of the wall penetrated.



Q: Is sprinkler piping that is properly protected permitted to penetrate a fire wall (not a party wall) that creates “separate buildings”?

A: Yes.

Section 706.9 refers to Section 713 for penetrations through fire walls and as such penetrations of fire walls are not prohibited. The penetrations of fire walls with sprinkler piping are required to be properly protected in accordance with Section 713.2 and 713.3. Additionally, Section 706.2 requires an analysis demonstrating that the collapse on either side of the wall, which would include the sprinkler piping which penetrates the fire wall, will not adversely impact the structural integrity of the fire wall.
