

Opening Protection Requirements for Fire Walls and Fire Barriers per the 2009 International Building Code®

Definitions

Fire Wall – A fire-resistance-rated wall having protected openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.

Fire Barrier – A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.

Exit Enclosure – An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the exit discharge or the public way.

Exit Passageway – An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the exit discharge or the public way.

Openings in Fire walls

706.8 Openings. Each opening through a fire wall shall be protected in accordance with Section 715.4 ([Fire door and shutter assemblies](#)) and shall not exceed 156 square feet (15 sq m). The aggregate width of openings at any floor level shall not exceed 25 percent of the length of the wall.

Exception:

2. Openings shall not be limited to 156 square feet (15 sq m) where both buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

Meaning – Openings in fire walls can exceed 156 square feet if the building is sprinklered, but in no case should the openings at any floor level exceed 25 percent of the length of the wall.

Openings in Fire Barriers

707.6 Openings. Openings in a fire barrier shall be protected in accordance with Section 715 ([Opening Protectives](#)). Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 sq m). Openings in exit enclosures and exit passageways shall also comply with Sections 1022.3 ([Openings and penetrations in Exit Enclosures](#)) and 1023.5 ([Openings and penetrations in Exit Passageways](#)), respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 sq m) where adjoining floor areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 sq m) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving an exit enclosure.

3. Openings shall not be limited to 156 square feet (15 sq m) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E 119 or UL 263 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.
5. Openings shall not be limited to 156 square feet (15 sq m) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door assembly in a fire barrier separating an exit enclosure from an exit passageway in accordance with Section 1022.2.1.

Meaning – Openings in fire barriers can exceed 156 square feet if the building is sprinklered. Fire doors serving an exit enclosure can exceed 156 square feet and 25 percent of the length of the wall. Fire doors separating an exit enclosure from an exit passageway can exceed 156 square feet and 25 percent of the length of the wall.

Doors in exit enclosures and exit passageways

715.4.4 Doors in exit enclosures and exit passageways. Fire door assemblies in exit enclosures and exit passageways shall have a maximum transmitted temperature end point of not more than 450°F (250°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature rise is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Meaning - If the building is sprinklered, which most public facilities are, then doors in exit enclosures and exit passageways do not require a Temperature Rise (TR) rating.