

6.5.3 Each fire wall shall be supported laterally by the building frame on its respective side and shall be independent of the fire wall and framing on the opposite side.

6.6 Fire Wall Termination. Fire walls shall extend from the foundation to a point at least 30 in. (760 mm) above the surface of the roof except where installed in accordance with 6.6.1 through 6.6.4.

Δ 6.6.1 Buildings Located Above Parking Garages. A building located above a parking garage shall be permitted to have the fire walls for the building located above the parking garage extend from the horizontal separation between the parking garage and the building, provided all of the following conditions are met:

- (1) The horizontal separation between the parking garage and the building above shall have a minimum 3-hour fire resistance rating.
- (2) The basement or first story above grade plane shall be of Type I construction.
- (3) Shaft, stairway, ramp, or escalator enclosures through the horizontal assembly shall comply with either of the following conditions:
 - (a) The enclosure shall have not less than a 2-hour fire resistance rating with opening protectives in accordance with the applicable building code.
 - (b) Where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protectives as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all the following conditions are met:
 - i. The building above the horizontal assembly is not required to be of Type I construction.
 - ii. The enclosure connects less than four stories above the horizontal assembly.
 - iii. The enclosure opening protectives above the horizontal assembly have a minimum 1-hour fire protection rating.
- (4) The building above the horizontal assembly shall contain only business, mercantile, storage, or residential occupancies or assembly occupancies having an assembly room with an occupant load of less than 300.
- (5) The building below the horizontal assembly shall be an enclosed or open parking structure used for the parking and storage of private motor vehicles unless otherwise permitted by the following:
 - (a) Entry lobbies, mechanical rooms, and similar uses incidental to the operation of the building shall be permitted.
 - (b) Business, mercantile occupancies, and assembly occupancies having an assembly room with an occupant load of less than 300 shall be permitted in addition to those uses incidental to the operation of the building (including storage areas), provided that the entire structure below the horizontal assembly is protected throughout by an approved, electrically supervised automatic sprinkler system installed in accordance with NFPA 13.
- (6) The maximum building height shall not exceed the limits set forth in the applicable building code for the least restrictive type of construction involved.

6.6.2 Two-Hour Fire Resistance-Rated Noncombustible or Limited-Combustible Roof Assemblies. Fire walls shall be permitted to terminate against the underside of noncombustible or limited-combustible roof sheathing, deck, or slab where the roof assembly and the entire length and span of supporting elements for the roof assembly has a fire resistance rating of not less than 2 hours.

6.6.3 Type I or Type II Construction.

6.6.3.1 In buildings of Type I or Type II construction, fire walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck, or slabs where the roof is provided with not less than a Class B roof covering.

6.6.3.2 Openings in the roof of a building of Type I or Type II construction shall not be located within 48 in. (1220 mm) of the fire wall.

6.6.4 Types III, IV, or V Construction. In buildings of Type III, Type IV, and Type V construction, fire walls shall be permitted to terminate at the underside of roof sheathing or deck in accordance with 6.6.4.1, 6.6.4.2, or 6.6.4.3.

6.6.4.1 Fire walls shall be permitted to terminate at the underside of roof sheathing or deck, provided that all of the following criteria are met:

- (1) The roof assembly within 48 in. (1220 mm) of each side of the fire wall is of fire retardant-treated wood.
- (2) The roof is provided with not less than a Class B roof covering.
- (3) Openings in the roof are not located within 48 in. (1220 mm) of the fire wall.

6.6.4.2 Fire walls shall be permitted to terminate at the underside of the roof sheathing, where the roof sheathing or deck is constructed of approved noncombustible or limited-combustible materials or of fire retardant-treated wood for a distance of 48 in. (1220 mm) on both sides of the wall.

6.6.4.3 Fire walls shall be permitted to terminate at the roof sheathing or deck, provided all of the following criteria are met:

- (1) The underside of the roof sheathing or deck is protected with $\frac{3}{8}$ in. (16 mm) Type X gypsum board applied directly beneath the underside of the roof sheathing or deck.
- (2) The Type X gypsum board is supported by a minimum of 2 in. (51 mm) ledgers attached to the sides of the roof framing members.
- (3) The Type X gypsum board is applied on both sides of the fire wall for a minimum distance of 48 in. (1220 mm) on both sides of the fire wall.
- (4) Openings in the roof are not located within 48 in. (1220 mm) of the fire wall.
- (5) The roof is covered with a minimum Class C roof covering.

6.7 Fire Walls with Elevation Differences. Where a fire wall separates parts of a building having different heights, the fire wall shall be permitted to terminate in accordance with one of the following:

- (1) At a point 36 in. (915 mm) above the lower roof level where the exterior wall for a height of 120 in. (3050 mm) above the lower roof is 1-hour fire resistance-rated construction with openings protected by an assembly having a fire protection rating of not less than $\frac{3}{4}$ hour

- (2) At the sheathing of the lower roof where the exterior wall is without openings and where the roof is of at least 1-hour fire-resistance-rated construction for a width of at least 120 in. (3050 mm), measured from the wall.

6.8 Clearance.

6.8.1* Clearance to allow for expansion of unprotected structural framework shall be provided.

6.8.2 This space shall be provided between cantilevered walls and structural framework on each side and between double walls.

6.8.3 To buildings assigned to Seismic Design Category C, Seismic Design Category D, Seismic Design Category E, or Seismic Design Category F, as determined in accordance with ASCE/SEI 7, *Minimum Design Loads for Buildings and Other Structures*, sufficient separation shall be provided between cantilevered fire walls and adjacent framing on each side and between double walls to allow independent movements of the elements without contact.

6.9 Horizontal Continuity.

6.9.1 Horizontal Termination of Fire Walls.

6.9.1.1 Fire walls shall be continuous in one of the following situations:

- (1) From exterior wall to exterior wall and extending at least 18 in. (455 mm) beyond the exterior surface of exterior walls.
- (2) From an exterior wall extending at least 18 in. (455 mm) beyond the exterior surface of exterior walls to a fire wall with the same fire resistance rating.
- (3) From fire wall to fire wall, with the same fire resistance ratings.

6.9.1.2 Fire walls shall be permitted to terminate at the interior face of exterior sheathing, siding, or other exterior finishes where the exterior sheathing, siding, or other exterior finishes are noncombustible or limited combustible and extend 48 in. (1220 mm) on both sides of the fire wall.

than 1 hour for a distance on each side of the fire wall equal to the depth of the projecting element.

- (3) Openings within such exterior walls are protected by assemblies having a fire protection rating of not less than $\frac{1}{2}$ hour.

6.9.2.3 Fire walls shall not be required to extend to the outer edge of combustible horizontal projecting elements with concealed spaces where all of the following conditions are met:

- (1) The fire wall extends through the concealed space to the outer edges of the projecting elements.
- (2) The exterior wall behind and below the projecting element has a fire-resistance rating of not less than 1 hour for a distance not less than the depth of the projecting elements on both sides of the fire wall.
- (3) Openings within such exterior walls are protected by assemblies having a fire protection rating of not less than $\frac{1}{2}$ hour.

6.10 Opening Protectives. Openings permitted in fire walls shall comply with Sections 4.9 and 6.10.

6.10.1 Maximum Openings. The total width of all openings in fire walls shall not exceed 25 percent of the length of the wall in each story.

6.10.2 Single Opening Size.

6.10.2.1 Single opening protectives in fire walls shall not exceed the maximum size tested.

Δ 6.10.2.2 Single opening protectives in fire walls shall not be limited in size where the buildings on both sides of the fire wall are protected throughout by automatic sprinkler systems in accordance with NFPA 13 or NFPA 13R.

6.10.3* Double Fire Walls. Openings in double fire walls shall be protected using one fire door in each separate wall.

6.10.4* Material Handling Systems. Where material handling systems penetrate a fire wall, the system design shall provide a method to stop the material handling system and allow fire doors to close without obstruction.