

| 706 FIRE WALLS | 707 FIRE BARRIERS | 709 FIRE PARTITIONS | 710 SMOKE BARRIERS | 711 SMOKE PARTITIONS |
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| <p>702.1 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.</p> | <p>702.1 Definitions FIRE BARRIER A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.</p> | <p>702.1 Definitions FIRE PARTITION A vertical assembly of materials designed to restrict the spread of fire in which openings are protected.</p> | <p>702.1 Definitions SMOKE BARRIER A continuous membrane, either vertical or horizontal, such as a wall, floor or ceiling assembly, that is designed and constructed to restrict the movement of smoke.</p> | <p>702.1 Definitions None</p> |
| <p>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.</p> | <p>707.1 General. Fire barriers installed as required elsewhere in this code or the International Fire Code shall comply with this section. Required in code sections: 402 Covered Mall Bldgs 404 Atrium 410.5 et al Dressing and appurtenant rooms. 412 Airport Traffic Control Towers/Hangers 414.2 Control areas 415.6.1.2 H-2 Grinding rms 415.7.2 H-3 & 4 Gas rooms 415.8.2.2 H-5 Separation 416.2 Spray rooms 418 Organic Coatings 421 Hydrogen Cutoff Rms 507.3.1 Mixed occ bldgs w/Groups A-1 and A-2. 508.2 Accessory occupancies. (See commentary) 508.4 Separated occupancies 509.7 & 8 Open parking garage 702.1 Shaft Enclosure (C) 706.1 Info in Commentary</p> | <p>709.1 General. 1. Walls separating dwelling units in the same building as required by Section 420.2. 2. Walls separating sleeping units in the same building as required by Section 420.2. 3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2. 4. Corridor walls as required by Section 1018.1. 5. Elevator lobby separation as required by Section 708.14.1.</p> | <p>710.1 General. Required in code sections: 308.1 Institutional Group I. 403.6.2 Occupant evacuation elevators. 405 Underground Buildings 407 Group I-2 408 Group I-3 422 Group B ambulatory health care facilities. 508.2.5.2 Nonfire-resistance-rated separation and protection. 909 Mechanical or Passive Smoke Control Systems 909.5 Smoke barrier construction 1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 710 1014.2.3.1 Area. Suites of sleeping rooms shall not exceed 5,000 square feet (465 m2). The combined area of the patient sleeping rooms, the staff areas and any associated spaces (i.e., clean room, nutrition centers, storage room) and any intervening rooms (in accordance with Section 1014.2.3) are permitted to have a total area of 5,000 square feet (465 m2). This suite must be separated from other areas by smoke barriers in accordance with Section 1014.2.7, 1014.2.4.1 Area. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m2)...</p> | <p>711.1 General. Smoke barriers shall comply with this section. Commentary: A smoke partition is intended to provide less protection than a smoke barrier, and is not required to be continuous through the concealed spaces and through the ceiling. The application of smoke partitions is still fairly limited. The smoke partition requirements apply to Section 407.3, which permits corridor walls in Group I-2 to have no fire-resistance rating, but it does require that they be constructed as smoke partitions. A smoke partition can also be used under the provisions of Section 708.14.1, Exception 5, to form the elevator lobby in a sprinklered building. 308.4 Group I-3. (smoke compartments) 405 ??</p> |
| <p>706.2 Structural stability.</p> | | | | |
| <p>706.3 Materials. Fire walls shall be of any approved noncombustible materials. Ex: Buildings of Type V construction.</p> | <p>707.2 Materials. Fire barriers shall be of materials permitted by the building type of construction.</p> | <p>709.2 Materials. The walls shall be of materials permitted by the building type of construction.</p> | <p>710.2 Materials. Smoke barriers shall be of materials permitted by the building type of construction.</p> | <p>711.2 Materials. The walls shall be of materials permitted by the building type of construction.</p> |

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| <p>706.4 Fire-resistance rating. Fire walls shall have a fire-resistance rating of not less than that required by Table 706.4. (2, 3, or 4hr)</p> | <p>707.3 Fire-resistance rating. The fire-resistance rating of fire barriers shall comply with this section. .1 Shaft enclosures - 708.4 .2 Exit enclosures - 1022.1 .3 Exit passageway - 1023.3 .4 Horizontal exit - 1025.1 .5 Atriums - 404.6 .6 Incidental accessory occupancies - Table 508.2.5. .7 Control areas - 414.2.4 .8 Separated occupancies Where the provisions of Section 508.4 are applicable - Table 508.4 .9 Fire areas separating a single occupancy - Table 707.3.9 Separating fire areas of mixed occupancies - highest - Table 707.3.9</p> | <p>709.3 Fire-resistance rating. 1 hour. Exceptions: 1. Corridor walls permitted to have a 1/2 hour fire-resistance rating by Table 1018.1. 2. Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB and VB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.</p> | <p>710.3 Fire-resistance rating. 1 hour Exception: Smoke barriers constructed of minimum 0.10-inch-thick (2.5 mm) steel in Group I-3 buildings.</p> | <p>711.3 Fire-resistance rating. None</p> |
| <p>706.5 Horizontal continuity. Fire walls shall be continuous from exterior wall to exterior wall and shall extend at least 18 inches (457 mm) beyond the exterior surface of exterior walls. (See exceptions)</p> <p>706.6 Vertical continuity. Fire walls shall extend from the foundation to a termination point at least 30 inches (762 mm) above both adjacent roofs. (See exceptions)</p> | <p>707.5 Continuity. Fire barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling.</p> | <p>709.4 Continuity. Fire partitions shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto. If the partitions are not continuous to the sheathing, deck or slab, and where constructed of combustible construction, the space between the ceiling and the sheathing, deck or slab above shall be fireblocked or draftstopped in accordance with Sections 717.2 and 717.3 at the partition line. The supporting construction shall be protected to afford the required fire-resistance rating of the wall supported, except for walls separating tenant spaces in covered mall buildings, walls separating dwelling units, walls separating sleeping units and corridor walls in buildings of Type IIB, IIIB and VB construction. (See exceptions)</p> | <p>710.4 Continuity. Smoke barriers shall form an effective membrane continuous from outside wall to outside wall and from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, deck or slab above, including continuity through concealed spaces, such as those found above suspended ceilings, and interstitial structural and mechanical spaces. The supporting construction shall be protected to afford the required fire-resistance rating of the wall or floor supported in buildings of other than Type IIB, IIIB or VB construction. Exception: Smoke-barrier walls are not required in interstitial spaces where such spaces are designed and constructed with ceilings that provide resistance to the passage of fire and smoke equivalent to that provided by the smoke-barrier walls.</p> | <p>711.4 Continuity. Smoke partitions shall extend from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke.</p> |

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| <p>706.7 Combustible framing in fire walls. Adjacent combustible members entering into a concrete or masonry fire wall from opposite sides shall not have less than a 4-inch (102 mm) distance between embedded ends.</p> | <p>707.4 Exterior walls. Where exterior walls serve as a part of a required fire-resistance-rated shaft or exit enclosure, or separation, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure or separation requirements shall not apply. (See exceptions)</p> | <p>709.5 Exterior walls. Where exterior walls serve as a part of a required fire-resistance-rated separation, such walls shall comply with the requirements of Section 705 for exterior walls, and the fire-resistance-rated separation requirements shall not apply. (See exceptions)</p> | | |
| <p>706.8 Openings. Each opening through a fire wall shall be protected in accordance with Section 715.4 and shall not exceed 156 square feet (15 m2). The aggregate width of openings at any floor level shall not exceed 25 percent of the length of the wall. Exceptions: 1. Openings are not permitted in party walls constructed in accordance with Section 706.1.1. 2. Openings shall not be limited to 156 square feet (15 m2) where both buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.</p> | <p>707.6 Openings. Openings in a fire barrier shall be protected in accordance with Section 715. 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 m2). Openings in exit enclosures and exit passageways shall also comply with Sections 1022.3 and 1023.5, respectively. Exceptions:</p> | <p>709.6 Openings. Openings in a fire partition shall be protected in accordance with Section 715.</p> | <p>710.5 Openings. Openings in a smoke barrier shall be protected in accordance with Section 715. Exceptions</p> | <p>711.5 Openings. Windows shall be sealed to resist the free passage of smoke or be automatic-closing upon detection of smoke. Doors in smoke partitions shall comply with this section. .1 Louvers. Doors in smoke partitions shall not include louvers. .2 Smoke and draft control doors. Where required elsewhere in the code, doors in smoke partitions shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. .3 Self- or automatic-closing doors. Where required elsewhere in the code, doors in smoke partitions shall be self or automatic-closing by smoke detection in accordance with Section</p> |
| <p>706.9 Penetrations. Penetrations of fire walls shall comply with Section 713. (See 706.7)</p> | <p>707.7 Penetrations. Penetrations of fire barriers shall comply with Section 713. 707.7.1 Prohibited penetrations. Penetrations into an exit enclosure or an exit passageway shall be allowed only when permitted by Section 1022.4 or 1023.6, respectively.</p> | <p>709.7 Penetrations. Penetrations of fire partitions shall comply with Section 713.</p> | <p>710.6 Penetrations. Penetrations of smoke barriers shall comply with Section 713. 712.9 Smoke barrier. Where horizontal assemblies are required to resist the movement of smoke by other sections of this code in accordance with the definition of smoke barrier, penetrations and joints in such horizontal assemblies shall be protected as required for smoke barriers in accordance with Sections 713.5 and 714.6. 715.4.3 Door assemblies in corridors and smoke barriers. 405.4.2 Smoke barrier penetration. Penetrations between the two compartments shall be limited to plumbing and electrical piping and conduit that are firestopped in</p> | <p>711.6 Penetrations and joints. The space around penetrating items and in joints shall be filled with an approved material to limit the free passage of smoke.</p> |

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| <p>706.10 Joints. Joints made in or between fire walls shall comply with Section 714.</p> | <p>707.8 Joints. Joints made in or between fire barriers, and joints made at the intersection of fire barriers with underside of the floor or roof sheathing, slab or deck above, shall comply with Section 714.</p> | <p>709.8 Joints. Joints made in or between fire partitions shall comply with Section 714.</p> | <p>710.7 Joints. Joints made in or between smoke barriers shall comply with Section 714.</p> | |
| <p>706.11 Ducts and air transfer openings. Ducts and air transfer openings shall not penetrate fire walls. Exception: Penetrations by ducts and air transfer openings of fire walls that are not on a lot line shall be allowed provided the penetrations comply with Section 716. The size and aggregate width of all openings shall not exceed the limitations of Section 706.8.</p> | <p>707.9 Ducts and air transfer openings. Penetrations in a fire barrier by ducts and air transfer openings shall comply with Section 716.</p> | <p>709.9 Ducts and air transfer openings. Penetrations in a fire partition by ducts and air transfer openings shall comply with Section 716.</p> | <p>710.8 Ducts and air transfer openings. Penetrations in a smoke barrier by ducts and air transfer openings shall comply with Section 716.</p> | <p>711.7 Ducts and air transfer openings. The space around a duct penetrating a smoke partition shall be filled with an approved material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a smoke damper complying with Section 716.3.2.2. Exception: Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternative protection shall be utilized. 716.5.7 Smoke partitions. A listed smoke damper designed to resist the passage of smoke shall be provided at each point that an air transfer opening</p> |
| <p>703.6 Marking and identification. Fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling. Such identification shall:</p> <ol style="list-style-type: none"> 1. Be located in accessible concealed floor, floor-ceiling or attic spaces; 2. Be repeated at intervals not exceeding 30 feet (914 mm) measured horizontally along the wall or partition; and 3. Include lettering not less than 0.5 inch (12.7 mm) in height, incorporating the suggested wording: "FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS," or other wording. <p>Exception: Walls in Group R-2 occupancies that do not have a removable decorative ceiling allowing access to the concealed space.</p> | | | | |
| <p>704 FIRE-RESISTANCE RATING OF STRUCTURAL MEMBERS</p> <p>704.1 Requirements. The fire-resistance ratings of structural members and assemblies shall comply with this section and the requirements for the type of construction as specified in Table 601. The fire-resistance ratings shall not be less than the ratings required for the fire-resistance-rated assemblies supported by the structural members.</p> <p>Exception: Fire barriers, fire partitions, smoke barriers and horizontal assemblies as provided in Sections 707.5, 709.4, 710.4 and 712.4, respectively.</p> | | | | |
| Misc | Misc | Misc | Misc | Misc |
| <p>110.3.6 Fire- and smoke-resistant penetrations. Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.</p> | | | | |
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| Where Used | Where Used | Where Used | Where Used | Where Used |

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| | | | | 404.6 Enclosure of atriums. Exceptions: 1. A glass wall forming a smoke partition... |
| | | | | 407 GROUP I-2 407.3 Corridor walls. Corridor walls shall be constructed as smoke partitions in accordance with Section 711. (Rooms requiring a rating must be rated at the corridor) |
| | | | 508.2 Accessory occupancies 508.2.5.2 Nonfire-resistance-rated separation and protection. Where Table 508.2.5 permits an automatic fire-extinguishing system without a fire barrier, the incidental accessory occupancies shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. Commentary: 711.1 General...a smoke partition is not required unless the specific text of the code states that it is required. Section 508.2.5.2, when dealing with incidental uses, will permit the elimination of a fire barrier and only require the wall constructed around the incidental use area to be "capable of resisting the passage of smoke." In this circumstance, the wall is not required to comply with the smoke partition requirements of Section 710 and is only required to comply with the details listed in Section 508.2.5.2 | |
| | 703.5 Fire-resistance-rated glazing. Commentary -This section also indicates that fire-resistance-rated glazing with the "W" designation on the label is good for fire barriers, as well as shaft walls and stair enclosures, and, of course, it would be used for a fire partition, smoke partition or smoke barrier also. It could not be used for a fire wall. | | | |
| 703.6 Marking and identification. Fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions or any other wall required to have protected openings or penetrations 1. Be located in accessible concealed floor, floor-ceiling or attic spaces; 2. Be repeated at intervals not exceeding 30 feet (914 mm) measured horizontally along the wall or partition; and 3. Include lettering not less than 0.5 inch (12.7 mm) in height, incorporating the suggested wording: "FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS," or other wording. Exception: Walls in Group R-2 | | | | |
| SECTION 704 FIRE-RESISTANCE RATING OF STRUCTURAL MEMBERS 704.1 Requirements...The fire-resistance ratings shall not be less than the ratings required for the fire-resistance-rated assemblies supported by the structural members. Exception: Fire barriers, fire partitions, smoke barriers and horizontal assemblies as provided in Sections 707.5, 709.4, 710.4 and 712.4, respectively | | | | |
| | | | | 708.14.1 Elevator lobby. An enclosed elevator...more than three stories.. Ex. 5. Smoke partitions shall be permitted in lieu of fire partitions |
| | 910.2.1 Group F-1 or S-1. Buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m2) in undivided area. Exception: Group S-1 aircraft repair hangars. Commentary: In order to subdivide a more than 50,000-squarefoot (4645 m2) undivided area as one method of avoiding the use of smoke and heat vents, the dividing element would only need to be a partition constructed of materials equivalent to the construction of a draft curtain but that would extend from floor to ceiling in the space being separated. A fire barrier smoke barrier fire partition or smoke partition would be more than what is required and would therefore be an | | | |

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| | | | | <p>1014.2.2 Group I-2. Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor. Exception: Rooms with exit doors opening directly to the outside at ground level. Commentary: Health care suites allow for the elimination of the smoke partition between the patient rooms and the staff areas. Curtains or glass partitions are often desirable to allow for a more efficient operation and/or direct and immediate supervision. By considering the connected space an intervening room rather than a corridor,</p> |
| | | | | <p>1014.2.7 Separation. Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with Section 711. Commentary: This section clarifies the type of partition that should be used to separate the suite from the corridor, adjacent suite or any other portion of the building. This section requires separation by a smoke partition, similar to the construction of a corridor wall in Group I-2 (see Section 407.3).</p> |