

PART **3**

Fire Protection

Chapters 7 and 9

- **Chapter 7** Fire and Smoke Protection Features
- **Chapter 8** Interior Finishes
(No changes addressed.)
- **Chapter 9** Fire Protection and Life Safety Systems

The fire protection provisions of the *International Building Code* (IBC) are found primarily in Chapters 7 through 9. There are two general categories of fire protection: active and passive. Chapter 7 details the use of fire and smoke resistance to protect building elements in a passive manner. Chapter 9 contains requirements for various active systems often utilized in the creation of a safe building environment, including automatic sprinkler systems, standpipe systems and fire alarm systems. To further address the rapid spread of fire, the provisions of Chapter 8 are intended to regulate interior finish materials, such as wall and floor coverings. ■

704.2, 704.3

Protection of Structural Members

705.6, 705.7, 705.12.1

Fire-Resistance-Rated Exterior Wall Continuity

705.7.1

Exterior Wall/Floor Intersections in Type III Construction

706.1.2, 706.2

Fire Walls—Deemed to Comply

707.6, 707.7

Openings in Shaft Enclosures

707.8

Fire Barrier Joints

707.9, 715.2, 715.6

Continuity Head-of-Wall Systems

708.4.1, 709.4.2, 710.4.1

Walls Enclosing Elevator Lobbies

710.4

Continuity of Smoke Partitions in Group I-2

713.13.4

Chute Discharge Room Opening Protection

714.5.1, 714.5.1.2

Through Penetration Firestop Systems in Parking Garages

715.4, 715.5

Exterior Curtain Wall and Floor Intersections

716.2.6.1

Fire Door Closing for Storm Shelters

717.2.4, 717.2.4.1

Controls in Air Duct Systems

717.6.1

Through Penetrations for Group I-2 and I-3



718.2.1

Fireblocking Materials

Table 721.1(2)

Rated Fire-Resistance Periods for Various Walls and Partitions

Table 721.1(3)

Minimum Protection for Floor and Roof Systems

903.2, 903.3.1.1.3

Sprinkler Protection for Batteries

903.2

Sprinklers Based on Occupancy—Batteries

903.3.1.1.1

Sprinkler System Exempt Locations

903.3.1.2

NFPA 13R Sprinkler Systems

903.4

Sprinkler System Supervision and Alarms

905.3, 905.4

Standpipe Installations

905.3.4, 905.5.1

Standpipes for Stages

907.2.1

Group A Fire Alarms

907.2

Fire Alarm and Detection Systems

907.2.11

Smoke Alarms Near Cooking Appliances

907.5.2.1.3

Audible Alarm Signal Frequency

915

Carbon Monoxide Detection

CHANGE TYPE: Clarification

CHANGE SUMMARY: The provisions addressing primary structural frame members and secondary structural members have been reformed into two sections with charging language occurring first followed by exceptions.

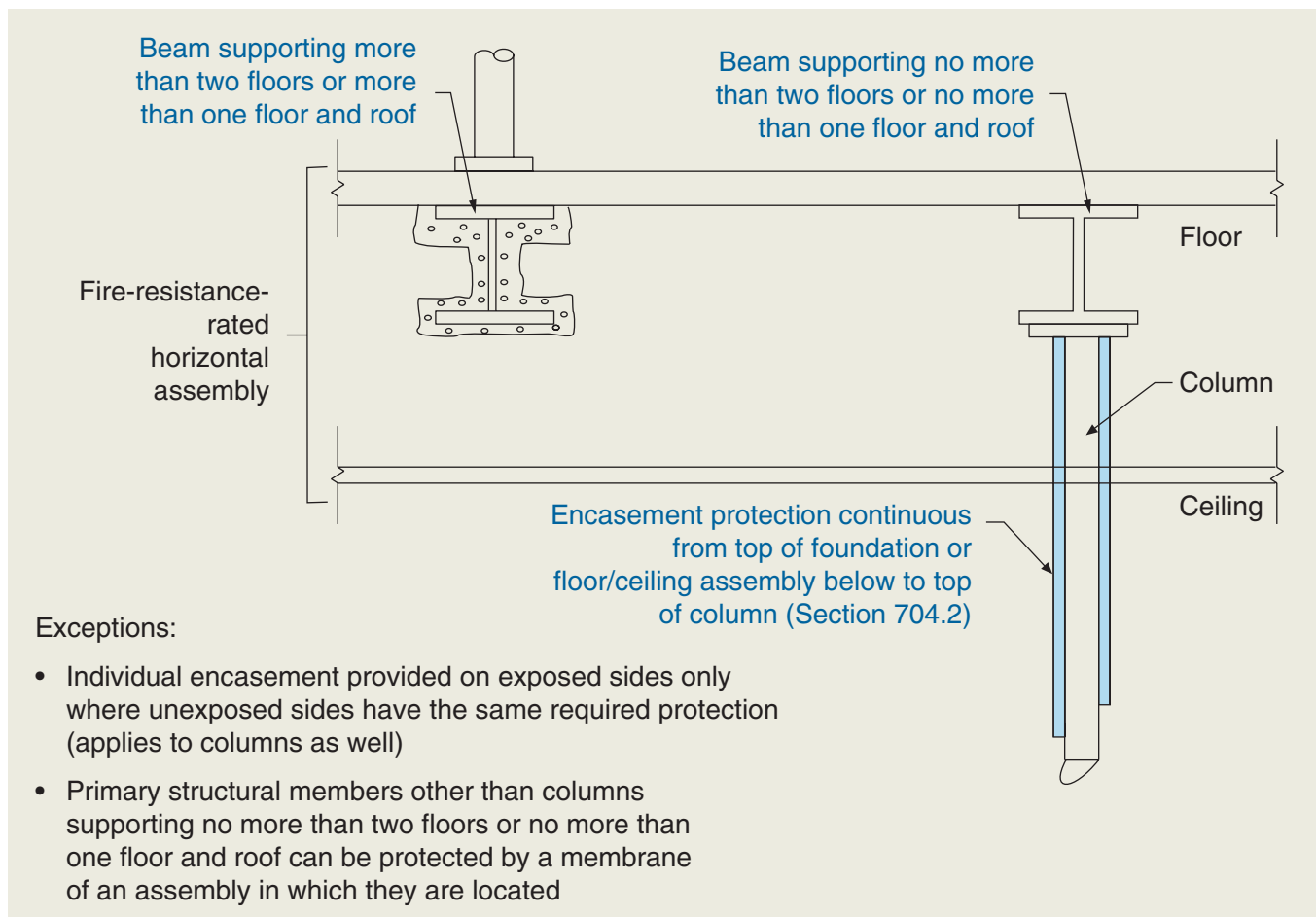
2024 CODE TEXT: ~~**704.2 Column protection.** Where columns are required to have protection to achieve a fire-resistance rating, the entire column shall be provided individual encasement protection by protecting it on all sides for the full column height, including connections to other structural members, with materials having the required fire-resistance rating. Where the column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column.~~

Exception: Columns that meet the limitations of Section 704.4.1.

704.3 704.2 Protection of the primary structural frame other than columns. Members of the primary structural frame other than columns that are required to have protection to achieve a fire-resistance rating and support more than two floors or one floor and roof, or support a load-bearing wall or a

704.2, 704.3

Protection of Structural Members



Protection of primary structural frame members.

~~nonload-bearing wall more than two stories high~~, shall be provided individual encasement protection by protecting them on all sides for the full length, including connections to other structural members, with materials having the required fire-resistance rating. Where a column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column.

Exceptions:

1. Individual encasement protection on all sides shall be permitted on all exposed sides provided that the extent of protection is in accordance with the required fire-resistance rating, as determined in Section 703.
2. Primary structural members other than columns that do not support more than two floors or one floor and roof, or a load-bearing wall or a nonload-bearing wall more than two stories high, are permitted to be protected by the membrane of a fire-resistance-rated wall or horizontal assembly where the membrane provides the required fire-resistance rating.
3. Columns that meet the limitations of Section 704.3.1.

704.4 704.3 Protection of secondary structural members. Secondary structural members that are required to have protection to achieve a fire-resistance rating shall be protected by individual encasement protection, or by the membrane of a fire-resistance-rated wall or horizontal assembly, where the membrane provides the required fire-resistance rating.

704.4.1 704.3.1 Light-frame construction. Studs, columns and boundary elements that are integral elements in walls of light-frame construction and are located entirely between the top and bottom plates or tracks shall be permitted to have required fire-resistance ratings provided by the membrane protection provided for the wall.

704.4.2 704.3.2 Horizontal assemblies. Horizontal assemblies are permitted to be protected with a membrane or ceiling where the membrane or ceiling provides the required fire-resistance rating and is installed in accordance with Section 711.

CHANGE SIGNIFICANCE: Primary structural frame members generally require fire-resistive protection in all but Type IIB, IIIB, IV-HT and VB construction. Under all conditions where such protection is required, columns are considered to be a part of the primary structural frame system and must be protected by individual encasement. This protection must occur on all sides of the column and extend for the column's full height, including through a ceiling space to the top of the column. In general, the code requires individual encasement of primary structural members other than columns where supporting loads from multiple levels. Secondary structural members may be protected in the same manner as primary structural frame members, where a fire-resistance rating is required.

Primary and secondary structural member protection provisions have been reformatted into two sections with charging language first followed by the applicable exceptions. Additional modifications to the exceptions include the following:

- Exception 1 permits individual encasement of primary structural members to be provided on exposed sides only where the unexposed sides include other elements that afford the same required protection. This now applies to columns as well as the other primary structural frame members.
- Exception 2 clarifies protection for two conditions. The first is for primary structural frame members other than columns that do not support more

than two floors or one floor and roof. The second is for load-bearing walls or nonload-bearing walls no more than two stories high. The intent is that these members must still be protected, but, rather than by “individual encasement,” they are permitted to be protected by the membrane of an assembly in which they are located.

Secondary members are intended to be protected by either individual encasement or by the assembly membrane, which may be selected by a designer depending on what is more feasible. The clarification simply reformats the charging language to be more understandable.

705.6, 705.7, 705.12.1

Fire-Resistance- Rated Exterior Wall Continuity

CHANGE TYPE: Modification

CHANGE SUMMARY: Clarity has been provided on how supporting construction for exterior walls is to be fire-resistance-rated (FRR), especially in the case of a parapet. Two options have been established for maintaining the vertical continuity of an exterior wall required to be fire-resistance-rated.

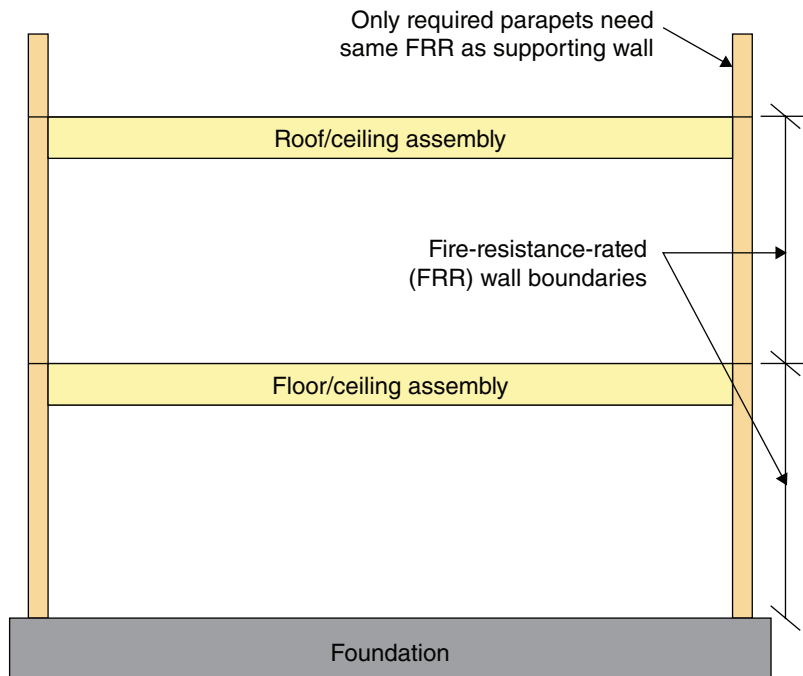
2024 CODE TEXT: 705.6 Continuity. The fire-resistance rating of exterior walls shall extend from the top of the foundation or floor/ceiling assembly below to one of the following:

1. The underside of the floor sheathing, roof sheathing, deck or slab above.
2. The underside of a floor/ceiling or roof/ceiling assembly having a fire-resistance rating equal to or greater than the exterior wall and the fire separation distance is greater than 10 feet (3048 mm).

Parapets shall be provided as required by Section 705.12.

705.6-705.7 Structural stability. Exterior walls shall extend to the height required by Section 705.11. Interior structural elements that brace the exterior wall but that are not located within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 for that structural element. Structural elements that brace the exterior wall but are located outside of the exterior wall or within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 and Table 705.5 for the exterior wall.

705.11-1 705.12.1 Parapet construction. Required Parapets shall have the same fire-resistance rating as that required for the supporting wall, and on any side adjacent to a roof surface, shall have noncombustible faces for the uppermost 18 inches (457 mm), including counterflashing and coping materials. The height of the parapet shall be not less than 30 inches (762 mm) above the



Item 1 of Section 705.6 for fire-resistance-rated exterior wall continuity.