

SECTION 610 MIXED TYPES OF CONSTRUCTION

610.1 Area limitations. Where two or more types of construction not separated by fire walls occur in the same building, the area of the entire building shall not exceed the least area permitted based on occupancy for the types of construction used in the building.

610.2 Height limitations. Where two or more types of construction occur in the same building, the height of the entire building shall not exceed the least height permitted based on the occupancy for the types of construction used in the building.

610.3 Open parking structures. Open parking structures which comply with 411.3 may be constructed beneath other occupancies in buildings of mixed types of construction in accordance with the following:

1. The height and area of the open parking structure shall not exceed that permitted by Table 411.3.1 for the type of construction of the open parking structure.
2. The total height of the structure shall not exceed that allowed for its primary occupancy in accordance with 303 and Table 500.
3. The fire resistance of structural members within the open parking structure that support any part of the building above the open parking structure shall have the same or greater fire resistance as the supported type of construction. This provision applies to all columns; beams, girders, and trusses directly connected to the columns; and all other structural members which directly brace the columns.
4. The entire structure shall be of noncombustible construction.
5. Occupancy separations shall be maintained in accordance with 704.1.
6. All exits for the upper occupancy shall be protected to the exterior of the building in accordance with Chapter 10.

TABLE 600

**TABLE 600
FIRE RESISTANCE RATINGS
REQUIRED FIRE RESISTANCE IN HOURS**

STRUCTURAL ELEMENT	TYPE I	TYPE II	TYPE III	TYPE IV		TYPE V		TYPE VI	
				1-Hour Protected	Unprotected	1-Hour Protected	Unprotected	1-Hour Protected	Unprotected
PARTY AND FIRE WALLS (a)	4	4	4	4	4	4	4	4	4
INTERIOR BEARING WALLS Supporting columns, other bearing walls or more than one floor	(l)								
Supporting one floor only	4	3	2	1	NC	1 (h)	0 (h)	1	0
Supporting roofs only	3	2	1	1	NC	1	0	1	0
INTERIOR NONBEARING PARTITIONS		See 609.2, 704.1, 704.2 and 705.2							
COLUMNS (q) Supporting other columns or more than one floor	(l)		See 605						
Supporting one floor only	4	3	H(d)	1	NC	1	0	1	0
Supporting roofs only	3	2	H(d)	1	NC	1	0	1	0
BEAMS, GIRDERS, TRUSSES & ARCHES Supporting columns or more than one floor	(l)		See 605						
Supporting one floor only	4	3	H(d)	1	NC	1	0	1	0
Supporting roofs only	3	2	H(d)	1	NC	1	0	1	0
	1 1/2(e,p)	1(e,f,p)	H(d)	1(e,p)	NC(e)	1	0	1	0
FLOORS & FLOOR/CEILING ASSEMBLIES	(l)		See 605	(n)	(n,o)	(n)	(m,n,o)		(o)
	3	2	H (o)	1	NC	1	0	1	0
ROOFS & ROOF/CEILING ASSEMBLIES (g)	1 1/2(e,p)	1 (e,f,p)	See 605 H(d)	1(e,p)	NC(e)	1	0	1	0
EXTERIOR BEARING WALLS and gable ends of roof (g, i, j)	(% indicates percent of protected and unprotected wall openings permitted. See 705.1.1 for protection requirements.)								
Horizontal separation (distance from common property line or assumed property line).									
0 ft to 3 ft (c)	4(0%)	3(0%)	3(0%)(b)	2(0%)	1(0%)	3(0%)(b)	3(0%)(b)	1(0%)	1(0%)
over 3 ft to 10 ft (c)	4(10%)	3(10%)	2(10%)(b)	1(10%)	1(10%)	2(10%)(b)	2(10%)(b)	1(20%)	0(20%)
over 10 ft to 20 ft (c)	4(20%)	3(20%)	2(20%)(b)	1(20%)	NC(20%)	2(20%)(b)	2(20%)(b)	1(40%)	0(40%)
over 20 ft to 30 ft	4(40%)	3(40%)	1(40%)	1(40%)	NC(40%)	1(40%)	1(40%)	1(60%)	0(60%)
over 30 ft	4(NL)	3(NL)	1(NL)	1(NL)	NC(NL)	1(NL)	1(NL)	1(NL)	0(NL)
EXTERIOR NONBEARING WALLS and gable ends of roof (g, i, j)	(% indicates percent of protected and unprotected wall openings permitted. See 705.1.1 for protection requirements.)								
Horizontal separation (distance from common property line or assumed property line).									
0 ft to 3 ft (c)	3(0%)	3(0%)	3(0%)(b)	2(0%)	1(0%)	3(0%)(b)	3(0%)(b)	1(0%)	1(0%)
over 3 ft to 10 ft (c)	2(10%)	2(10%)	2(10%)(b)	1(10%)	1(10%)	2(10%)(b)	2(10%)(b)	1(20%)	0(20%)
over 10 ft to 20 ft (c)	2(20%)	2(20%)	2(20%)(b)	1(20%)	NC(20%)	2(20%)(b)	2(20%)(b)	1(40%)	0(40%)
over 20 ft to 30 ft	1(40%)	1(40%)	1(40%)	NC(40%)	NC(40%)	1(40%)	1(40%)	0(60%)	0(60%)
over 30 ft (k)	NC (NL)	NC(NL)	NC(NL)	NC(NL)	NC(NL)	NC(NL)	NC(NL)	0(NL)	0(NL)

For SI: 1 ft = 0.305 m.

NC = Noncombustible
NL = No Limits
H = Heavy Timber Sizes

Notes:

- a. See 704.5 for extension of party walls and fire walls.
- b. See 704.5 for parapets.
- c. See 705 for protection of wall openings.
- d. Where horizontal separation of 20 ft or more is provided, wood columns, arches, beams, and roof deck conforming to heavy timber sizes may be used externally.
- e. In buildings not over two stories approved fire retardant treated wood may be used.
- f. In one-story buildings, structural members of heavy timber sizes may be used as an alternate to unprotected structural roof members. Stadiums, field houses and arenas with heavy timber wood dome roofs are permitted. An approved automatic sprinkler system shall be installed in those areas where 20 ft clearance to the floor or balcony below is not provided.
- g. See 1511 for penthouses and roof structures.
- h. The use of combustible construction for interior bearing partitions shall be limited to the support of not more than two floors and a roof.
- i. Exterior walls shall be fire tested in accordance with 601.3. The fire resistance requirements for exterior walls with 5 ft or less horizontal separation shall be based upon both interior and exterior fire exposure. The fire resistance requirements for exterior walls with more than 5 ft horizontal separation shall be based upon interior fire exposure only.
- j. Where Appendix F is specifically included in the adopting ordinance, see F102.2.6 for fire resistance requirements for exterior walls of Type IV buildings in Fire District.
- k. Walls or panels shall be of noncombustible material or fire retardant treated wood, except for Type VI construction.
- l. For Group A - Large Assembly, Group A - Small Assembly, Group B, Group E, Group F, Group R occupancies and Automobile Parking Structures, occupancies of Type I construction, partitions, columns, trusses, girders, beams, and floors may be reduced by 1 hour if the building is equipped with an automatic sprinkler system throughout, but no component or assembly may be less than 1 hour.
- m. Group A - Large Assembly (no stage requiring proscenium opening protection) and Group A - Small Assembly occupancies of Type V Unprotected construction shall have 1-hour fire resistant floors over any crawl space or basement.
- n. For Group B and Group M occupancies of Type IV or Type V construction, when five or more stories in height a 2-hour fire resistant floor shall be required over the basement.
- o. For unsprinklered Group E occupancies of Type III, Type IV Unprotected, Type V Unprotected or Type VI Unprotected, floors located immediately above useable space in basements shall have a fire resistant rating of not less than 1 hour.
- p. In buildings of Group A, B, E, and R occupancies, the required fire resistance of the roof or roof/ceiling assembly including the beams, girders, trusses, or arches that support the roof only may be omitted where every part of the roof structural members have a clear height of 20 ft (6096 mm) or more above any floor, mezzanine or balcony.
- q. See 701.4.