

Chapter Comm 54

FACTORIES, OFFICE AND MERCANTILE BUILDINGS

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Note: Chapter Ind 54 was renumbered to be chapter ILHR 54 effective January 1, 1984. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, March, 1997, No. 495. Chapter ILHR 54 was renumbered to be chapter Comm 54 under s. 13.93 (2m) (b) 1. and corrections were made under s. 13.93 (2m) (b) 7., Stats., Register, December, 1997, No. 504.

Note: Chapter Comm 54 is repealed effective July 1, 2002.

Comm 54.001 Scope. This classification includes all factories and workshops (including all places where manual labor is employed), office buildings, telegraph and telephone offices, mercantile establishments where commodities are bought or sold, clothes cleaning establishments, warehouses, railroad stations, exhibition buildings, public mausoleums, crematoriums, and places where not more than 100 persons assemble for recreation, entertainment, worship, or dining purposes.

Note: See ch. Comm 7 for other provisions relating to setbacks and construction for a magazine within which explosives are stored.

Note: The department of health and family services may require additional provisions for the federal certification of ambulatory surgical offices and clinics which receive federal funding.

History: 1-2-56; am. Register, December, 1981, No. 312, eff. 1-1-82; am. Register, March, 1992, No. 435, eff. 4-1-92; am. Register, December, 1993, No. 456, eff. 1-1-94.

Comm 54.01 Construction, height and allowable area. (1) GENERAL. Buildings and structures within the scope of this chapter may not exceed the height and area limitations specified in this section.

Note: See s. Comm 51.03 for standards of classes of construction.

(2) LIMITED AREA CH. COMM 54 BUILDINGS. (a) Chapter Comm 54 buildings not protected by complete automatic fire sprinkler protection may not exceed the height and area limitations specified in Table 54.01-1.

(b) Chapter Comm 54 buildings protected by complete automatic fire sprinkler systems may not exceed the height and area limitations specified in Table 54.01-2.

(3) FIRE DIVISION WALL SEPARATION. (a) No building shall be limited in area when divided into sections which do not exceed the maximum areas tabulated in this section by fire division walls specified in s. Comm 51.02 (13).

(b) All openings in such walls shall be protected by fire-resistant door assemblies as specified in s. Comm 51.047.

1. Except as provided in subd. 2., doors protecting such openings may be left open if equipped with an automatic closing device activated by products of combustion other than heat.

2. a. The automatic closing device may be installed to prevent accidental closing of the fire door in the event of a power outage to the building if it is installed with an approved or listed backup mechanism in addition to the smoke detection release device.

b. The automatic closing device on doors located in smoke- or contaminant-filled environments, such as but not limited to foundries, chemical plants and similar environments, may be activated by rate-of-rise heat detectors.

3. Doors used as required exits shall be standard exit doors and shall comply with the requirements of s. Comm 51.19 (2).

(4) UNLIMITED AREAS. (a) The area of buildings completely protected by an automatic fire sprinkler system may be unlimited provided the following conditions are satisfied:

1. The maximum number of stories is limited as follows:

a. Type No. 2 construction — 9 stories;

b. Type No. 3 construction — 5 stories;

c. Type No. 4 and 5A construction — 3 stories; and

d. Type No. 5B and 6 construction — 2 stories involving not more than 4 floor levels.

2. Street access is provided as specified in sub. (5) (b).

(b) There shall be no area restriction in one-story buildings where the following conditions are satisfied:

1. Construction of all building elements listed in Table 51.03-A are of noncombustible materials. Built-up roof coverings may not be used;

2. a. The contents of the building are noncombustible;

b. Stored materials are not packed or crated in combustible materials; and

3. Street access is provided as specified in sub. (5) (b).

TABLE 54.01-1 — ALLOWABLE HEIGHT (STORIES) AND AREA (SQURE FEET) FOR BUILDINGS WITHOUT COMPLETE AUTOMATIC FIRE SPRINKLER SYSTEM PROTECTION (MAXIMUM GROSS FLOOR AREA PER FLOOR)
NOTE: DO NOT USE FOR BUILDINGS EXCEEDING 60 FEET IN HEIGHT

CLASS OF CONSTRUCTION	BUILDING FRONTAGE STREET EXPOSURE	NUMBER OF STORIES								
		1	2	3	4	5	6	7	8	Over 8
1. Fire-Resistive Type A	1	25,000	22,000	19,000	16,000	13,000	11,000	9,000	8,000	6,000
	2	30,500	27,000	24,000	20,500	17,500	15,000	13,000	12,000	10,000
	3	36,000	33,000	29,000	25,000	22,000	19,000	17,000	16,000	14,000
	4	41,500	39,000	34,000	29,500	26,500	23,000	21,000	20,000	18,000
2. Fire-Resistive Type B	1	23,000	20,000	17,000	14,000	11,000	9,000	7,000	6,000	
	2	28,000	25,000	22,000	18,500	15,500	13,000	11,000	10,000	N.P.
	3	34,000	31,000	27,000	23,000	20,000	17,000	15,000	14,000	
	4	39,500	37,000	32,000	27,500	24,500	21,000	19,000	18,000	
3. Metal Frame Protected	1	21,000	18,000	15,000	12,000					
	2	26,500	23,000	19,500	16,000	N.P.	N.P.	N.P.	N.P.	N.P.
	3	32,000	28,000	24,000	20,000					
	4	37,500	33,000	28,500	24,000					
4. Heavy Timber	1	17,000	14,000	11,000	9,000					
	2	22,000	19,000	16,000	13,500	N.P.	N.P.	N.P.	N.P.	N.P.
	3	27,000	24,000	21,000	18,000					
	4	32,000	29,000	26,000	22,500					
5A. Exterior Masonry Protected	1	15,500	13,500	9,500	8,000					
	2	20,000	17,000	14,000	12,500	N.P.	N.P.	N.P.	N.P.	N.P.
	3	24,500	21,500	18,500	15,500					
	4	29,000	26,000	23,000	19,500					
5B. Exterior Masonry Unprotected	1	14,000	11,500	9,000						
	2	18,000	15,000	12,500	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	3	22,000	19,000	16,000						
	4	26,000	23,000	19,500						
6. Metal Frame Unprotected	1	14,000	11,500	9,000						
	2	18,000	15,000	12,500	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	3	22,000	19,000	16,000						
	4	26,000	23,000	19,500						
7. Wood Frame Protected	1	12,500	7,500	5,500						
	2	16,000	10,000	7,000	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	3	19,000	12,000	8,500						
	4	22,000	14,000	10,000						
8. Wood Frame Unprotected	1	10,000	5,000							
	2	12,000	6,000	N.P.						
	3	14,000	7,000							
	4	16,000	8,000							

N.P. MEANS NOT PERMITTED

TABLE 54.01-2 — ALLOWABLE HEIGHT (STORIES) AND AREA (SQUARE FEET) FOR BUILDINGS COMPLETELY PROTECTED BY AUTOMATIC FIRE SPRINKLER SYSTEM (MAXIMUM GROSS FLOOR AREA PER FLOOR) NOTE: USE FOR ALL BUILDINGS

CLASS OF CONSTRUCTION	BUILDING FRONTAGE STREET EXPOSURE	NUMBER OF STORIES										
		1	2	3	4	5	6	7	8	9	Over 9	
1. Fire-resistive Type A stories and area may be unlimited subject to s. Comm 54.01 (5) (b)	1											NO LIMIT
	2											
	3											
	4											
2. Fire-resistive type B 1 to 9 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		69,000	60,000	51,000	42,000	33,000	27,000	21,000	18,000		N.P.
	2	NO	85,500	75,000	66,000	55,500	46,500	39,000	33,000	30,000		
	3	LIMIT	102,000	93,000	81,000	69,000	60,000	51,000	45,000	42,000		
	4		118,500	111,000	96,000	82,500	73,500	63,000	57,000	54,000		
3. Metal frame protected 1 to 5 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		84,000	63,000	54,000	45,000	36,000	N.P.	N.P.	N.P.	N.P.	N.P.
	2		106,000	79,500	69,000	58,500	48,000					
	3		128,000	96,000	84,000	72,000	60,000					
	4		150,000	112,500	99,000	85,500	72,000					
4. Heavy Timber 1 to 3 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		68,000	51,000	42,000	33,000	27,000	N.P.	N.P.	N.P.	N.P.	N.P.
	2		88,000	66,000	57,000	48,000	40,500					
	3		108,000	81,000	72,000	63,000	54,000					
	4		128,000	96,000	87,000	78,000	67,500					
5A. Exterior Masonry Protected 1 to 3 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		62,000	46,500	40,500	28,500	24,000	N.P.	N.P.	N.P.	N.P.	N.P.
	2		80,000	60,000	51,000	42,000	37,500					
	3		98,000	73,500	64,500	55,500	46,500					
	4		116,000	87,000	78,000	69,000	58,500					
5B. Exterior Masonry Unprotected 1 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		56,000	42,000	34,500	27,000	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	2		72,000	54,000	45,000	37,500						
	3		88,000	66,000	57,000	48,000						
	4		104,000	78,000	69,000	58,500						
6. Metal Frame Unprotected 1 story area may be unlimited subject to s. Comm 54.01 (5) (b)	1		56,000	42,000	34,500	27,000	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	2		72,000	54,000	45,000	37,500						
	3		88,000	66,000	57,000	48,000						
	4		104,000	78,000	69,000	58,500						
7. Wood Frame Protected	1		50,000	37,500	22,500	16,500	N.P.	N.P.	N.P.	N.P.	N.P.	N.P.
	2		64,000	48,000	30,000	21,000						
	3		76,000	57,000	36,000	25,500						
	4		88,000	66,000	42,000	30,000						
8. Wood Frame Unprotected	1		40,000	30,000	15,000	N.P.						
	2		48,000	36,000	18,000							
	3		56,000	42,000	21,000							
	4		64,000	48,000	24,000							

N.P. MEANS NOT PERMITTED

(5) STREET ACCESS TO BUILDINGS. (a) Streets shall be within 50 feet of the adjacent building side with no obstructions between the street and the building which will impede fire-fighting efforts.

Note: See s. Comm 51.01 (124) for definition of street.

(b) 1. Unlimited area buildings of fire-resistive type 1 construction and one-story unlimited area buildings of fire-resistive type 2 construction shall be provided with street access as defined in s. Comm 51.01 (124) to at least one side of the building.

2. Unlimited area buildings of type 3 through type 6 construction shall have a continuous all-weather, hard-surfaced area 30 feet or more in width for a distance of not less than 50% of the perimeter of the building. These buildings shall have at least one wall facing a street for its entire length. At least 2 of the remaining building walls shall face streets for at least 50% of their respective lengths.

(6) HEIGHT EXCEPTIONS. Rack storage facilities of noncombustible construction protected with automatic fire sprinkler systems installed in accordance with NFPA No. 231C — Standard for Rack Storage of Materials, may be of unlimited height.

(7) PUBLIC MAUSOLEUM CONSTRUCTION. Public mausoleum structures shall be constructed in accordance with s. Comm 51.03 and mausoleum spaces shall be constructed of reinforced concrete.

History: 1-2-56; am. (2) and (3), Register, September, 1959, No. 45, eff. 10-1-59; am. (3), Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (3), eff.

8-1-71 and exp. 1-1-72; cr. (3) eff. 1-1-72, Register, July, 1971, No. 187; r. and recr. (1) and (2), Register, June, 1972, No. 198, eff. 1-1-73; r. and recr. (2) and (3), Register, September, 1973, No. 213, eff. 10-1-73; cr. (2) (a) 2. a, Register, December, 1977, No. 264, eff. 1-1-78; am. (2) (b) 2. a. and (2) (c), cr. (4), Register, November, 1978, No. 276, eff. 1-1-79; am. (3), Register, January, 1980, No. 289, eff. 2-1-80; r. and recr. table, am. (2) (b) 2. and (3), Register, December, 1981, No. 312, eff. 1-1-82; reprinted to correct errors in Table 54.01 and (2) (b) 2., Register, February, 1982, No. 314; am. (3), Register, December, 1983, No. 336, eff. 1-1-84; renum. (2) (a) and (c) to be (2) (a) 1. and (d), (2) (a) 2. renum. and am. from ILHR 54.23, am. (2) (b) 1. and 2., r. and recr. (2) (b) 3., cr. (2) (c), Register, August, 1985, No. 356, eff. 1-1-86; emerg. r. and recr. (1) to (4), cr. (5) and (6) and tables 54.01-1 and 54.01-2, r. table 54.01, eff. 9-6-86; r. and recr. (1) to (4), cr. (5), (6) and tables 54.01-1 and 54.01-2, r. table 54.01, Register, November, 1986, No. 371, eff. 12-1-86; am. (4) (a) 1. d., Register, March, 1991, No. 423, eff. 4-1-91; cr. (7), Register, March, 1992, No. 435, eff. 4-1-92; renum. (5) (b) 1. and 2. to be 2. and 1. and am. 2., Register, January, 1994, No. 457, eff. 2-1-94; r. (2) (c), Register, March, 2000, No. 531, eff. 4-1-00.

Comm 54.02 Number and location of exits. (1) NUMBER OF EXITS. Every building and every floor level thereof shall have at least 2 exits.

(2) EXCEPTIONS. One exit will be permitted in the following conditions:

(a) Floor levels used entirely for storage in buildings 2 stories or less in height and not over 3,000 square feet gross area per floor.

(b) Interior balconies or mezzanine floors not over 3,000 square feet gross area used entirely for storage.

(c) Open interior balconies or open mezzanine floors not over 750 square feet gross area used for purposes other than nonoccupied storage.

(d) One-story office buildings, without a basement or mezzanine, having a gross floor area, per floor, of not more than 1,800 square feet. Only one office operation per floor level shall be permitted. The single exit from the first floor or ground floor(s) shall be an outside exit serving only that floor level.

(e) Retail establishments not over 750 square feet net area, provided there are 2 directions for exiting from the entrance door of the store.

(f) Enclosed interior mezzanine floors, not over 750 square feet gross area, that are used for office space, where the distance to the exit is no more than 100 feet in an unsprinklered building, or no more than 150 feet in a building completely protected by an approved automatic sprinkler system, provided:

1. Each wall facing the lower level is a minimum of 30% glazed with vision panels; and
2. Smoke detection in accord with NFPA 72, or an equivalent system acceptable to the department, is provided to all parts of the building within 100 feet of the mezzanine, with the detectors on the main floor and a horn in the mezzanine level.

(3) OFFICE SUITE EXITING. One exit or exit access may be permitted from office suites having a floor area of not more than 1,800 square feet net area, provided there are 2 directions for exiting from the exit or exit access from the suite, and provided the exit distance within the suite, to the exit or exit access from the suite, does not exceed 75 feet in an unsprinklered building, or 100 feet in a completely sprinklered building.

Note: See Appendix A for further explanatory material.

(4) EXIT DISTANCE. (a) Exits shall be distributed or located so that no part of any building within the scope of this chapter will be more than 150 feet distant from an exit.

Note: See Appendix A for further explanatory material.

(b) Where an approved automatic fire sprinkler system is provided throughout the building, an increase in exit distance to 200 feet will be permitted for mercantile buildings and an increase in exit distance to 300 feet will be permitted in all other buildings within the scope of this chapter, except high hazard buildings.

(c) Buildings having contents which are liable to burn with extreme rapidity or from which poisonous fumes may be liberated or explosions occur in case of fire, shall have exits provided so that the maximum distance to exit is limited to 75 feet.

Note: See s. A52.011 of Appendix A for further information relating to "high hazard" occupancies.

(d) All of the above distances shall be measured along public passageways and aisles.

Note: Also see s. Comm 54.08 (1) for alternate exit distance provisions.

(5) EXIT DISTRIBUTION. Exits in all buildings of this classification shall be so located and distributed so as to afford the best possible egress.

History: 1-2-56; cr. (1) (c), Register, September, 1959, No. 45, eff. 10-1-59; am. (1) (b), Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (1) (b) eff. 8-1-71 and exp. 1-1-72, and cr. (1) (b) eff. 1-1-72, Register, July, 1971, No. 187; am. (1), Register, September, 1973, No. 213, eff. 10-1-73; r. and recr. Register, December, 1978, No. 276, eff. 1-1-79; am. (4), Register, January, 1980, No. 289, eff. 2-1-80; am. (4), Register, December, 1981, No. 312, eff. 1-1-82; emerg. am. (4) (b), eff. 9-6-86; am. (4) (b), Register, November, 1986, No. 371, eff. 12-1-86; cr. (2) (f) am. (3), Register, January, 1994, No. 457, eff. 2-1-94; am. (2) (f) 2., Register, February, 1999, No. 518, eff. 3-1-99.

Comm 54.03 Type of exits. (1) At least one-half of the exits required in accordance with s. Comm 54.02 shall be stairways or standard exits to grade as specified in ss. Comm 51.15 to 51.18. The other exits shall be either stairways, standard exits, or horizontal exits as specified in s. Comm 51.19, or fire escapes as specified in s. Comm 51.20. A fire escape will not be accepted as a required exit for any building level more than 5 stories or 55 feet above grade. An outside wooden stairway may be used as an exit for a 2-story building.

(a) *Exception.* The width of required exit stairways serving unoccupied areas (i.e., storage areas, equipment mezzanines and similar areas) not exceeding 750 square feet may be reduced to 3 feet 0 inches.

(b) *Exception.* Less than 3 risers may be used to elevated work stations (such as pharmacy floors, computer floors and similar areas) or to altars, podiums and similar areas, not in a required exit passageway.

(c) *Exception.* A spiral stairway may be used as a nonrequired convenience stairway in addition to all other required exit stairways in places of employment.

(d) *Exception.* A rescue platform (exterior balcony) of combustible construction may be used as a required second exit for buildings of type 5, 6, 7 and 8 construction, provided all of the following conditions are satisfied:

1. The exit serves 8 or less people;
2. The exit platform is located not more than 15 feet above the adjacent exit discharge grade;
3. The platform area is at least 14 square feet, with a minimum dimension of 3 feet;
4. The platform is designed for 80 pounds per square foot live load plus dead load;
5. Railings are provided in accordance with the provisions of s. Comm 51.162;
6. Platforms having solid floors are provided with a roof equal in area to that of the platform;
7. All wood used in the construction of the rescue platform shall be pressure treated wood satisfying the requirements of the applicable standards specified in s. Comm 53.63 (6) unless the wood is inherently resistant to decay; and
8. The exit door to the platform is not less than 2 feet 6 inches in width.

(2) Every building which will accommodate more than 50 persons above the second story shall have at least 2 stairways.

(3) Wherever stairways are required under this classification, ramps with a slope not greater than one foot in 8 feet may be substituted. Ramps shall comply with all the requirements for stairways as to construction, enclosures, width, landing and lighting, and shall be surfaced with an approved non-slip material.

History: 1-2-56; am. (1), Register, December, 1974, No. 228, eff. 1-1-75; cr. (1) (a) to (d), eff. 1-1-78; am. (1) (b), Register, December, 1978, No. 276, eff. 1-1-79; am. (1) (d) 5. and (3), Register, January, 1980, No. 289, eff. 2-1-80; am. (1) (d) (intro.) 5. and 6., cr. (1) (d) 7., Register, December, 1983, No. 336, eff. 1-1-84; am. (1) (d) (intro.), 6. and 7., cr. (1) (d) 8., Register, March, 1991, No. 423, eff. 4-1-91; am. (1) (d) (intro.), Register, January, 1994, No. 457, eff. 2-1-94; am. (1) (d) 2., Register, March, 1995, No. 471, eff. 4-1-95; correction in (1) (d) 7. made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1998, No. 513.

Comm 54.04 Required exit width. (1) The total required exit width from a building level shall be in accordance with the requirements of ss. Comm 51.15 (6) and 51.16 (3).

(2) Standard fire escapes (s. Comm 51.20) may be substituted for stairways to the extent of not more than 1/3 of the required total width, subject to the provision of s. Comm 54.02.

(3) Horizontal exits in accordance with the requirements of s. Comm 51.19 may provide up to one-half of the required exit width for any floor, subject to the provisions of s. Comm 54.02.

History: 1-2-56; am. (1) (a) and (b) and (3) (a) and (b), Register, June, 1972, No. 198, eff. 1-1-73; r. and recr. (1) and (3), r. (4), Register, December, 1974, No. 228, eff. 1-1-75.

Comm 54.05 Capacity of buildings. (1) In calculating the aggregate width of exits, the capacity of a building shall be established as follows:

- (a) Stores, first floor and basement ---- 30 sq. ft. per person
- (b) Stores, second floor and above ---- 60 sq. ft. per person
- (c) Dining rooms, cafes, taverns, etc. -- 10 sq. ft. per person
- (d) Places of seated assemblage ----- 7 sq. ft. per person
- (e) Warehouses ----- 300 sq. ft. per person
- (f) Factories and offices ----- 75 sq. ft. per person

(g) Swimming pool rooms -----10 square feet per person for deck area.

(2) The above figures are based on the net area of each occupied space. Where dining rooms, cafes, dance halls and places of seated assemblage accommodate more than 100 persons, see s. Comm 55.01.

(3) In other occupancies not specified above, the capacity shall be determined by the actual number of persons liable to be accommodated therein and no greater number of persons will be permitted therein.

(4) For determining the number of sanitary fixtures required in all uses covered by this chapter, the number of occupants determined in accordance with subs. (1), (2), or (3) shall be used, unless a different number of occupants is approved by the department or its authorized representative.

History: 1-2-56; cr. (1) (g), Register, January, 1994, No. 457, eff. 2-1-94; am. (1) (intro.), cr. (4), Register, September, 2000, No. 537, eff. 10-1-00.

Comm 54.06 Exit doors. (1) GENERAL. Every door which serves as an exit from a building, public passageway or stairway shall be a standard exit door as specified in s. Comm 51.15, except:

(a) Exit doors serving 25 or fewer persons need not swing in the direction of egress;

(b) Exit access doors serving 25 or fewer persons may be reduced in width to 2 feet 8 inches and may be a sliding or accordion-type door;

(c) Rolling, sliding and overhead types of doors or gates may be used as standard exit doors for tenant spaces in malls provided:

1. The door or gate is equipped with exit hardware in accordance with s. Comm 51.15 (3);

2. The door or gate is counterbalanced such that it can be opened by a force not exceeding 12 pounds, or, if the door or gate is electrically operated, the door is supplied by an emergency power source capable of opening the door or gate;

3. The door or gate is maintained in a fully opened position during the business hours of the tenant space;

4. A security device permitted by s. Comm 51.15 (3) (e) 2. is not engaged when the tenant space is occupied; and

5. Manual, chain hoist operators for the doors or gates are not employed.

(2) ILLUMINATED EXIT SIGNS. Every exit door from each floor level, other than the principal entrance for the building, shall be marked with an exit sign as specified in s. Comm 51.15 (5).

(3) SECURITY GATES. Exterior security gates shall be permitted to protect exterior exit doors in accordance with this subsection.

(a) A security gate may not be closed or locked when the building or portion of the building protected by the security gate is occupied.

(b) When the gate is locked in place the gate shall be visible from the exterior of the building.

(c) A security gate may not be locked over exit doors which serve more than one building occupancy or tenant space.

(d) The locking device for a security gate which requires the use of a key or a combination to open it shall be accessible from the exterior of the building.

(e) The building owner shall send to the local fire department and building inspection department a letter indicating that a security gate is to be installed and maintained in accordance with this section.

(f) The department or its authorized deputies shall have the authority to revoke the use of any security gate for any exterior exit door upon the violation of any one provision specified in pars. (a) to (e).

History: 1-2-56; am. (1), Register, December, 1978, No. 276, eff. 1-1-79; am. Register, January, 1980, No. 289, eff. 2-1-80; am. Register, December, 1983, No. 336, eff. 1-1-84; r. and recr. Register, March, 1991, No. 423, eff. 4-1-91.

Comm 54.07 Exit access. (1) Where there is not direct access to an exit or exits from an area within a building, exit access corridors, passageways, or aisles shall be provided to lead to the exit or exits.

(2) (a) The width of a corridor, passageway or aisle which provides access to an exit shall be at least:

1. Three feet, if the corridor, passageway or aisle serves a space with an occupant load not greater than 25 persons; and

2. Three feet 8 inches, if the corridor, passageway or aisle serves a space with an occupant load greater than 25 persons.

(b) The width of a corridor, passageway or aisle which provides egress from an exit shall be at least as wide as the required width for the exit served, as determined under ss. Comm 51.15 (6) and 51.16 (3).

(3) (a) The width of a corridor, passageway, or aisle which provides access to or egress from an exit shall be determined at the narrowest point produced by any projection or other similar object or obstruction.

(b) The required width of a corridor, passageway, or aisle which provides access to or egress from an exit as determined under this section shall be maintained clear and unobstructed at all times.

Note: See ch. Comm 69 for corridor widths to accommodate the physically disabled.

History: 1-2-56; am. Register, December, 1981, No. 312, eff. 1-1-82; r. and recr. Register, March, 1991, No. 423, eff. 4-1-91.

Comm 54.08 Enclosure of stairways and shafts.

(1) (a) Except as provided in par. (b), all stairways including landings, ramps and shafts, shall be enclosed as specified in s. Comm 51.02 (11).

(b) 1. The stairways or shafts connecting one floor level with another floor level immediately adjacent to it may be left unenclosed where the distance to an exit from the area served by the open stairway including the horizontal travel distance on the exit access stair, does not exceed 100 feet in buildings not completely protected by an approved automatic sprinkler system or 150 feet in buildings completely protected by an approved automatic sprinkler system; or

2. Any stairway or shaft connecting the second floor, first floor and basement or ground floor shall be separated at the first floor level or first adjacent basement or ground floor level with fire resistive construction as specified in Table 51.03-A or better in buildings 2 stories or less in height, and where the distance to an exit from the area served by the open stairway including the horizontal travel distance on the exit access stair, does not exceed 100 feet in buildings not completely protected by an approved automatic sprinkler system or 150 feet in buildings completely protected by an approved automatic sprinkler system.

(2) All doors opening into such enclosures shall be as specified in s. Comm 51.047, and all windows shall be of wired glass and metal frames and sash.

Note: See ch. Comm 18 for requirements governing the installation and operation of elevators.

History: 1-2-56; am. (1) (a), (b), (c), (d) and (2), Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (1) (a), (b), (c), (d) and (2) eff. 8-1-71 and exp. 1-1-72; cr. (1) (a), (b), (c), (d) and (2) eff. 1-1-72, Register, July, 1971, No. 187; r. and recr. (1), Register, June, 1972, No. 198, eff. 1-1-73; am. (3), Register, December, 1977, No. 264, eff. 1-1-78; r. (3), Register, December, 1978, No. 276, eff. 1-1-79; am. (1), Register, January, 1980, No. 289, eff. 2-1-80; am. (1), Register, October, 1982, No. 322, eff. 11-1-82; am. (1) (b), Register, December, 1983, No. 336, eff. 1-1-84; r. and recr. (1) (b) 1., Register, March, 1991, No. 423, eff. 4-1-91.

Comm 54.10 Trap doors and floor openings. Every opening through any floor or through any roof used by the public or by employees shall be guarded by a substantial enclosure or rail not less than 3 feet 6 inches high. Floor openings in buildings of more than 2 stories, unless enclosed with fire-resistive enclosures as specified in s. Comm 54.08 shall be protected by fire-resistive doors as specified in s. Comm 51.047.

History: 1-2-56; am. Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. eff. 8-1-71 and exp. 1-1-72; cr. Register, July, 1971, No. 187, eff. 1-1-72.

Comm 54.105 Toeboards. A toeboard shall be provided at the exposed edges of all elevated platforms, walks, balconies, mezzanines, ramps and floor openings to prevent the fall of materials where the elevation difference is greater than 5 feet. The toeboard shall extend 4 inches above the finished floor. Where material is stockpiled to a height where the toeboard does not provide adequate protection, additional measures shall be taken to prevent the fall of materials.

(1) EXCEPTION. Toeboards are not required on stairways or ramps and their landings or platforms.

History: Cr. Register, December, 1981, No. 312, eff. 1-1-82.

Comm 54.11 Lighting. (1) (a) All stairways, fire escapes and exits, and the passageways leading thereto when used at night, shall be properly illuminated to facilitate egress. The intensity of illumination shall be as specified in ch. Comm 73.

(b) The level of intensity of illumination for fire escapes may be reduced to 2.5 foot candles.

(2) All gas jets or gas lights in factories or workshops where combustible material is used, shall be properly enclosed by globes

or wire cages, or otherwise properly guarded.

History: 1-2-56; am. (1), Register, August, 1985, No. 356, eff. 1-1-86; am. (1) (a), Register, January, 1994, No. 457, eff. 2-1-94; correction made in (1) (a) under s. 13.93 (2m) (b) 7., Stats., Register, December, 1995, No. 480; correction in (1) (a) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1998, No. 513.

Comm 54.12 Sanitary facilities. (1) GENERAL. The occupancies included under the scope of this chapter shall be provided with toilet rooms as outlined in this section.

(a) The toilet rooms shall be available for all occupants and employees during all hours of operation, except as provided in subs. (2) (b) 4. and (f) 2. b., and shall be located as specified in sub. (2).

(b) Toilet rooms for employees shall be accessible and convenient during all hours of operation.

(c) Sanitary fixtures for the public shall be provided using Table 54.12-A. Sanitary fixtures for employees shall be provided using Table 54.12-B.

Note: Chapter Comm 90 also has requirements for minimum numbers of sanitary fixtures for a public swimming pool, as based on the pool area. For some buildings, the minimum number of sanitary fixtures determined in that manner may be larger than the minimum number determined in accordance with this paragraph. Compliance with this paragraph does not relieve an owner from complying with ch. Comm 90.

**TABLE 54.12-A
NUMBER OF SANITARY FIXTURES REQUIRED FOR PATRONS/OCCUPANTS FOR PUBLIC BUILDINGS**

Number of Patrons/ Occupants of Each Sex ²	Type of Fixture ¹				
	Water Closets (WC)		Urinals (U)	Drinking Facilities (DF)	Lavatories ³ (L)
Males (M)	Females (F)				
1- 100	1	1	0		
101- 200	1	2	1		
201- 250	1	3	2	One (DF) for each 150 occupants or fraction up to 600	One (L) for each 2 fix- tures (WC) or (U) required or fraction
251- 300	1	4	2		
301- 350	2	5	2		
351- 400	2	6	2		
401- 450	2	7	3		
451- 500	2	8	3		
501- 600	2	9	4		
Over 600	One (WC) for each additional 600 (M) or 275 (F) or fraction		One (U) for each addi- tional 500 (M) or fraction	One additional (DF) for each additional 3000 occupants or fraction	
Swimming Pools					
1- 50	1	2	1	1	1

¹Showers shall be provided for public swimming pool facilities as required by ch. Comm 90, and for occupants exposed to occupational hazards such as poisonous, infectious or irritating materials.

²The determination of the number of each sex shall be based on an equal number of each sex unless other information is made available to the department and accepted. Where a single toilet room designated as UNISEX is provided, it shall be considered as accommodating no more than 10 employees or 25 patrons/occupants. In determining the number of sanitary fixtures, including showers, employees shall be counted as patrons.

³A minimum of one lavatory shall be provided in each toilet room.

Note: For structures with additions or alterations, the required number of sanitary fixtures shall be the sum of the fixtures required for the existing portion at the time it was constructed plus the fixtures required by this table for the new addition or altered area. At such time as the summation of the addition and alteration area is equal to or greater than 51% of the building area calculated as specified in s. Comm 50.03 (4) (d), fixtures shall be provided in conformance to this table utilizing the capacity of the entire building.

Note: See chapter Comm 69 for the percentage and design of accessible drinking facilities.

**TABLE 54.12-B
NUMBER OF SANITARY FIXTURES REQUIRED FOR EMPLOYEES FOR PUBLIC BUILDINGS**

Number of Employees of Each Sex ²	Water Closets (WC)			Urinals (U)	Drinking Facilities (DF)	Lavatories ³ (L)	Showers (S)
	Males (M)	Females (F)					
0- 15	1	1		0			
16- 35	1	2		1	One (DF) for each 100 employees, or fraction	One (L) for each 2 fixtures (WC) or (U), or fraction	One (S) for each 10 employees of each sex, or fraction
36- 55	2	3		1			
56- 80	2	4		2			
81-110	3	5		2			
111- 150	4	6		2			
151- 200	5	8		3			
201- 250	6	9		3			
Over 250	One (WC) for each additional 55 (M) or fraction; one (WC) for each additional 15 (F) or fraction			One (U) for each additional 75 (M) or fraction			

¹Showers shall be provided in public pool facilities and for employees exposed to occupational hazards such as poisonous, infectious or irritating materials.

²The determination of the number of each sex shall be based on equal number of each sex unless other information is made available to the department and accepted. Where a single toilet room designated as UNISEX is provided, it shall be considered as accommodating no more than 10 employees and 25 occupants.

³A minimum of one lavatory shall be provided in each toilet room.

Note: For structures with additions or alterations, the required number of sanitary fixtures shall be the sum of the fixtures required for the existing portion at the time it was constructed plus the fixtures required by this table for the new addition or altered area. At such time as the summation of the addition and alteration area is equal to or greater than 51% of the building area calculated as specified in s. Comm 50.03 (4) (d), fixtures shall be provided in conformance to this table utilizing the capacity of the entire building.

Note: As illustrated in the following two examples, fixtures must be provided based on the greater number that is determined by comparing occupants and employees against both Tables 54.12-A and 54.12-B. When referring to Table 54.12-A, employees are considered occupants.

Example 1: Mercantile building with 300 patrons and 50 employees = 350 total occupants; equally divided between sexes = 175 males, 175 females. From Table 54.12-A, 101-200 occupants of each sex: males require one water closet, one urinal, one lavatory; females require 2 water closets, one lavatory. Check for compliance with Table 54.12-B for employees: 50 employees, equally divided between sexes = 25 males, 25 females; 16-35 employees of each sex, males require one water closet, one urinal, one lavatory; females require 2 water closets, one lavatory. Therefore, the number of fixtures required by Table 54.12-A also satisfies the requirements of Table 54.12-B for employees and governs.

Example 2: Office building with 300 employees and 50 patrons = 350 total occupants; equally divided between sexes = 175 males, 175 females. From Table 54.12-A, 101-200 occupants of each sex: males require one water closet, one urinal, one lavatory; females require 2 water closets, one lavatory. Check for compliance with Table 54.12-B for employees: 300 employees, equally divided between sexes = 150 males, 150 females; 111-150 employees of each sex, males require 4 water closets, 2 urinals, 3 lavatories; females require 6 water closets, 3 lavatories. Therefore, the number of fixtures required by Table 54.12-B for employees is more restrictive and governs.

Note: See also rules of the department of health and family services for sanitary fixtures for mobile home parks, camping grounds, camping resorts, recreational camps and educational camps.

Note: See chapter Comm 69 for the percentage and design of accessible drinking facilities.

(2) TOILET ROOMS. (a) *Factories, office and mercantile buildings.* All factories, office and mercantile buildings shall be provided with separate toilet rooms for each sex.

(b) *Exceptions.* 1. Where not more than 10 employees and 25 patrons are accommodated, one toilet room to accommodate both sexes shall be provided. The door of the toilet room shall be equipped with an operating lock to ensure privacy.

2. Separate toilet rooms for employees and the general public need not be provided if the toilet rooms are accessible to both employees and the general public during all hours of operation. If the toilet rooms are accessible only through the employee work area, separate toilet rooms shall be provided for the general public.

3. Buildings and structures which provide service to people in automobiles, such as drive-in bank teller booths, photography and film service booths, or parking lot attendant booths, but not including drive-in restaurants, shall not be required to provide toilet rooms, provided that a written statement is submitted to the department verifying that convenient toilet facilities are available during all shifts and periods of operation. Toilet rooms are not required for mobile crews or in unattended buildings, provided the employees have access to convenient toilet facilities during all hours of operation.

4. Toilet rooms may be omitted in a small retail or mercantile building where all of the following requirements are met:

- No more than 25 occupants are accommodated.
- Other restrooms are conveniently located and available to the patrons and employees during all hours of operation.
- The omission is approved in writing by the local unit of government.
- A copy of the written approval from the local unit of government is provided to the department or its authorized representative upon request.

(c) *Shopping centers and shopping malls.* 1. General public. Separate toilet rooms for each sex shall be provided for use by the general public in all shopping centers and shopping malls. The toilet rooms may be located in the public mall or in individual tenant spaces provided the toilet rooms are available during all hours of operation and located as specified in par. (b) 2. A minimum of one set of toilet rooms shall be provided for the general public.

2. Tenant spaces and employees. a. Separate toilet rooms for each sex shall be provided for the employees in each individual tenant space. In tenant spaces which accommodate not more than 10 employees, one toilet room to accommodate both sexes may be provided. For an individual tenant space or an individual booth within the public mall with a net area of 750 square feet or less, toilet rooms for the employees need not be provided if the employees have access to convenient public toilet rooms located in the public mall during all hours of operation.

b. Toilet rooms for other use groups which may also be included in shopping centers or shopping malls shall be provided as specified in sub. (2) (e) and s. Comm 55.32.

Note: The department recommends that public toilet rooms in shopping centers and shopping malls be conveniently located for patron use and that the travel distance between sets of public toilet rooms be less than 400 feet. A set of public toilet rooms means one toilet room for each sex.

(d) *Places of worship and mausoleums.* 1. Places of worship. Places of worship which are included under this chapter shall be provided with separate toilet rooms for each sex.

2. Mausoleums. Sanitary facilities are not required for unheated worship areas of mausoleums without fixed seating or for mausoleums within cemeteries where public sanitary facilities for each sex are provided within the cemetery.

(e) *Places for entertainment, recreation and dining.* 1. Restaurants, taverns, and places for entertainment and recreation which are included under the scope of this chapter shall be pro-

vided with separate toilet rooms for each sex. Separate toilet rooms for employees and the general public need not be provided if the toilet rooms are accessible to both employees and the general public during all hours of operation.

2. For mixed-use facilities, such as a dinner theater, the number required for the restaurants apply.

Note: See rules of the department of health and family services, ch. HFS 196—Restaurants, for supplementary requirements for toilet room facilities in restaurants.

(f) *Garages, service stations and filling stations.* Toilet rooms shall be provided as outlined in this paragraph.

1. Garages. Separate toilet rooms for each sex shall be provided in all service and repair garages, body shops, automobile tire and battery shops, and buildings of similar use, except that a single toilet room to accommodate both sexes may be provided in buildings which accommodate not more than 10 employees and 25 patrons. If toilet rooms are accessible to both employees and patrons during all hours of operation, separate toilet rooms for employees and patrons need not be provided.

2. a. Service stations and filling stations. Separate toilet rooms for each sex shall be provided in service stations and filling stations, including self-service stations. If toilet rooms are accessible to both employees and patrons, separate toilet rooms for employees and patrons need not be provided.

b. A self-service filling station that has a key- or card-operated fuel dispensing device which can be used while the station is unattended by an employee is not required to have toilet rooms available during the unattended periods.

(g) *Airports, bus terminals, train stations and other transportation centers.* All airports, bus terminals, train stations and other transportation centers shall be provided with separate toilet rooms for each sex as required in Table 54.12-A.

(3) SANITARY FIXTURES. (a) *General.* In public buildings and places of employment, except as provided in par. (b), the total number of sanitary fixtures required in the building shall be based upon the total number of occupants of the building and shall be determined by using the higher number calculated from Tables 54.12-A and 54.12-B. The total number of occupants will be considered equally divided between males and females unless a different ratio is established by the department.

(b) *Exceptions.* 1. Except as provided in subd. 2., taverns and restaurants shall provide at least one separate toilet room for each sex.

2. Restaurants providing seating for 15 or less occupants, one toilet room having at least one water closet (WC) and one lavatory (L) may be provided to accommodate both sexes. The door of the toilet room shall be equipped with a lock to ensure privacy. If the toilet rooms are accessible to both employees and the general public, separate toilet rooms for employees and the general public need not be provided.

3. Taverns and restaurants accommodating 16 to 50 total occupants, at least one water closet (WC) and one lavatory (L) for each sex shall be provided.

4. Taverns and restaurants accommodating 51 to 100 occupants, at least 2 water closets (WC) and one lavatory (L) for female patrons and at least one water closet (WC), one urinal (U) and one lavatory (L) for male patrons shall be provided.

5. Taverns and restaurants accommodating more than 100 occupants, the number of sanitary fixtures provided shall be as determined by using Table 55.32.

(c) *OSHA regulations.* The ratios for water closets established in Table 54.12-B for employees are taken directly from the U.S. department of labor, occupational safety and health act (OSHA) regulations. Therefore, s. Comm 50.25, petitions for variance, is not applicable to the requirements of Table 54.12-B.

History: 1-2-56; am. (3) (a) and (b), and (6), Register, September, 1959, No. 45, eff. 10-1-59; r. and recr. Register, December, 1976, No. 252, eff. 1-1-77; am. (1) (a) 1., (1) (b) and (e) 1., r. (1) (e) 3., r. and recr. (2), Register, December, 1977, No. 264, eff. 1-1-78; am. (2) (intro.) and (2) (a) 2., Register, December, 1978, No. 276, eff. 1-1-79; r. and recr. table and (2) (a) 1., Register, December, 1981, No. 312, eff.

1-1-82; r. and recr. (2) (a) 1., Register, October, 1982, No. 322, eff. 11-1-82; am. (1) (a) 1. and (e) 1., Register, December, 1983, No. 336, eff. 1-1-84; am. table 54.12 A and B, r. (2) (a) 1. a., renum. (2) (a) 1. intro., b. and c. to be a. d. and e. and am. a., cr (2) (a) 1. b. and c., Register, August, 1985, No. 356, eff. 1-1-86; am. (2) (a) 1. c. and d., r. (2) (a) 2., Register, March, 1991, No. 423, eff. 4-1-91; r. and recr. (1) (c), Register, March, 1992, No. 435, eff. 4-1-92; r. and recr. Register, August, 1993, No. 452, eff. 3-1-94; correction in (3) (c) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1998, No. 513; am. (1) (a) and Table 54.12-A, cr. (2) (b) 4. and (f) 2. b., renum. (2) (f) 2. to be (2) (f) 2. a., Register, September, 2000, No. 537, eff. 10-1-00.

Comm 54.13 Change rooms and lunchrooms.

(1) CHANGE ROOMS. Change rooms equipped with storage facilities for street clothes shall be provided where employees are required to wear protective clothing due to the nature of the employment and where employees are exposed to toxic materials and industrial poisons. Separate storage facilities for street clothes and work clothes shall be provided for employees who work with industrial poisons.

Note: See also ch. HFS 196, Wis. Adm. Code, rules of the department of health and family services, for requirements for dressing rooms and lockers in restaurants.

(2) LUNCHROOMS. A space for eating lunches shall be provided in all places of employment where there is exposure to injurious dusts, toxic material and industrial poisons. Such space shall be physically separate from any location where there is exposure to toxic materials. Toilet rooms shall not be permitted to serve as lunchrooms.

History: Cr. Register, December, 1976, No. 252, eff. 1-1-77.

Comm 54.145 Occupancy separations and hazard enclosures.

Occupancies within the scope of this chapter shall be separated from other occupancies or uses in accordance with s. Comm 51.08. Hazards shall be enclosed in accordance with s. Comm 51.08.

History: Cr. Register, December, 1981, No. 312, eff. 1-1-82; r. and recr. Register, March, 1991, No. 423, eff. 4-1-91; r. and recr. Register, December, 1995, No. 480, eff. 4-1-96; r. and recr. Register, March, 1997, No. 495, eff. 4-1-97.

Comm 54.15 Fire protection systems. (1) SPRINKLER SYSTEMS.

Automatic fire sprinkler systems shall be provided as outlined in ss. Comm 52.01, 52.011, 52.012 and 52.013.

(2) STANDPIPE SYSTEMS. (a) *Fire department standpipes.* Fire department standpipes shall be provided in all buildings exceeding 60 feet in height.

(b) *Dry standpipes.* Dry standpipes as specified under s. Comm 51.21 shall be provided in all buildings 3 stories or more in height in which the floor area of each story is more than 3,000 square feet, unless an approved automatic sprinkler system is installed. First-aid standpipes may be provided in lieu of dry standpipes in factory occupancies.

(3) FIRE EXTINGUISHERS. Portable fire extinguishers shall be provided and maintained as specified in s. Comm 51.22.

History: 1-2-56; renum. from 54.14 and r. and recr. Register, December, 1976, No. 252, eff. 1-1-77; am. (2), Register, December, 1977, No. 264, eff. 1-1-78; emerg. r. and recr. (2), eff. 9-6-86; r. and recr. (2), Register, November, 1986, No. 371, eff. 12-1-86; r. and recr. Register, March, 1991, No. 423, eff. 4-1-91; am. (2) (b), Register, January, 1994, No. 457, eff. 2-1-94; correction in (1) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1998, No. 513.

Comm 54.17 Fire alarms. (1) FACTORY AND WORKSHOP.

Except as provided in sub. (3), a manual fire alarm complying with the requirements of s. Comm 51.24 shall be provided in every factory or workshop where more than 10 persons are employed above the second story.

(2) OFFICE BUILDINGS. Except as provided in sub. (3), a manual fire alarm complying with the requirements of s. Comm 51.24 shall be provided in office buildings complying with either of the following conditions:

(a) Four stories or more in height; or

(b) 15,000 square feet or more on any floor level above or below a floor of exit discharge.

(3) EXCEPTION. The installation of a manual fire alarm system may be omitted in buildings where complete automatic fire sprinkler system protection is provided.

History: 1-2-56; am. Register, June, 1972, No. 198, eff. 1-1-73; renum. from 54.16, Register, December, 1976, No. 252, eff. 1-1-77; r. and recr. Register, Decem-

ber, 1981, No. 312, eff. 1-1-82; emerg. r. and recr., eff. 9-6-86; r. and recr. Register, November, 1986, No. 371, eff. 12-1-86.

Comm 54.18 Floor load signs. (1) In every factory, workshop, warehouse, or other building where material is piled, notices of a permanent character shall be painted or otherwise prominently displayed, stating the live load in pounds per square foot which the floor is designed to carry. Such notices shall be placed in full view, on each floor.

(2) Where floors are always used for the storage of some particular material, the walls shall be marked to the height to which the material shall be piled without exceeding the safe load.

History: 1-2-56; renum. from 54.17, Register, December, 1976, No. 252, eff. 1-1-77.

Comm 54.19 Signs indicating number of persons.

In all buildings of this classification where 50 or more persons are accommodated on any floor above the second, notices shall be prominently displayed stating the maximum number of persons

on each floor for whom stairways and other exits have been provided according to ss. Comm 54.02 to 54.06. Such notices shall be placed in full view, on each floor.

History: 1-2-56; renum. from 54.18, Register, December, 1976, No. 252, eff. 1-1-77.

Comm 54.20 No smoking signs. Smoking shall not be permitted in retail establishments where flammable materials are handled or sold. Suitable signs bearing the words "No Smoking" shall be erected in all places where such hazard exists.

History: 1-2-56; renum. from 54.19, Register, December, 1976, No. 252, eff. 1-1-77.

Comm 54.21 Tents. All tents used for sales or storage purposes shall conform to the requirements specified in ss. Comm 62.42 to 62.51.

History: Cr. Register, September, 1959, No. 45, eff. 10-1-59; renum. from 54.20, Register, December, 1976, No. 252, eff. 1-1-77; am. Register, December, 1981, No. 312, eff. 1-1-82; correction made under s. 13.93 (2m) (b) 7., Register, September, 1998, No. 513.