

**Chapter Ind 54**

**FACTORIES, OFFICE AND MERCANTILE BUILDINGS**

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**Ind 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, warehouses, railroad stations, exhibition buildings, and places where not more than 100 persons assemble for recreation, entertainment, worship, or dining purposes.

**History:** 1-2-56; am. Register, December, 1981, No. 312, eff. 1-1-82.

**Ind 54.01 Construction, height and allowable area.** (1) Buildings in this classification shall be of the type of construction and shall not exceed the number of stories as specified in this section. The floor area of any such building shall not exceed that permitted for the corresponding type of construction and number of stories shown in Table 54.01.

**Note:** See s. Ind 51.03 for standards of classes of construction.

(2) ALLOWABLE INCREASE OF FLOOR AREAS. (a) When the entire building is protected by an approved automatic sprinkler system, the areas in Table 54.01 may be increased by 150% for one-story buildings and 75% for buildings of more than one story. (See example below.)

**Note 1:** See s. Ind 51.23 for approved automatic sprinkler system.

**Note 2:** Example

	<i>(from</i>			<i>(total</i>
	<i>Table 54.01)</i>	<i>+</i>	<i>(if sprinklered)</i>	<i>allowable)</i>
1. One story	10,000 sq. ft.	+	(1.5 X 10,000)	= 25,000 sq. ft.
2. Two or more stories	10,000 sq. ft.	+	(.75 X 10,000)	= 17,500 sq. ft.

(b) There shall be no area restriction in one-story buildings satisfying one of the following conditions:

1. Construction meets the requirements for type No. 3 or 4 and is protected by an approved automatic sprinkler system.

TABLE 54.01  
ALLOWABLE HEIGHT STORIES and AREA (Square Feet)  
(Maximum gross floor area per floor)

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	----- NO RESTRICTION -----								
	2									
	3									
	4									
2. Fire-Resistive Type B -----	1	NO RE-	20,000	17,000	14,000	11,000	9,000	7,000	6,000	
	2	STRIC-	25,000	22,000	18,500	15,500	13,000	11,000	10,000	N.P.
	3	TION	31,000	27,000	23,000	20,000	17,000	15,000	14,000	
	4		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			N.P.		
	2	26,500	23,000	19,500	16,000					
	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			N.P.		
	2	22,000	19,000	16,000	13,500					
	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			N.P.		
	2	20,000	17,000	14,000	12,500					
	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				N.P.		
	2	18,000	15,000	12,500						
	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				N.P.		
	2	18,000	15,000	12,500						
	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				N.P.		
	2	16,000	10,000	7,000						
	3	19,000	12,000	8,500						
	4	22,000	14,000	10,000						
8. Wood Frame Unprotected -----	1	10,000	5,000					N.P.		
	2	12,000	6,000							
	3	14,000	7,000							
	4	16,000	8,000							

Note: N.P. means "not permitted."

2. Construction meets the requirements for type 5 or 6 with all building elements listed in Table 51.03A of noncombustible materials and is protected by an approved automatic sprinkler system.

a. Exception. Nonbearing partitions may be of fire-retardant treated wood or combustible one-hour rated materials. Openings need not be protected by rated fire door or rated fire window assemblies. Class A roof coverings may be used.

3. Construction of floors, walls, roof and structural framing is of noncombustible material and the contents of building are noncombustible.

(c) Buildings with no area limitations 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.

(3) 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. Such fire division walls shall be as specified in s. Ind 51.02 (13). All openings in such walls shall be protected by swinging, sliding or overhead fire-resistive doors as specified in s. Ind 51.047. Doors protecting such openings may be left open if equipped with an automatic closing device activated by smoke density or products of combustion other than heat. 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 a fusible link backup mechanism in addition to the smoke detection release device. Doors used as required exits shall be standard exit doors and shall comply with the requirements of s. Ind 51.19 (2).

(4) 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. (See s. Ind 51.01 (124) for definition of street.)

**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.

**Ind 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.

(3) OFFICE SUITE EXITING. One exit will 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 entrance door of the suite.

(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.

(b) Where approved automatic sprinklers are provided throughout the building, an increase in exit distance to 200 feet will be permitted.

(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.

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

(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.

**Ind 54.03 Type of exits.** (1) At least one-half of the exits required in accordance with s. Ind 54.02 shall be stairways or standard exits to grade as specified in ss. Ind 51.15-51.18. The other exits shall be either stairways, standard exits, or horizontal exits as specified in s. Ind 51.19, or fire escapes as specified in s. Ind 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.

\*See Appendix A for further explanatory material.

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**Ind 54.145\* FIRE EXTINGUISHERS.** Portable fire extinguishers shall be provided and maintained as specified in s. Ind 51.22. **FP**

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

**Ind 54.15 Standpipes.** (1) **FIRE DEPARTMENT STANDPIPES.** Fire department standpipes shall be provided in all buildings exceeding 60 feet in height. **FP**

(2) **FIRST-AID STANDPIPES.** First-aid standpipes 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 the floor area is divided with noncombustible 0-hour or 3/4-hour or better rated partitions into areas of 3,000 square feet or less, or unless an approved automatic sprinkler system is installed.

**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.

**Ind 54.16 Automatic sprinklers.** (1) A complete automatic sprinkler system, as specified in s. Ind 51.23, shall be provided in every building of this classification where more than 50 persons are employed or accommodated above the third story except as provided below: **FP**

(a) Office buildings.

(b) In 3 story buildings other than office buildings with more than 50 persons on the third floor, only basements and sub-basements must be sprinklered.

(c) An office building in which one or more floors are used for mercantile purposes, only the mercantile portion must be sprinklered.

(d) Buildings of type 1 and 2 construction whose contents are not readily combustible.

**History:** 1-2-56; r. and recr., Register, December, 1970, No. 180, eff. 1-1-71; am. (1) (d), Register, June, 1972, No. 198, eff. 1-1-73; renum. from 54.15, Register, December, 1976, No. 252, eff. 1-1-77.

**Ind 54.17 Fire alarms.** (1) **FACTORY AND WORKSHOP.** A manual fire alarm complying with the requirements of s. Ind 51.24 shall be provided in every factory or workshop where more than 10 persons are employed above the second story, except as follows: **FP**

(a) Buildings provided with a complete automatic sprinkler system;  
or

(b) Buildings of fire resistive type 1 or 2 construction whose contents are noncombustible.

(2) **OFFICE BUILDINGS.** A manual fire alarm complying with the requirements of s. Ind 51.24 shall be provided in office buildings complying with either of the following conditions:

(a) Four stories or more in height; or

\*See Appendix A for further explanatory material.

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

**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, December, 1981, No. 312, eff. 1-1-82.

**Ind 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.

**Ind 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. Ind 54.02—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.

**FP Ind 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.

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

**Ind 54.22 Mini-warehouses.** (1) **SCOPE.** This section applies to mini-warehouses.

(2) **CLASS OF CONSTRUCTION.** (a) Mini-warehouses shall be of at least type 8, wood frame unprotected construction.

(3) **CONTENTS.** Storage of hazardous materials or vehicles in mini-warehouses is prohibited. The owner shall submit an affidavit to the department stating that the building will not be used for this purpose.

(4) **NUMBER OF EXITS.** (a) Except as provided in par. (b), 2 exits shall be required from each storage compartment.

(b) One exit is permitted from compartments of 3,000 square feet or less.

(5) **TYPE OF EXITS.** (a) Standard exit doors shall be required from compartments with the capacity of 25 persons or more, using the capacity ratios established in s. Ind 54.05.

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