

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

**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 section 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 section Ind 51.23 for approved automatic sprinkler system.

**Note 2:** Example

	(from table 54.01)	+	(if sprinklered)	=	(total allowable)
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 Type No. 4 and is protected by an approved automatic sprinkler system.

TABLE 54.01  
ALLOWABLE FLOOR AREAS (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									
2. Fire-Resistive Type B -----	1	NO RE-	20,000	17,000	14,000	11,000	9,000	7,000	6,000	N.P.
	2	STRIC-	25,000	22,000	18,500	15,500	13,000	11,000	10,000	
	3	TION-	31,000	27,000	23,000	20,000	17,000	15,000	14,000	
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. 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					
5. Exterior Masonry-----	1	14,000	11,500	9,000	7,000	N.P.				
	2	18,000	15,000	12,500	10,000					
	3	22,000	19,000	16,000	13,000					
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						
7. Wood Frame Protected-----	1	12,500	7,500	N.P.						
	2	16,000	10,000							
	3	19,000	12,000							
8. Wood Frame Unprotected -----	1	10,000	5,000	N.P.						
	2	12,000	6,000							
	3	14,000	7,000							

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

2. Construction meets the requirements for Type No. 5 or 6 of totally noncombustible construction 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.

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

**Note:** Built-up roofs, including those having a class A rating, are considered combustible and do not meet the requirements of this section.

(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 section Ind 51.02 (13). All openings in such walls shall be protected by swinging, sliding or overhead fire-resistive doors as specified in section Ind 51.047. Doors protecting such openings may be left open if equipped with an automatic closing device actuated by smoke density or products of combustion other than heat. Doors used as required exits shall comply with the requirements of section Ind 51.19 (2).

(4) Street location. 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 section 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.

**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.

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(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.** Additional exits shall be provided so that no part of any factory, office, mercantile or other building within the scope of this chapter will be more than 100 feet distant from an exit. Where approved automatic sprinklers are provided throughout the building, an increase in exit distance to 150 feet will be permitted. Hazardous occupancies, as specified in sections Ind 54.50-54.52, and 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. All of the above distances shall be measured along public passageways and aisles.

**Note:** The department uses the "triangulation method" to determine exit distance. The use of arcs to determine exit distance does not satisfy the intent of the rule.

(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, December, 1979, No. 288, eff. 1-1-80.

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

(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.

\*See Appendix A for further explanatory material.

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(d) *Exception.* A rescue platform (exterior balcony) of combustible construction may be used as a required second exit for 2-story buildings of Type 7 and Type 8 construction, provided the following conditions are satisfied:

1. The exit serves 8 or less people;
2. The exit platform is located not more than 10 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 section Ind 51.162.
6. Platforms having solid floors are provided with a roof equal in area to that of the platform.

(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), Register, December, 1977, No. 264, 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.

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

(2) Standard fire escapes (section Ind 51.20) may be substituted for stairways to the extent of not more than  $\frac{1}{3}$  of the required total width, subject to the provision of section Ind 54.02.

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

**Ind 54.05 Capacity of buildings.** (1) In calculating the aggregate width of exits, the capacity of the buildings 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

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- (e) Warehouses ----- 300 sq. ft. per person  
 (f) Factories and offices ----- 75 sq. ft. per person

(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 section Ind 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.

**Ind 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 section Ind 51.15.

(a) *Exception.* Exit doors serving rooms or suites accommodating 25 or less persons need not swing in the direction of egress.

(b) *Exception.* Exit doors serving spaces accommodating 10 or less persons may be reduced in width to 2 feet 8 inches and need not swing in the direction of egress.

(2) **ILLUMINATED EXIT SIGNS.** Every exit doorway from each floor, other than the principal entrance on the first floor, shall be indicated by an approved illuminated sign over the door bearing the word EXIT or OUT in plain letters not less than 5 inches in height.

**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.

**Ind 54.07 Passageways.** Where there is not direct access to outside exit doors, safe and continuous passageways, aisles or corridors leading directly to every exit shall be maintained at all times on all floors of all buildings. Every passageway, aisle or corridor shall conform in width to the rule for width of stairways as specified in section Ind 54.04. Widths shall be measured in the clear, at their narrowest points produced by any projection, radiator, pipe or other object and the required width shall be maintained clear and unobstructed at all times.

**Ind 54.08 Enclosure of stairways and shafts.** (1) All stairways including landings, ramps and shafts, shall be enclosed as specified in section Ind 51.02 (11).

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

**Note:** Elevators and elevator enclosures: For requirements governing the installation and operation of elevators, and the construction and protection of elevator shaftways, see the elevator code, Ind 4.

**Note:** Monumental stairs: see section Ind 51.02 (11) (c).

**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.

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**Ind 54.10 Trap doors and floor openings.** Every opening through any floor or through any roof used by the public or by employes 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 section Ind 54.08 shall be protected by fire-resistive doors as specified in section Ind 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. eff. 1-1-72, Register, July, 1971, No. 187.

**Ind 54.11 Lighting.** (1) 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 not less than 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.

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

(a) *Factories, office and mercantile buildings.* All factories, office and mercantile buildings shall be provided with separate toilet rooms for each sex, except as follows:

1. Where not more than 10 employes or 25 patrons are accommodated, one toilet room, shared in common, may be provided if the door of the toilet room is equipped with a lock to ensure privacy.

2. Separate toilet rooms for the employes and the general public need not be provided if the toilet rooms are accessible to both employes and the general public.

3. Toilet facilities need not be provided in 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, provided that a written statement is submitted to the department showing proof that convenient toilet facilities are available during all periods of operation. The requirement for toilet facilities is also waived for mobile crews and for unattended buildings, provided the employes have access to available toilet facilities.

(b) *Shopping centers.* In shopping centers, separate toilet rooms for each sex shall be provided for use by the general public. The toilet rooms may be located in the public mall or in the individual stores. Separate toilet rooms for each sex shall be provided for the employes in each store. In stores which accommodate not more than 10 employes and 25 patrons, one toilet room to accommodate both sexes will be acceptable. A store which has a net area of 750 square feet or less is not required to be provided with toilet rooms for the employes if the employes have access to the public toilet rooms located in the mall.

**Note #1:** The department recommends that public toilet rooms in the mall be conveniently located for patron use and that the travel distance between sets of public toilet rooms be less than 400 feet.

**Note #2:** See sections Ind 54.12 (1) (d) and Ind 55.32 for requirements for toilet rooms for other use groups which may also be included in shopping centers.

(c) *Places of worship.* Places of worship which are included under the scope of this chapter shall be provided with separate toilet rooms for each sex.

(d) *Places for entertainment, recreation and seated dining.* Restaurants, taverns, and places for entertainment and recreation which are included under the scope of this chapter shall be provided with separate toilet rooms for each sex. Separate toilet rooms for employees and the general public are not required.

**Note:** See chapter H 96, rules of the department of health and social services, for supplementary requirements for toilet room facilities in restaurants.

(e) *Garages, service stations and filling stations.* Toilet rooms shall be provided in accordance with the requirements of this subsection.

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, shared in common, may be provided in buildings which accommodate not more than 10 employees or 25 patrons. Separate toilet rooms for employees and patrons need not be provided if toilet rooms are accessible to both employees and patrons.

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

(2) *Sanitary fixtures.* In public buildings and places of employment, except taverns, restaurants, filling stations and service stations, 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 from the ratios established in Table 54.12-A, but in no case shall the ratio of the number of fixtures to the number of employees be less than those specified in Table 54.12-B. The total number of occupants will be considered equally divided between men and women unless a different ratio is approved by the department. The requirements of this section do not apply to the buildings exempt from toilet rooms under Ind 54.12 (1).

(a) *Exceptions:* 1. Taverns and restaurants shall provide at least one toilet room for each sex.

a. Taverns and restaurants accommodating 50 or less total occupants shall provide at least one water closet (WC) and one lavatory (L) for each sex.

b. Taverns and restaurants accommodating more than 50 occupants in total shall provide at least 2 water closets (WC) and one lavatory (L) for the females and at least one water closet (WC), one urinal (U) and one lavatory (L) for the males.

2. Filling stations and service stations shall provide at least one toilet room for each sex. A minimum of one water closet (WC) and one lavatory (L) shall be provided for each sex, but in no case shall the ratio of number of fixtures to number of employes be less than those specified in 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.

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TABLE 54.12-A  
NUMBER OF FIXTURES REQUIRED FOR OCCUPANTS

Number of Occupants	Type of Fixture					
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Showers (S) <sup>1</sup>	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)			
1- 200 occupants	1	1	0	One (L) for each 2 (WC) and/or (U), or fraction	None required	One (DF) for each 150 occupants up to 600
201- 400 occupants	1	2	1			
401- 600 occupants	1	3	2			
601- 800 occupants	2	4	2			
801-1000 occupants	2	5	3			
1001-1200 occupants	2	6	4			
Over 1200 occupants	One (WC) for each additional 600 (M), or fraction	One (WC) for each additional 275 (F), or fraction	One (U) for each additional 500 (M), or fraction			One additional (DF) for each additional 3000 occupants

<sup>1</sup>Showers shall be provided in public pool facilities and for occupants exposed to occupational hazards such as poisons, infectious or irritating materials.

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**TABLE 54.12-B  
NUMBER OF FIXTURES REQUIRED FOR EMPLOYES**

Number of Employees	Type of Fixture					
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Showers (S) <sup>1</sup>	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)			
0- 15 employes of each sex	1	1	0	One (L) for each 2 (WC) and/or (U), or fraction	One (S) for each 10 employes of each sex, or fraction	One (DF) for each 100 employes, or fraction
16- 35 employes of each sex	1	2	1			
36- 55 employes of each sex	2	3	1			
56- 80 employes of each sex	2	4	2			
81-110 employes of each sex	3	5	2			
111-150 employes of each sex	4	6	2	One additional fixture for each additional 40 employes of each sex; 2/3 of the additional water closets for males may be urinals.		
Over 150 employes of each sex						

<sup>1</sup>Showers shall be provided in public pool facilities and for employes exposed to occupational hazards such as poisons, infectious or irritating materials.

**Note #1: Examples:** Example #1: Mercantile building with 300 patrons and 50 employes = 350 total occupants; equally divided between sexes = 175 males, 175 females. From Table 54.12-A, 201-400 total occupants: 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 employes: 50 employes, equally divided between sexes = 25 males, 25 females; 16-35 employes 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 employes and governs.

Example #2: Office building with 300 employes and 50 patrons = 350 total occupants; equally divided between sexes = 175 males, 175 females. From Table 54.12-A, 201-400 total occupants: 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 employes: 300 employes, equally divided between sexes = 150 males, 150 females; 111-150 employes 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 employes is more restrictive and governs.

**Note #2:** The ratios established in Table 54.12-B for employes are taken directly from the U.S. Department of Labor, Occupational Safety and Health Act (OSHA) regulations. Therefore, section Ind 50.25, petitions for modification, is not applicable to the requirements of this table.

**Note #3:** See also rules of the department of health and social services for sanitary fixtures for public swimming places, mobile home parks, camping grounds, camping resorts, recreational camps and educational camps.

**Note #4:** See Wis. Adm. Code Ch. Ind 1000-2000—Wis. Safety and Health Code, for additional washing facilities required in places of employment where environmental hazards are present.

**Ind 54.13 Change rooms and lunchrooms.** (1) **CHANGE ROOMS.** Change rooms equipped with storage facilities for street clothes shall be provided where employes are required to wear protective clothing due to the nature of the employment and where employes are exposed to toxic materials and industrial poisons. Separate storage facilities for street clothes and work clothes shall be provided for employes who work with industrial poisons.

**Note:** See also chapter H 96, rules of the department of health and social 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.

**Ind 54.14 Isolation of hazards.** (1) All heating boilers and furnaces, power boilers, fuel rooms, storage vaults for paints, oils, and similar combustibles and other similar hazards in a building shall be isolated from the rest of the building by at least a 2-hour fire-resistive enclosure as specified in section Ind 51.04; except that in buildings not more than 2 stories in height and having a floor area of not more than 3,000 square feet per floor, a 1-hour fire-resistive enclosure as specified in section Ind 51.04, or better, shall be provided.

(2) All openings shall be protected with self-closing fire-resistive doors as specified in section Ind 51.047.

(3) Fuel-fired space heaters, suspended furnaces, and vented and unvented unit heaters may be used without an enclosure where approved by the department. Where suspended furnaces and vented and unvented unit heaters are used without an enclosure, all such units shall be located at least 7 feet above the floor.

(a) *Exception.* The rated enclosure for heating equipment in factories may be omitted if the burner of the equipment is located at least 7 feet off the floor and the equipment is protected from physical damage (see Table 64.21).

**History:** 1-2-56; am. (1) and (2), Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (1) and (2) eff. 8-1-71 and exp. 1-1-72; cr. (1) and (2) eff. 1-1-72, Register, July, 1971, No. 187; renum. from 54.13, Register, December, 1976, No. 252, eff. 1-1-77; am. (3), Register, December, 1978, No. 276, eff. 1-1-79.

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

(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.

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**Ind 54.16 Automatic sprinklers.** (1) A complete automatic sprinkler system, as specified in section 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:

(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 No. 1 and No. 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 alarm.** A fire alarm system complying with section Ind 51.24 shall be provided in every factory or workshop where more than 10 persons are employed above the second story except buildings which are provided with a complete automatic sprinkler system and except Type No. 1 and No. 2 buildings whose contents are practically noncombustible.

**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.

**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 sections Ind 54.02—Ind 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.

**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 for tents in sections Ind 62.42—62.51 of this code.

**History:** Cr. Register, September, 1959, No. 45, eff. 10-1-59; renum. from 54.20, Register, December, 1976, No. 252, eff. 1-1-77.

**Ind 54.22 Mini-warehouses and mini-garages.** (1) **SCOPE.** The rules of this section shall apply to mini-warehouse and mini-garage buildings as defined in (2).

(2) **DEFINITIONS.** (a) *Mini-warehouse.* Mini-warehouses are unoccupied compartmentalized warehouse buildings having one or more overhead doors serving each compartment.

(b) *Mini-garage.* Mini-garages are unoccupied compartmentalized storage buildings having one or more overhead doors serving each compartment. The compartments may be used for the storage of equipment having internal combustion engines. (Also see section Ind 54.50.)

(3) **CLASS OF CONSTRUCTION.** (a) *Mini-warehouse.* 1. Mini-warehouses shall be of type 8, wood-frame unprotected construction, or better.

2. Storage of hazardous materials or vehicles is prohibited. The owner shall submit an affidavit to the department to the effect that the building will not be used for this purpose.

(b) *Mini-garages.* Hazardous storage or vehicle storage mini-garages shall be of type 6, metal frame unprotected construction, or better.

1. Exception. Type 8 wood frame unprotected construction may be used if the storage space is compartmentalized into areas of 500 square feet or less by one-hour rated walls and ceilings, including exterior walls. One-hour rated ceilings are not required provided the one-hour rated walls are extended up to and make tight contact with the roof deck.

**Note:** The department will accept one layer of 5/8-inch type X gypsum wallboard on the inside of the exterior walls.

(4) **NUMBER OF EXITS.** Two exits shall be required from each storage compartment.

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

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

(b) Nonstandard exit doors (i.e., overhead, sliding and similar doors) may be used for compartments with a capacity of less than 25 persons.

(6) **GENERAL.** Mini-warehouses and mini-garages shall comply with the applicable sections of this code except as otherwise specified in this section.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

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## HAZARDOUS OCCUPANCIES

**Ind 54.50 Garages.** (1) **DEFINITIONS.** (a) A garage is a building, or part of a building, which accommodates or houses self-propelled vehicles. For the purpose of this code the term vehicle includes land, air and water vehicles.

(b) A private garage is one used in connection with a private residence for the purpose of housing self-propelled vehicles owned by the occupant of the residence and used only for personal or family service.

(2) **CONSTRUCTION REQUIREMENTS.** (a) All garages, except private garages, which are more than 500 square feet in area, shall have walls and roof of types No. 1 through No. 6 construction as specified in section Ind 51.03, and all floors of vehicle storage rooms, salesrooms and repair shops shall be of not less than 4-hour fire-resistive construction as specified in section Ind 51.04.

*Exception:* 1. A garage not more than one story in height and 2,000 square feet in area may have walls and roof of type No. 7 or No. 8 construction if located at least 100 feet from any other building or boundary line between premises.

2. A hangar for the storage of not more than one airplane, or a boat-house for the storage of not more than one motor boat, may be of type No. 7 or No. 8 construction if located at least 15 feet from any property line or other building.

**Note:** Section 167.19, Stats., permits retail dealer's buildings for the storage of farm tractors, trucks and motorized farm machinery to be metal covered, pole type or frame construction. Buildings constructed of other than metal or concrete may not be located closer than 30 feet to any other building. Buildings in excess of 50 feet in length require more than one door. The statute requires that motor fuel and storage batteries be removed from the vehicles and prohibits vehicle overhaul or repair in the building.

(b) All walls, or parts of walls, nearer than 5 feet to a boundary line between premises or to any other building shall be unpierced. All walls, or parts of walls, nearer than 10 feet, but not nearer than 5 feet, to a boundary line between premises or to any other building shall have all openings therein protected by means of fire-resistive doors and windows as specified in sections Ind 51.047 and 51.048.

(c) Where a garage which is more than 500 square feet in area is built in connection with a building used for other purposes, it shall be separated therefrom by means of 4-hour fire-resistive walls as specified in section Ind 51.04 and unpierced 4-hour fire-resistive floors above and below as specified in section Ind 51.04. All openings in the walls to adjoining parts of the building shall be protected by means of self-closing fire-resistive doors as specified in section Ind 51.047. Stairways from garages leading to upper stories shall be separated from the garage area with walls of 4-hour fire-resistive construction as specified in section Ind 51.04 with all openings protected by means of self-closing fire-resistive doors as specified in section Ind 51.047.

(d) Where a garage which is less than 500 square feet in area is built in connection with a public building or place of employment under this code, the garage shall have walls and ceilings of not less than 1-hour fire-resistive construction as specified in section Ind 51.04, and the openings

to adjoining parts of the building shall be protected by means of fire-resistive doors as specified in section Ind 51.047.

(3) **FIRE PROTECTION.** Boilers, furnaces and all open flame equipment within garages and service stations shall be effectively separated from other areas by not less than 2-hour fire-resistive walls, floors and ceilings as specified in section Ind 51.04. Such enclosures in basements shall have no openings into other basement areas. All stairways leading to such basement enclosures from the first floor shall be enclosed on the first floor with not less than 2-hour fire-resistive construction as specified in section Ind 51.04, and the opening thereto protected with a fire-resistive door as specified in section Ind 51.047.

(a) Suspended furnaces and direct fired unit heaters fired with liquid fuel or gas may be used without an enclosure where approved by the department of industry, labor and human relations. Where approved, the equipment and installation shall satisfy requirements of section Ind 64.22.

(b) In garages or service stations which are heated by a suspended furnace located in a utility room or storage room, the enclosing walls, floor and ceiling shall be of 2-hour fire-resistive construction unless one side of the room is left open.

(4) **FLOOR PITS.** There shall be no pits or other depressions in the floor of any garage area, except that this requirement shall not apply to the shallow depressions formed to secure floor drainage, nor to catch basins installed in compliance with the provisions of the plumbing code issued by the department of health and social services nor to floor openings for access to regular basements.

(a) This will permit service openings in the floors of garages or service stations provided that the area below can be classed as regular basements and are ventilated in accordance with the requirements of the building, heating, ventilating and air conditioning code.

**History:** 1-2-56; r. and recr. (2) (c), Register, September, 1959, No. 45, eff. 10-1-59; am. Register, January, 1961, No. 61, eff. 2-1-61; am. (3) (a), Register, December, 1967, No. 144, eff. 1-1-68; am. (2) (a) intro. par., (b), (c), (d) and (3) intro. par., Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (2) (a) intro. par., (2) (b), (c), (d) and (3) intro. par., eff. 8-1-71, exp. 1-1-72; cr. (2) (a) intro. par., (2) (b), (c), (d) and (3) intro. par., eff. 1-1-72, Register, July, 1971, No. 187; am. (2) (a), Register, June, 1972, No. 198, eff. 1-1-73; am. (2) (b) and (3) (a), Register, December, 1975, No. 240, eff. 1-1-76; renum. from 57.50 and am. Register, December, 1976, No. 252, eff. 1-1-77.

**Ind 54.51 Filling stations; buildings and structures. (1) DEFINITIONS.** (a) By filling station is meant one or more pumps, tanks, and other pieces of equipment used in the storage and dispensing of liquid fuels and arranged for the sale of such liquid fuels to the public.

(b) By dispensing area is meant any area within 15 feet of any pump or other dispensing equipment.

(c) By basement or open space under a floor or dispensing area is meant any space that does not have an outlet at its lowest level, at or above grade.

(2) **CONSTRUCTION.** (a) All buildings having a service space of not more than 500 square feet in area, designed to accommodate motor-

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driven vehicles, and all other buildings erected within 15 feet of the dispensing equipment, shall be of types No. 1 through No. 6 construction as specified in section Ind 51.03, except where canopies are provided over the dispensing equipment such canopies shall be of noncombustible construction throughout.

1. Pumps or other dispensing equipment serving liquid fuel to the public, which are located within or under any occupied part of any building or structure, shall be installed in compliance with the provisions of the flammable liquids code.

(b) Buildings not more than one story in height and not exceeding 500 square feet in area may be of type No. 7 or No. 8 construction if located at least 15 feet from dispensing equipment and 10 feet from the boundary lines between premises and from other buildings on the same premises.

(c) Buildings more than 500 square feet in area used as office buildings exclusively, or in connection with other nonhazardous occupancies, may be of type No. 7 or No. 8 construction if not more than one story in height and located at least 30 feet from boundary lines between premises, from other buildings on the same premises and from the dispensing equipment.

(d) All walls, or parts of walls, in buildings under paragraph (a) which are nearer than 5 feet to a boundary line between premises or to any other building shall be unpierced. All walls, or parts of walls nearer than 10 feet, but not nearer than 5 feet, to a boundary line between premises or to any other building shall have all openings therein protected by means of fire-resistive doors and windows as specified in sections Ind 51.047 and 51.048.

(e) The main floor level of any building erected within 15 feet of equipment used to dispense liquid fuel shall not be below the level of the driveway or grade at such equipment.

(f) There shall be no basement or other open space under the floor of the dispensing area outside of the building. There shall be no basement or other open space under the floor of any filling station building, unless:

1. The main floor level is at least 6 inches above the driveway or grade at the dispensing equipment, and

2. There is no outside door, window or other wall opening to such under floor space, except fuel chutes or other similar vertical openings having a tight-fitting cover, with the bottom of such opening at least 6 inches above the driveway or grade at the dispensing equipment.

3. The floor and enclosure of the underfloor space is of 4-hour fire-resistive construction as specified in section Ind 51.04.

4. The under floor space is effectively vented by gravity means.

**Note:** For requirements applying to floor pits, see section Ind 54.50.

**History:** 1-2-56; am. (2) (a); cr. (2) (a) 1., Register, September, 1959, No. 45, eff. 10-1-59; am. (2) (d) and (2) (f) 3., Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (2) (d) and (2) (f) 3., eff. 8-1-71, exp. 1-1-72; cr. (2) (d) and (2) (f) 3. eff. 1-1-72, Register, July, 1971, No. 187; am. (2) (a), (b), (c), Register, June, 1972, No. 198, eff. 1-1-73; am. (2) (d),

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Register, December, 1975, No. 240, eff. 1-1-76; renum. from 57.51, Register, December, 1976, No. 252, eff. 1-1-77.

**Ind 54.52 Automobile tire or battery shops.** (1) Any building, or part of a building, in which tires are repaired or fitted to vehicles shall be constructed, equipped and maintained as a garage under section Ind 54.50.

(2) Any building or part of a building, in which electric storage batteries are charged, repaired, or are installed in vehicles shall be constructed, equipped and maintained as a garage under section Ind 54.50.

**History:** 1-2-56; renum. from 57.52 and am. Register, December, 1976, No. 252, eff. 1-1-77.

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