

Chapter Ind 54

FACTORIES, OFFICE AND MERCANTILE BUILDINGS

Ind 54.001	Scope (p. 159)	Ind 54.11	Lighting (p. 165)
Ind 54.01	Construction, height and allowable area (p. 159)	Ind 54.12	Sanitary facilities (p. 165)
Ind 54.02	Number and location of exits (p. 161)	Ind 54.13	Change rooms and lunchrooms (p. 170)
Ind 54.03	Type of exits (p. 162)	Ind 54.14	Isolation of hazards (p. 170)
Ind 54.04	Required exit width (p. 163)	Ind 54.145	Fire extinguishers (p. 171)
Ind 54.05	Capacity of buildings (p. 163)	Ind 54.15	Standpipes (p. 171)
Ind 54.06	Exit doors (p. 164)	Ind 54.17	Fire alarms (p. 171)
Ind 54.07	Passageways (p. 164)	Ind 54.18	Floor load signs (p. 172)
Ind 54.08	Enclosure of stairways and shafts (p. 164)	Ind 54.19	Signs indicating number of persons (p. 172)
Ind 54.10	Trap doors and floor openings (p. 165)	Ind 54.20	No smoking signs (p. 172)
Ind 54.105	Toeboards (p. 165)	Ind 54.21	Tents (p. 172)
		Ind 54.22	Mini-warehouses (p. 172)

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>(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	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	
	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					
	2	22,000	19,000	16,000	13,500			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.		
	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.		
	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.		
	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.		
	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							

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.

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

(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.

Note: Also see s. Ind 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.

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.

* See Appendix A for further explanatory material.

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

(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 2-story buildings of type 7 and 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 s. Ind 51.162; and
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 **FP** from a building level shall be in accordance with the requirements of ss. Ind 51.15 (6) and 51.16 (3).

(2) Standard fire escapes (s. 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 s. Ind 54.02.

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

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

- (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

(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. 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 s. 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 ss. Ind 51.15 (6) and 51.16 (3). 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.

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

Ind 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. Ind 51.02 (11).

(b) 1. The stairways or shafts connecting the first floor with one floor level immediately adjacent to it (e.g., second story, mezzanine, ground floor or basement) may be left open in buildings 2 stories or less in height, and where the distance to an exit from anywhere in the building including the horizontal travel distance on the exit access stair, does not exceed 100 feet in buildings not completely protected by an approved

Register, October, 1982, No. 322
**Building and heating, ventilating
 and air conditioning code**

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 anywhere in the building 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. Ind 51.047, and all windows shall be of wired glass and metal frames and sash.

Note: See ch. Ind 4, Wis. Adm. Code, 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.

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 s. Ind 54.08 shall be protected by fire-resistive doors as specified in s. 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 54.105 Toeboards. A toeboard shall be provided at the exposed edges of all elevated platforms, walks, balconies, mezanines, 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.

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. FP

(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.

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

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 ss. Ind 54.12 (1) (d) and 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 employes and the general public are not required.

Note: See ch. HSS 196, Wis. Adm. Code, 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.

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

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 employes or 25 patrons. Separate toilet rooms for employes and patrons need not be provided if toilet rooms are accessible to both employes 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 employes and patrons need not be provided if toilet rooms are accessible to both employes 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 employes 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 s. 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 50 to 100 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.

c. Taverns and restaurants accommodating more than 100 occupants in total shall be provided with sanitary fixtures as specified in Table 55.32.

Ind 54

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) ¹	Drinking Facilities (DF)
	Males (M)	Females (F)	Males (M)			
1- 100 occupants of each sex	1	1	0	One (L) for each 2 (WC) or (U), or both or fraction	None required	One (DF) for each 150 occupants up to 600 or fraction.
101- 200 occupants of each sex	1	2	1			
201- 300 occupants of each sex	1	3	2			
301- 400 occupants of each sex	2	4	2			
401- 500 occupants of each sex	2	5	3			
501- 600 occupants of each sex	2	6	4	One (U) for each additional 500 (M), or fraction	One additional (DF) for each additional 3000 occupants, or fraction	
Over 600 occupants of each sex	One (WC) for each additional 600 (M), or fraction	One (WC) for each additional 275 (F), or fraction				

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

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

Number of Employees	Type of Fixture					
	Water Closets (WC)		Urinals (U)	Lavatories (L)	Showers (S) ¹	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						

¹Showers 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, 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 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, 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 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, s. 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.

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 employees 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; 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.

Ind 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. HSS 196, Wis. Adm. Code, 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.

FP Ind 54.14 Isolation of hazards. (1) **GENERAL.** All fuel-fired heating boilers and furnaces, power boilers, fuel rooms and breeching, 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 ss. Ind 51.04 to 51.049; 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 ss. Ind 51.04 to 51.049, or better, shall be provided.

Note: See ch. Ind 8, Wis. Adm. Code, for isolation of flammable and combustible liquids.

(2) **PROTECTION OF OPENINGS.** All openings shall be protected with self-closing fire-resistive doors as specified in s. Ind 51.047.

(3) **SUSPENDING EQUIPMENT.** Gas and liquid fuel-fired space heaters; suspended furnaces; vented and unvented unit heaters; and boilers and water heaters up to 200,000 BTU input may be used without an enclosure where the installation conforms to the provisions of s. Ind 64.21 and is approved by the department. Where suspended furnaces, vented and unvented unit heaters, boilers and water heaters are used without an enclosure, all such units shall be located at least 7 feet above the floor. The blow-off pipe for suspended boilers and water heaters shall be extended down to within 6 inches of the floor.

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; am. Register, December, 1981, No. 312, eff. 1-1-82; am. (3), Register, October, 1982, No. 322, eff. 11-1-82.

Register, October, 1982, No. 322
Building and heating, ventilating
and air conditioning code

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.

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; r. Register, June, 1983, No. 330, eff. 7-1-83.

Note: See s. Ind 52.015 for requirements pertaining to automatic fire sprinkler systems.

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
- (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.

*See Appendix A for further explanatory material.

(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.** 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.

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

History: Cr. Register, December, 1978, No. 276, eff. 1-1-79; r. and recr. Register, December, 1981, No. 312, eff. 1-1-82.

Ind 54.50 Garages. 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. (20) (a) intro. par., (2) (b), (c), (c) 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; r. Register, December, 1981, No. 312, eff. 1-1-82.

Ind 54.51 Filling stations; buildings and structures. 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), Register, December, 1975, No. 240, eff. 1-1-76; renum. from 57.51, Register, December, 1976, No. 252, eff. 1-1-77; r. Register, December, 1981, No. 312, eff. 1-1-82.

Ind 54.52 Automobile tire or battery shops. History: 1-2-56; renum. from 57.52 and am. Register, December, 1976, No. 252, eff. 1-1-77; r. Register, December, 1981, No. 312, eff. 1-1-82.

Register, December, 1981, No. 312
Building and heating, ventilating
and air conditioning code