

Replaced Register Oct. 1982 Reg. # 322

DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS 163
Factories, office, mercantile Ind 54

(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 from a building level shall be in accordance with the requirements of s. Ind 51.15 (6) and 51.16 (3). **FP**

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

- (a) Stores, first floor and basement ----- 30 sq. ft. per person
- (b) Stores, second floor and above ----- 60 sq. ft. per person

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

- (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.

FP 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.

FP 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.

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

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

Register, December, 1978, No. 276, eff. 1-1-79; am. (1), Register, January, 1980, No. 289, eff. 2-1-80.

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.

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

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

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. H 96, 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.

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. Sanitary fixtures for taverns and restaurants shall be provided in accordance with Table 55.32.

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			
Over 600 occupants of each sex	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, or fraction

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

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; r. and recr. table and (2) (a) 1., Register, December, 1981, No. 312, eff. 1-1-82.

Ind 54.13 Change rooms and lunchrooms. (1) **CHANGE ROOMS.** Change rooms equipped with storage facilities for street clothes shall be provided where 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 ch. H 96, 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 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.

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