

Chapter Ind 51

DEFINITIONS AND STANDARDS

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Ind 51.01 Definitions. (1) **ACCESSORY ROOM.** Any room or enclosed floor space used for eating, cooking, bathrooms, water closet compartments, laundries, pantries, foyers, hallways, and other similar floor spaces. Rooms designated as recreation, study, den, family room, office, etc., in addition to habitable rooms, are considered accessory rooms.

(1a) **AIR CONDITIONING.** The process of treating air to control simultaneously its temperature, humidity, cleanliness and distribution to meet the requirements of the conditioned space.

(2) **ALLEY.** Any legally established public thoroughfare less than 30 feet in width but not less than 10 feet in width whether designated by name or number.

(3) **APPROVED.** Approval granted by the department under the regulations stated in this code.

(4) **AREA (GROSS).** The maximum horizontal projected area within the perimeter of the outside surface of walls or supports of the building or structure. Exterior cantilever open balconies are not included.

(5) **AREA (NET).** The occupied or usable floor area in a building but not including space occupied by columns, walls, partitions, mechanical shafts or ducts.

(5a) **AREAWAY.** Exterior area whose grade is below the grade (at building) and having at least one side consisting of the exterior wall of a building.

*See Appendix A for further explanatory material.

(6) **ATTIC.** The space not used for human occupancy located between the ceiling of uppermost story and the roof.

(7) **AUTOMATIC.** Automatic as applied to a fire protective device, is one which functions without human intervention and is actuated as a result of the predetermined temperature rise, rate of rise of temperature, combustion products or smoke density such as an automatic sprinkler system, automatic fire door, automatic fire shutter, or automatic fire vent.

(7a) **AUTOMATIC FIRE SPRINKLER SYSTEM.** An automatic fire sprinkler system is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply, such as a gravity tank, fire pump, reservoir or pressure tank or connection beginning at the building side of an approved check valve or approved backflow preventing device located at or near the property line where the pipe or piping system provides water used exclusively for fire protection and related appurtenances and to standpipes connected to automatic sprinkler systems. The portion of the sprinkler system above ground is a network of specially sized or hydraulically designed piping installed in a building, structure or area, generally overhead, and to which sprinklers are connected in a systematic pattern. The system includes a controlling valve and a device for actuating an alarm when the system is in operation. The system is usually activated by heat from a fire and discharges water over the fire area.

(8) **BALCONY (EXTERIOR).** An elevated platform attached to a building and enclosed on one or more sides by railings.

(9) **BALCONY (INTERIOR).** An open intermediate level or stepped floor. Also see "Stories, Number of."

(10) **BASEMENT.** A basement floor is that level below the first or ground floor level with its entire floor below exit discharge grade.

(11) **BEARING WALL.** See "Wall (bearing)."

(12) **BUILDING.*** A structure for support, shelter or enclosure of persons or property.

(13) **BUILDING HEIGHT.** See "Height (building)."

(14) **BUTTRESS.** A structural projection which is an integral part of a wall, primarily to provide resistance to lateral forces.

(15) **CAVITY WALL.** See "Wall (cavity)."

(16) **CEILING PROTECTION.** The fire protection membrane suspended beneath the floor or ceiling construction which, when included with the construction, develops the fire-resistive rating for the overall assembly.

(17) **CLOSING DEVICE (FIRE DOOR).** A closing device is one which will close the door and be adequate to latch and/or hold hinged or sliding door in a closed position.

*See Appendix A for further explanatory material.

(4) **LABELS.** Fire window assemblies shall be labeled with a permanent label, securely attached and located to permit visual inspection after installation. The label shall identify the time rating, testing laboratory, listing agency and manufacturer. Glass block shall be listed by an approved laboratory.

History: Cr. Register, December, 1975, No. 240, eff. 1-1-76.

Ind 51.049 Miscellaneous openings in fire-rated construction. (1) **SERVICE OPENINGS.** Openings around ducts, pipes, conduit or other service installations penetrating required fire-resistive rated floor, wall and roof assemblies shall be filled solidly with material of fire-resistive rating equal to the required rating of assembly penetrated.

(2) **FIRE DAMPERS.** Duct openings in required fire-resistive rated floor and wall assemblies shall be protected as specified under section Ind 64.42.

History: Cr. Register, December, 1975, No. 240, eff. 1-1-76.

Ind 51.05 Roof coverings. (1) Roof coverings of class A, B, C or unclassified shall be provided as specified under "Classes of Construction" or under the specific occupancy requirements.

Note: Brick, concrete, tile, slate, ferrous and cupreous metals and their alloys will be accepted as "Class A" roof coverings.

History: Cr. Register, February, 1971, No. 182, eff. 7-1-71; r. eff. 8-1-71, and rec. eff. 1-1-72, Register, July, 1971, No. 187; renum. from 51.048 to be 51.050, Register, December, 1975, No. 240, eff. 1-1-76.

Ind 51.06 Foam plastics. (1) **SCOPE.** The requirements of this section shall apply to the use of foam plastics in building construction.

(2) **DEFINITIONS.** (a) *Approved diversified tests.* Approved diversified tests mean fire tests which evaluate materials or construction assemblies representative of actual end use applications.

Note: Approved diversified tests may include, but are not limited to, ASTM E84 (tunnel test), ASTM E119 "fire test," full-scale corner test, enclosed room-corner test and ignition temperature tests.

(b) *Foam plastic.* For purposes of this code, foam plastic is a manufactured organic material used as a building construction element, decorative finish material, trim, insulation or sound-absorbing material.

(3) **GENERAL.** (a) All foam plastic, except as otherwise noted, shall have a flame spread rating of not more than 75 and a smoke developed rating of not more than 450 when tested in accordance with ASTM E84. Foam plastic tested at a thickness of 4 inches or more and meeting these requirements may be used in thicknesses up to 10 inches. Foam plastic tested at a thickness of less than 4 inches and meeting these requirements may be used in thicknesses up to 4 inches.

(b) Unless otherwise specifically approved in accordance with section Ind 51.06 (4), foam plastic shall be limited to the following applications:

*See Appendix A for further explanatory material.

1. Within the cavity or core of a masonry or concrete wall or encased within a floor or roof deck system of concrete, regardless of the class of construction.

2. On the room side of walls, ceilings or roofs provided the foam plastic is fully protected from the interior of the building, including unoccupied spaces above suspended ceilings, by an approved thermal barrier having a minimum rating of 15 minutes. The thermal barrier shall be installed so that under the same fire-test conditions, it will remain in place for 15 minutes. Crawl space walls may be insulated with unprotected foam plastic provided the flooring consists of at least 3/4-inch tongue and groove plywood sheathing, or equivalent, and the space is not used for air handling purposes.

Note: The department will accept 1/2-inch fire-rated wallboard or other approved materials having 15-minute finish rating as determined by ASTM E119 "fire test."

3. Within the cavity, or as an element, of an NC-0 or 0-hourly rated system provided the thermal protection specified in 2. is applied.

4. Within the cavity, or as an element, of an hourly rated system provided such system or assembly meets the requirements of section Ind 51.04 for the time-rated construction.

5. As part of a class A, B or C roof covering satisfying the requirements of section Ind 51.05. The smoke-developed requirement is waived for roofing insulation applied to the exterior side of the roof deck.

6. Refrigerated facilities. Foam plastic insulation used as a building element for freezer buildings, cold storage facilities, refrigerated food-processing rooms and other similar unheated, low-population density uses, may be used without a thermal barrier provided the foam plastic is covered on both sides by not less than 0.032-inch aluminum, no. 26 gauge corrosion-resistant steel, or equivalent, and the building and foam plastic panel is protected by an approved automatic sprinkler system.

a. Exception. The approved automatic sprinkler system may be omitted, except as otherwise required by other sections of this code, when thermosetting foam plastic having a flame-spread rating of 25 or less is used.

b. Exception. Walls may be covered with 3/32-inch fiber reinforced plastic panels in wet food-processing areas provided the fiber reinforced plastic material has a flame spread of 175 or less.

Note: Wet food-processing areas, as specified in this section, need not be provided with approved automatic sprinkler systems provided the foam plastic core material satisfies the requirements of section Ind 51.06 (3) (b) 6. a.

c. Exception. The requirements of this section do not apply to free-standing cooler-freezer equipment not exceeding 5,000 square feet in floor area in one-story buildings.

Note: Free-standing equipment may not rely on the enclosing building for lateral or vertical support except for the floor load.

7. Metal-clad sandwich panels consisting of a covering of 0.032-inch aluminum or no. 26 gauge corrosion-resistant steel on both sides, with a

*See Appendix A for further explanatory material.

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foam plastic core not more than 4 inches in thickness with a flame spread of 25 or less, may be used where NC-0 hour rated construction is permitted. An approved thermal barrier is not required provided the building and the foam plastic panel is protected by an approved automatic sprinkler system.

8. Doors. Foam plastic may be used on interior and exterior doors provided the foam plastic is covered by not less than 0.032-inch aluminum or no. 26 gauge corrosion-resistant steel. Hourly rated doors shall meet the requirements of section Ind 51.047.

9. Trim and decorative finish materials. Foam plastic used for decorative finish material, trim or molding shall be limited to 10% of the surface area within any 100 lineal feet of interior walls and ceilings.

10. Bulk vegetable storage. Buildings used exclusively for the bulk storage of vegetables shall have the foam plastic insulation protected on both sides with ½-inch exterior grade plywood, or equivalent.

(4) SPECIFIC APPROVAL. Foam plastic not meeting the requirements of Ind 51.06 (3) may be approved by the department for specific application based on the submittal and written acceptance of data from approved diversified tests (see section Ind 50.19).

History: Cr. Register, May, 1979, No. 281, eff. 6-1-79.

Ind 51.08 Occupancy separations. (1) When a building is used for more than one occupancy purpose, each part of the building comprising a distinct occupancy division shall be separated from any other occupancy division as provided for under the occupancy requirements of this code.

(2) Occupancy separations shall be classed as "Absolute", "Special" and "Ordinary" and shall apply to both horizontal and vertical separations.

(a) An absolute occupancy separation shall have no openings therein and shall have walls and floors of not less than 4-hour fire-resistive construction as specified in section Ind 51.04.

(b) A special occupancy separation shall have walls and floors of not less than 3-hour fire-resistive construction as specified in section Ind 51.04. All openings in walls forming such separation shall be protected on each side thereof by self-closing fire-resistive doors as specified in section Ind 51.047, and such doors shall be kept normally closed. The total width of all openings in any such separating wall in any one story shall not exceed 25% of the length of the wall in that story and no single opening shall have an area greater than 120 square feet.

1. All openings in floors forming this type of separation shall be protected by vertical enclosures extending above and below such openings. The walls of such vertical enclosures shall be of not less than 2-hour fire-resistive construction as specified in section Ind 51.04 and all openings therein shall be protected on one side thereof by self-closing 1½-hour fire-resistive doors as specified in section Ind 51.047 and such doors shall be kept normally closed.

*See Appendix A for further explanatory material.

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(c) An ordinary occupancy separation shall have walls and floors of not less than 1-hour fire-resistive construction as specified in section Ind 51.04. All openings in such separations shall be protected by self-closing fire-resistive doors as specified in section Ind 51.047 and such doors shall be kept normally closed.

History: 1-2-66; r. and recr. (2) (c), Register, October, 1967, No. 142, eff. 11-1-67; am. (2) (a), (b) and (c), Register, February, 1971, No. 182, eff. 7-1-71; r. and recr. (2) (a), (b) and (c) eff. 8-1-71 and expiring 1-1-72 and cr. (2) (a), (b) and (c) eff. 1-1-72, Register, July, 1971, No. 187; am. (2) (b) 1., Register, December, 1978, No. 276, eff. 1-1-79.

Note: Effective July 6, 1977, requirements for safety glazing are under the jurisdiction of the Consumer Products Safety Commission (CPSC) and are contained in the CPSC Standard for Architectural Glazing Material. Copies of this standard are available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

Ind 51.15 Standard exit. (1) Every door which serves as a required exit from a public passageway, stairway or building shall be a standard exit door unless exempted by the occupancy requirements of this code.

Note: For required exits see Wis. Adm. Code sections Ind 54.06, 55.10, 56.08 and 57.09.

(2) Every standard exit door shall swing outward or toward the natural means of egress. It shall be level with the floor, and shall be so hung that, when open, it will not block any part of the required width of any other doorway, passageway, stairway or fire escape. No revolving door, overhead door or sliding door shall be considered as a standard exit. Sliding doors serving as horizontal exits, in accordance with section Ind 51.19 (2) (a) 1., shall be considered standard exits.

(3) A standard exit door shall have such fastenings or hardware that it can be opened from the inside by pushing against a single bar or plate or turning a single knob or handle.

(a) The use of a key for opening door from the inside is prohibited.

1. *Exception:* Upon written request by the owner, key-locking, or securing, of exits may be approved in fire-resistive buildings, or parts of fire-resistive buildings, accommodating occupants who must be detained in order to protect the occupants or the public from physical harm.

Note #1: Section Ind 51.15 (3) (a) 1. is intended to apply only to jails, prisons, mental institutions, asylums, nursing homes with senile patients, and similar type occupancies.

Note #2: The owner's request should include the following considerations: accessibility of keys to the fire department and staff personnel for the locked areas; electrical devices which release the locks; and 24-hour supervision of the locked areas by personnel who carry keys for the locked areas while on duty. Electrical devices which release the locks upon power failure or upon activation of the fire alarm or sprinkler system or the product of combustion detectors should be considered for securing of exits in nursing homes.

Note #3: Written approval to lock exits must also be obtained from the department of health and social services in accordance with the rules of that department.

(b) The door shall not be barred, bolted or chained at any time.

*See Appendix A for further explanatory material.

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