

(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.

(a) *Automatic*. An automatic closing 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.

(b) *Self-closing*. A self-closing device is one which will maintain the door in a closed position.

(18) **COMBUSTIBLE CONSTRUCTION**. An assembly such as a wall, floor or roof having components of combustible material.

(19) **COMBUSTIBLE MATERIAL**. All materials not classified as "noncombustible" are considered combustible. This property of a material does not relate to its ability to structurally perform under fire exposure. The degree of combustibility is not defined by standard fire test procedures.

(20) **CONCRETE**. See "Types of Concrete," section Ind 51.045 (1) (a).

(21) **CONSTRUCTION**. Includes all labor and materials used in the framing or assembling of component parts in the erection, installation, enlargement, alteration, repair, moving, conversion, razing, demolition or removal of any appliance, device, building, structure or equipment.

(22) **CORRIDOR**. An enclosed passageway in a building for public ingress and egress to and from dwelling units, rooms or other areas and leading to a lobby, foyer or exit discharge.

(22a) **CORRIDOR (REQUIRED EXIT)**. A fire-rated enclosure beginning at the end point of maximum allowable exit distance and continuing to the exit discharge door.

**Note:** See line 20 of Table 51.03-A.

(23) **COURT**. A court is an open, exterior space providing required natural light or ventilation for the building or providing a pathway for public egress from a building exit to a public thoroughfare.

(24) **COURT (INNER)**. An inner court is a court surrounded on all sides by walls.

(25) **COURT (INNER LOT LINE)**. An inner lot line court is a court bounded on 3 sides by walls and on the remaining side by a lot line or property line.

(26) **COURT (OUTER)**. An outer court is a court bounded on 3 sides with walls and on the remaining side by a street, alley or other open space not less than 15 feet wide.

(27) **COURT (OUTER LOT LINE)**. A court with one side on a lot line or property line and opening to a street or open space not less than 15 feet wide.

(28) **CURTAIN WALL**. See "Wall (curtain)."

\*See Appendix A for further explanatory material.

(29) DEPARTMENT. Means the department of industry, labor and human relations.

(30) DIVISION WALL. See "Wall (division)."

(31) DUCT. Any pipe, flue, or tunnel used to convey air, gases and entrained materials. An underground duct is any part of a duct that is below the surface of the ground.

(32) DUCT FURNACE. See "Furnace (duct)."

(33) ELEVATOR. See Wis. Adm. Code, chapter Ind 4.

(34) EQUIPMENT. Self-contained systems and apparatus attached to or built into the building and used for mechanical or electrical processing, comfort, safety, sanitation, communication or transportation within a building.

(35) EXHAUST VENTILATING SYSTEM. See "Ventilating System (exhaust)."

(36) EXISTING. A building, structure, or equipment completed or in the course of construction or use or occupied prior to the effective date of applicable rules of this code.

(37) EXIT COURT. See "Court (exit)."

(38) EXIT DISCHARGE GRADE. See "Grade (exit discharge)."

(39) EXIT (VERTICAL). See "Vertical Exit."

(40) EXTERIOR BALCONY. See "Balcony (exterior)."

(41) EXTERIOR WALL. See "Wall (exterior)."

(41a) FACTORY. A factory is any premises wherein labor is used in manufacturing, making or altering or adapting articles for the purpose of trade or gain.

(42) FAMILY.\* Means 2 or more individuals who are related to each other by blood, marriage, adoption or legal guardianship. For purposes of this code a group of not more than 4 persons not necessarily related by blood or marriage, living together in a single living unit will be considered equivalent to a single family.

(42a) FARM OPERATION. The farm operation is the planting and cultivating of the soil and growing of farm products substantially all of which have been planted or produced on the farm premises.

Note: The farm operation, according to s. 102.04 (3), Stats., includes: the management, conserving, improving and maintaining of the premises, tools, equipment, improvements and the exchange of labor or services with other farmers; the processing, drying, packing, packaging, freezing, grading, storing, delivery to storage, carrying to market or to a carrier for transportation to market and distributing directly to the consumer; the clearing of such premises and the salvaging of timber and the management and use of wood lots thereon but does not include logging, lumbering and wood-cutting operations unless the operations are conducted as an accessory to other farm operations.

(42b) FARM PREMISES. The farm premises is defined to be the area which is planted and cultivated. The farm premises does not include

\*See Appendix A for further explanatory material.

greenhouses, structures or other areas unless used principally for the production of food or farm products.

(42c) **FARM PRODUCTS.** Farm products are defined as agricultural, horticultural and arboricultural crops. Animals considered within the definition of agricultural include livestock, bees, poultry, fur-bearing animals, and wildlife or aquatic life.

(42d) **FARMING.** Farming means the operation of a farm premises owned or rented by the operator.

(43) **FIRE DOOR.** A door so constructed as to give protection against the passage of fire.

(44) **FIRE DOOR ASSEMBLY.** The assembly of fire door and its accessories, including all hardware, frames, closing devices and their anchors, so constructed as to give protection against the passage of fire.

(45) **FIRE DOOR CLOSING DEVICE.** See "Closing Device (fire door)."

(46) **FIRE RESISTANCE AND FIRE-RESISTIVE MATERIAL.** Having the property to withstand fire or give protection from it. As applied to elements of building, it is characterized by the ability to confine a fire or to continue to perform a given structural function, or both.

(47) **FIRE-RESISTIVE CLASSIFICATION.** Fire-resistive classification is the time in hours during which a material or assembly continues to exhibit fire resistance under conditions of tests and performance as specified in ASTM E-119, ASTM E-152 and ASTM E-163.

(48) **FIRE-RESISTIVE PROTECTION.** An insulating material applied directly, attached to, or suspended from a structural assembly, to maintain the structural integrity of a member or system for the specified time rating.

(49) **FIRE-RESISTIVE PROTECTION, DIRECTLY APPLIED.** A coating material applied directly to the structural element for the purpose of fire protection.

(50) **FIRE-RESISTIVE RATING.** Refer to fire-resistive classification.

(51) **FIRE-RETARDANT ROOF COVERINGS.** Roof coverings shall be classified on the basis of protection provided against fire originating outside the building or structure on which they have been installed.

(a) Class A roof coverings are those which are effective against severe fire exposures (meeting the 3 methods for fire tests of class A roof coverings [ASTM Standard E-108]) and possess no flying brand hazard.

(b) Class B roof coverings are those which are effective against moderate fire exposures (meeting the 3 methods for fire tests of class B roof coverings [ASTM Standard E-108]) and possess no flying brand hazard.

(c) Class C roof coverings are those which are effective against light fire exposures (meeting the 3 methods for fire tests of class C roof coverings [ASTM Standard E-108]) and possess no flying brand hazard.

\*See Appendix A for further explanatory material.

(52) **FIRE RETARDANT—TREATED WOOD.** Fire-retardant wood includes lumber or plywood that has been treated with a fire-retardant chemical to provide classifications (flame-spread [FSC] and fuel contributed [FCC]) of 25 or less by ASTM method E-84, shows no progressive combustion during 30 minutes of fire exposure by this method, and is so labeled. Fire-retardant wood for decorative and interior finish purposes provides reduced flame-spread classification (FSC) by ASTM method E-84 as specified by the code for materials used in the particular applications.

(53) **FIRE WINDOW ASSEMBLY.** A fire window includes glass, frame, hardware and anchors constructed and glazed to give protection against the passage of flame.

(54) **FIRST FLOOR.** The first floor is the primary floor used in determining the number of stories of a building.

(55) **FLAME-SPREAD CLASSIFICATION.** Flame-spread classification (FSC) is a comparative rating of the measure of flame-spread on a surface of a material or assembly as determined under conditions of tests and performance as specified in ASTM E-84.

(56) **FLAME-SPREAD RATING.** Refer to flame-spread classification.

(56a) **FLOOR.** The bottom or lower part of an enclosed space including any portions raised or depressed by not more than 3 feet from the designated principal level where the raised or depressed portion is treated architecturally as a part of the same principal level.

(57) **FLOOR AREA.** See "Area (net)."

(57a) **FLOOR LEVEL.** The upper surface of a floor treated architecturally as the designated principal floor at a given elevation.

(58) **FOYER.** An enclosed space and passageway into which aisles, corridors, stairways, or elevators may exit and from which the public has access to exits.

(59) **FRONT YARD.** See "Yard (front)."

(60) **FUEL CONTRIBUTED CLASSIFICATION.** Fuel contributed classification (FCC) is a comparative measure of the fuel contribution of a material or an assembly in the flame-spread test per ASTM E-84.

(61) **FURNACE.** A completely self-contained direct-fired, automatically controlled, vented appliance for heating air by transfer of heat of combustion through metal to the air and designed to supply heated air through ducts to spaces remote from the appliance location.

(62) **FURNACE (DUCT).** A suspended direct-fired heating appliance normally installed in air ducts. Air circulation is provided by a blower not furnished as part of the appliance.

(63) **GRADE (AT BUILDING).** Elevation of surface of paved or unpaved ground adjacent to wall of a building.

\*See Appendix A for further explanatory material.

(64) **GRADE (EXIT DISCHARGE)**. The elevation of finished exterior surface of paved or unpaved ground at any exit discharge doorsill.

(65) **GRAVITY EXHAUST VENTILATION**. See "Ventilation (gravity exhaust)."

(66) **GROSS AREA**. See "Area (gross)."

(67) **GROUND FLOOR**. A ground floor is that level of a building on a sloping or multilevel site which has its floor line at or not more than 3 feet above exit discharge grade for at least one-half of the required exit discharges.

(67a) **HABITABLE ROOM**.<sup>\*</sup> Any room or enclosed floor space arranged for living and/or sleeping purposes.

(68) **HAZARDOUS PIPING**. See "Piping (hazardous)."

(69) **HEATING SYSTEM**. Any combination of building construction, machinery, devices or equipment, so proportioned, arranged, installed, operated, and maintained as to produce and deliver in place the required amount and character of heating service.

(70) **HEIGHT (BUILDING)**. Height of a building is measured from the average of the exit discharge grade elevation of all required first story exits to the top of a level roof or to a point  $\frac{1}{2}$  of the distance between the intersection of the exterior wall surface (extended) with the roof surface, and the highest part of the roof but not to include penthouses.

**Note:** For exceptions to penthouses see definition "Stories, Number of."

(71) **HOLLOW BONDED WALL**. See "Wall (hollow bonded)."

(72) **INNER COURT**. See "Court (inner)."

(73) **INNER LOT LINE COURT**. See "Court (inner lot line)."

(74) **INTAKE (OUTSIDE AIR)**. See "Outside Air Intake."

(75) **INTERIOR BALCONY**. See "Balcony (interior)."

(76) **JACKETED STOVE**. See "Stove (jacketed)."

(76a) **LIVING UNIT**. Any enclosed floor space consisting of one or more habitable rooms (with or without accessory rooms) used by a person (s) or family.

(77) **LOBBY**. An enclosed space into which aisles, corridors, stairways, elevators or foyer may exit and provides access to exits.

(78) **LOT LINE**. A legally established line dividing one lot, plot of land or parcel of land from an adjoining lot or plot of land or parcel of land.

(79) **MAJOR APPARATUS**. Central air-handling equipment supplying more than one occupancy or rooms and heat-producing equipment generating heat for the heating and ventilating system.

(80) **MASONRY**. A construction composed of separate units such as brick, block, hollow tile, stone or approved similar units or a combina-

<sup>\*</sup>See Appendix A for further explanatory material.

tion thereof, laid up or built unit by unit and bonded by approved manner.

(81) MECHANICAL VENTILATION. See "Ventilation (mechanical)."

(82) MEZZANINE OR MEZZANINE FLOOR. An intermediate floor, either open or enclosed. Also see "Stories, Number of."

(83) NET AREA. See "Area (net)."

(84) NONBEARING WALL. Refer to "Wall (exterior)" or "Partition."

(85) NONCOMBUSTIBLE CONSTRUCTION. An assembly such as a wall, floor or roof having components of noncombustible material.

(86) NONCOMBUSTIBLE MATERIAL. A noncombustible material is one which, in the form in which it is used, meets one of the requirements (a) or (b) listed below. Materials used adjacent to or in contact with heat-producing appliances, warm air ducts, plenums and chimneys shall be classified as noncombustible only on the basis of requirement (a). Noncombustible does not apply to the flame-spread characteristics of interior finish or trim materials. No material shall be classed as noncombustible building construction material which is subject to increase in combustibility or flame-spread classification (FSC) beyond the limits herein established through the effects of age, moisture or other atmospheric conditions.

**Note:** The federal trade commission does not consider ASTM E-84 as an accurate indicator of the performance of cellular plastics used in building construction under actual fire conditions, and that it is only valid as a measurement of the performance of such materials under specific, controlled test conditions. The 25 flame-spread rating is not intended to reflect hazards presented by such products under actual fire conditions. The federal trade commission considers that under actual fire conditions, such products, if allowed to remain exposed or unprotected, will under some circumstances produce rapid flame spread, quick flashover, toxic or flammable gases, dense smoke and intense and immediate heat and may present a serious fire hazard.

(a) Materials which pass the test procedure of ASTM E-136 for defining noncombustibility of elementary materials when exposed to a furnace temperature of 1,382° F. for a minimum period of 5 minutes, and do not cause a temperature rise of the surface or interior thermocouples in excess of 54° F. above the furnace air temperature at the beginning of the test and which do not flame after an exposure of 30 seconds.

(b) Materials having a structural base of noncombustible material as defined in paragraph (a), with a surfacing not more than 1/8 inch thick which has a flame-spread classification (FSC) not greater than 50 when tested in accordance with the method of test for surface burning characteristics of building materials (ASTM E-84).

(87) OCCUPANCY OR USE. The purpose for which a building, structure, equipment, materials, or premises, or part thereof, is used or intended to be used as regulated in this code.

(88) OCCUPIED. Refers to any room or enclosure used by one or more persons for other than incidental maintenance.

\*See Appendix A for further explanatory material.

(89) **OPEN SPACES.** Front (setback), rear and side yards, exit courts, outer courts, and outer lot line courts on the same property with a building as regulated by this code.

(90) **OUTDOOR OPENINGS.** May be doors, windows or skylights located in outside walls or roof and can be opened to provide natural ventilation to the occupied space.

(91) **OUTER COURT.** See "Court (outer)."

(92) **OUTER LOT LINE COURT.** See "Court (outer lot line)."

(93) **OUTLET (SUPPLY OPENING).** An opening, the sole purpose of which is to deliver air into any space to provide heating, ventilating or air conditioning.

(94) **OUTSIDE AIR.** Air that is taken from outside the building and is free from contamination of any kind in proportions detrimental to the health or comfort of the persons exposed to it.

(95) **OUTSIDE AIR INTAKE.** Includes the ducts and outdoor openings through which outside air is admitted to a ventilating, air conditioning or heating system.

(96) **PANEL WALL.** See "Wall (panel)."

(97) **PARTITION.** A partition is an interior nonbearing vertical element serving to enclose or divide an area, room or space. Portable or demountable partitions requiring tools for installation or removal are considered partitions not furniture.

(98) **PARTY WALL.** See "Wall (party)."

(99) **PENTHOUSE.** An enclosed or partially enclosed structure extending above the main roof of a building or structure and/or enclosing a stairway, tank, elevator, machinery, mechanical equipment or other apparatus and not used for human occupancy.

(100) **PIER.** An isolated column of masonry or concrete. A section of bearing wall not bonded on the sides into adjoining masonry shall be considered to be a pier when its horizontal dimension measured at right angles to the thickness does not exceed 4 times the thickness.

(101) **PILASTER.** A projection of masonry for the purpose of bearing concentrated loads, or to compensate for reduction of wall section by chases, openings or recesses, or for the purpose of stiffening the wall against lateral forces. (See also "Buttress.")

(102) **PIPING (HAZARDOUS).** Any service piping conveying oxygen, flammable liquids, flammable gases or toxic gases.

(102a) **PLACE OF EMPLOYMENT.** The term "place of employment" includes every place, whether indoors or out or underground and the premises appurtenant thereto where either temporarily or permanently any industry, trade or business is carried on, or where any process or operation, directly or indirectly related to any industry, trade or business, is carried on, and where any person is, directly or indirectly, em-

\*See Appendix A for further explanatory material.

ployed by another for direct or indirect gain or profit, but does not include any place where persons are employed in a) private domestic service which does not involve the use of mechanical power or b) farming.

(103) **PORCH.** An unenclosed exterior structure at or near grade attached or adjacent to the exterior wall or any building, and having a roof and floor. (See also "Terrace" and "Balcony.")

(104) **PROPERTY LINE.** A legally established line dividing one lot, plot of land or parcel of land under one ownership from an adjoining lot or plot of land or parcel of land under another ownership.

(104a) **PUBLIC BUILDING.** The term "public building" means and includes any structure, including exterior parts of such building, such as a porch, exterior platform or steps providing means of ingress or egress, used in whole or in part as a place of resort, assemblage, lodging, trade, traffic, occupancy, or use by the public or by 3 or more tenants.

(105) **PUBLIC THOROUGHFARE.** Any legally established street or alley as defined herein.

(105a) **REMODELING.** To remodel and/or alter means to change any building or structure which affects the structural strength, fire hazard, internal circulation, or exits of the existing building or structure. This definition does not apply to maintenance, reroofing, or alterations to the heating and ventilating or electrical systems.

(106) **REQUIRED.** A term for mandatory use under the provisions of this code.

(106a) **REQUIRED EXIT CORRIDOR.** See "Corridor (Required Exit)."

(107) **RESTRAINED SUPPORT.** A flexural member where the supports and/or the adjacent construction provides complete or partial restraint against rotation of the ends of the member and/or partial restraint against horizontal displacement when subject to a gravity load and/or temperature change.

(108) **RETAINING WALL.** See "Wall (retaining)."

(109) **RETURN (OR EXHAUST OPENING).** Any opening, the sole purpose of which is to remove air from any space being heated, ventilated or air conditioned.

(110) **ROADWAY.** That portion of a public thoroughfare devoted to vehicular traffic, or that part included between curbs.

(111) **ROOF.** The structural cover of a building with a slope range bearing from horizontal to a maximum of 60 ° to the horizontal.

(112) **ROOF COVERING.** Refers to the covering applied over the roof construction for the purpose of weather or fire resistance.

(113) **ROOF COVERINGS (FIRE-RETARDANT).** See "Fire-Retardant Roof Coverings."

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(114) **ROOM.** A space within a building completely enclosed with walls, partitions, floor and ceiling, except for openings for light, ventilation, ingress and egress.

(115) **SETBACK.\*** Refers to the open space between the property line or public thoroughfare and the nearest part of the building. Unenclosed terraces, slabs, or stoops without roofs or walls may project into this open space or setback.

(116) **SHAFT.** A vertical opening in a building extending through one or more stories and/or roof, other than an inner court.

(117) **SHALL.** A term for mandatory use under the provisions of this code.

(118) **SIGNS.** A structure that is intended, designed, or used for advertising, display, identification, announcements, or related purposes; this includes signs, screens, billboards, and other advertising devices of any type.

(119) **SIMPLE SUPPORT.** A flexural member where the supports and/or the adjacent construction allows free rotation of the ends of the member and horizontal displacement when subject to a gravity load and/or a temperature change.

(120) **SPACE HEATER (GRAVITY OR CIRCULATING TYPE).** A vented, self-contained free standing or wall recessed heating appliance using liquid or gas fuels. (Also see definition for "Stove (jacketed).")

(120a) **STEP (s).** Step (s) is a unit (s) consisting of one riser of not more than  $7\frac{3}{4}$  inches and one tread of not less than  $9\frac{1}{2}$  inches, alone or in a series.

(121) **STORIES, NUMBER OF.\*** The number of stories of a multistory building includes all stories except the basement (s), ground floor (s), attic or interior balcony (ies) and/or mezzanine floor (s). (Also see Ind 51.02 (14).)

(122) **STORY.** The space in a building between the surfaces of any floor and the floor next above or below, or roof next above, or any space not defined as basement, ground floor, mezzanine, balcony, penthouse or attic. (Also see "Stories, Number of.")

(123) **STOVE (JACKETED).** A vented, self-contained free standing, non-recessed heating appliance using solid, liquid or gas fuels. The effective heating is dependent on a gravity flow of air circulation over the heat exchanger. (Also see definition for "Space Heater.")

(124) **STREET.** Any legally established public thoroughfare 30 feet or more in width whether designated or not by name or number such as avenue, boulevard, circle, court, drive, lane, place, road or way. All-weather hard-surfaced areas 30 feet or more in width and extending at least 50% of the length of that side of building and accessible to fire-fighting equipment will be acceptable in lieu of streets.

\*See Appendix A for further explanatory material.

(125) **STRUCTURE**. A structure is an assembly of materials forming a construction for occupancy or use meeting the definition of place of employment or public building.

**Note:** Structures include, among others, buildings, stadiums, tents, reviewing stands, observation towers, radio and television towers, water tanks, piers, wharves, shelters, canopies, and display signs.

(126) **SUPPORT (RESTRAINED)**. See "Restrained Support."

(127) **SUPPORT (SIMPLE)**. See "Simple Support."

(128) **TEMPERED AIR**. Air transferred from heated area of building.

(129) **TEMPERED OUTSIDE AIR**. Outside air heated before distribution.

(130) **TERRACE**. An unenclosed exterior structure at or near grade having a paved, floored, or planted platform area adjacent to an entrance or to the exterior walls for a building or structure and having no roof.

(131) **TREATED WOOD (FIRE-RETARDANT)**. See "Fire Retardant-Treated Wood."

(132) **UNIT HEATER (HIGH STATIC PRESSURE TYPE)**. A direct-fired suspended or floor standing, self-contained, automatically controlled and vented, heating appliance having an integral means for circulation of air against 0.2 inch or greater static pressure.

(133) **UNIT HEATER (LOW STATIC TYPE)**. A direct-fired suspended, self-contained automatically controlled, vented heating appliance, having integral means for circulation of air by means of a propellor fan or fans.

(134) **VENEERED WALL**. See "Wall (veneered)."

(135) **VENTILATING SYSTEM (EXHAUST)**. Any combination of building construction, machinery, devices or equipment, designed and operated to remove harmful gases, dusts, fumes or vitiated air, from the breathing zone of employes and frequenters.

(136) **VENTILATION**. The process of supplying or removing air by natural or mechanical means, to or from any space.

(137) **VENTILATION (GRAVITY EXHAUST)**. A process of removing air by natural means, the effectiveness depending on atmospheric condition, such as difference in relative density, difference in temperature or wind motion.

(138) **VENTILATION (MECHANICAL)**. The process of supplying or removing air by power-driven fans or blowers.

(139) **VERTICAL EXIT**. A means of egress used for ascension or descension between 2 or more floors, or other levels, and shall include approved exterior stairways, automatic (moving) stairways, fire escapes, ramps, stairways, and smokeproof stair towers.

(139a) **VOLUME (TOTAL)**. The "total volume" (cube or cubage) of a building is the actual cubic space enclosed within the outer surfaces of

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the outside or enclosing walls and contained between the outer surfaces of the roof and the underside of the lowest floor. The volume of structures without enclosing walls (canopies, roofed shelters and similar structures) will be computed by projecting imaginary vertical planes as the enclosing walls at the outer surface of the exterior supports or columns. For cantilevered structures with interior supports, the imaginary vertical planes will be projected at the farthest roof projection or overhang.

**Note:** The definition of total volume requires the cube of dormers, penthouses, vaults, pits, enclosed porches and other enclosed appendages to be included as a part of the cube of the building. It does not include the cube of courts or light shafts, open at the top, or the cube of outside steps, cornices, parapets, or open porches or loggias.

(140) **WALL.** A structural element which is vertical or within 30 degrees of vertical, serving to enclose space, form a division, or support superimposed weight.

(141) **WALL (BEARING).** Any wall which supports a load in addition to its own weight.

(142) **WALL (CAVITY).** A wall built of masonry units or of plain concrete, or a combination of these materials, so arranged to provide an air space within the wall, and in which the facing and backing (inner and outer parts) of the wall are tied together with metal ties.

(143) **WALL (CURTAIN).** An exterior nonbearing wall.

(144) **WALL (DIVISION).\***

(a) *Building division.* A wall used for separation between 2 buildings on the same property identical in construction to a party wall.

(b) *Fire division.* A wall extending from the lowest floor level to or through the roof to restrict the spread of fire.

(145) **WALL (EXTERIOR).** Any outer enclosing wall of a building or structure.

(146) **WALL (FRAMING).** Wall framing shall include columns, studs, beams, girders, lintels and girts.

(147) **WALL (HOLLOW BONDED).** Wall built of masonry units with or without any air space within the wall, and in which the facing and backing of the wall are bonded together with masonry units.

(148) **WALL (NONBEARING EXTERIOR).** Wall which supports no vertical load other than its own weight.

(148a) **WALL (NONBEARING INTERIOR).** See "Partition."

(149) **WALL (PANEL).** An exterior nonbearing wall in skeleton construction.

(150) **WALL (PARAPET).** That part of a wall entirely above the roof line.

\*See Appendix A for further explanatory material.

(151) **WALL (PARTY).**\* Walls used for separation between 2 buildings on the property line between adjoining properties.

(152) **WALL (RETAINING).** Wall used to resist laterally imposed pressures.

(153) **WALL (VENEERED).** Wall having facing which is attached to the backing but not so bonded as to exert common action under load.

(153a) **WAREHOUSE.** A warehouse is a place adapted to the reception and storage of goods and merchandise.

(154) **YARD (FRONT).** An open, unoccupied space unobstructed to the sky, extending across the full width of a lot, or plot of land between the street line and the base of a front building wall. Unenclosed terraces, slabs or stoops without roofs or walls may project into this open space.

**History:** Cr. Register, June, 1972, No. 198, eff. 1-1-73; renun. (1) to be (1a), r. and recr. (10), (54), (67) and (121), cr. (1), (5a), (22a), (56a), (57a), (67a), (76a), (106a) and (148a), Register, September, 1973, No. 213, eff. 10-1-73; cr. (102a), (104a) and (105a), Register, December, 1974, No. 228, eff. 1-1-75; cr. (7a), (41a), (139a) and (153a) and am. (125), Register, December, 1976, No. 252, eff. 1-1-77; cr. (42a), (42b), (42c), (42d), and (120a), am. (139a), Register, December, 1977, No. 264, eff. 1-1-78; am. (23) to (26), (97) and (139a), r. (86) (c), Register, December, 1978, No. 276, eff. 1-1-79.

### Standards for Classes of Construction

**Ind 51.015 Scope.** This section covers minimum standards for common types of building designs currently being constructed. This section does not specifically include classification for uncommon building designs such as shells, domes, space frames, inflatable and similar types of designs. The standards contained herein shall be used as a guide for such uncommon building designs to achieve the degree of safety intended by these standards.

**History:** Cr. Register, June, 1972, No. 198, eff. 1-1-73; renun. Register, September, 1973, No. 213, eff. 10-1-73.

**Ind 51.02 General requirements.** (1) **FIRE-RESISTIVE RATINGS.** The fire-resistive ratings shown in "Classes of Construction" table 51.03-A are to satisfy the structural integrity end point for the time specified. For heat transmission end point requirements see section Ind 51.042 (5).

(2) **SUBSTITUTE.** Substitution of a building element fire-resistive rating will be permitted in any class of construction providing it is equal to or better than the required fire-resistive rating as specified in table 51.03-A.

(a) Construction requiring the use of noncombustible material shall not be replaced by combustible construction regardless of fire-resistive rating unless mentioned specifically under classes of construction standards.

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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 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 3/8-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.

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(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.

(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:** 1-2-56; r. and rec. (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 rec. (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.

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(23) ABSORPTION AND BULK SPECIFIC GRAVITY OF NATURAL BUILDING STONE. Part 12 ASTM Designation C 97-47 (1970).

(24) MODULUS OF RUPTURE OF NATURAL BUILDING STONE. Part 12 ASTM Designation C 99-52 (1970).

(25) PHYSICAL TESTING OF QUICKLIME AND HYDRATED LIME. Part 9 ASTM Designation C 110-71.

(26) SAMPLING AND TESTING STRUCTURAL CLAY TILE. Part 12 ASTM Designation C 112-60 (1970).

(27) Not used.

(28) SAMPLING AND TESTING CONCRETE MASONRY UNITS. Part 12 ASTM Designation C 140-70.

(29) AGGREGATE FOR MASONRY MORTAR. Part 12 ASTM Designation C 144-70.

(30) SOLID LOAD-BEARING CONCRETE MASONRY UNITS. Part 12 ASTM Designation C 145-71.

(31) PORTLAND CEMENT. Part 9 ASTM Designation C 150-73a.

(32) COMPRESSIVE STRENGTH OF NATURAL BUILDING STONE. Part 12 ASTM Designation C 170-50 (1970).

(33) HYDRATED LIME FOR MASONRY PURPOSES. Part 9 ASTM Designation C 207-49 (1968).

(34) MORTAR FOR UNIT MASONRY. Part 12 ASTM Designation C 270-71.

(35) GYPSUM CONCRETE. Part 9 ASTM Designation C 317-64 (1970).

(36) MICROSCOPICAL DETERMINATION OF AIR-VOID CONTENT AND PARAMETERS OF THE AIR-VOID SYSTEM IN HARDENED CONCRETE. Part 10 ASTM Designation C 457-71.

(37) CHEMICAL ANALYSIS OF GYPSUM AND GYPSUM PRODUCTS. Part 9 ASTM Designation C 471-72.

(38) PHYSICAL TESTING OF GYPSUM PLASTERS AND GYPSUM CONCRETE. Part 9 ASTM Designation C 472-73.

(39) PHYSICAL TESTING OF GYPSUM BOARD PRODUCTS AND GYPSUM PARTITION TILE OR BLOCK. Part 9 ASTM Designation C 473-68.

(40) MORTAR AND GROUT FOR REINFORCED MASONRY. Part 12 ASTM Designation C 476-71.

(41) HOLLOW BRICK (HOLLOW MASONRY UNITS MADE FROM CLAY OR SHALE). Part 12 ASTM Designation C 652-70.

\*See Appendix A for further explanatory material.

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(42) RESISTANCE OF CONCRETE TO RAPID FREEZING AND THAWING. Part 10 ASTM Designation C 666-73.

(43) ESTABLISHING STRUCTURAL GRADES AND RELATED ALLOWABLE PROPERTIES FOR VISUALLY GRADED LUMBER. Part 16 ASTM Designation D 245-74.

(44) EVALUATING THE PROPERTIES OF WOOD-BASE FIBER AND PARTICLE PANEL MATERIALS. Part 16 ASTM Designation D 1037-72a.

(45) LOAD-SETTLEMENT RELATIONSHIP FOR INDIVIDUAL PILES UNDER STATIC AXIAL LOAD. Part 11 ASTM Designation D 1143-69.

(46) CONDUCTING STRENGTH TESTS OF PANELS FOR BUILDING CONSTRUCTION. Part 14 ASTM Designation E 72-68.

(47) SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS. Part 14 ASTM Designation E 84-70.

(48) FIRE TESTS OF ROOF COVERINGS. Part 14 ASTM Designation E 108-58 (1970).

(49) FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS. Part 14 ASTM Designation E 119-73.

(50) NONCOMBUSTIBILITY OF ELEMENTARY MATERIALS. Part 14 ASTM Designation E 136-73.

(51) BOND STRENGTH OF MORTAR TO MASONRY UNITS. Part 14 ASTM Designation E 149-66.

(52) FIRE TESTS OF DOOR ASSEMBLIES. Part 14 ASTM Designation E 152-73.

(53) FIRE TESTS OF WINDOW ASSEMBLIES. Part 14 ASTM Designation E 163-65 (1972).

(54) COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGES. Part 14 ASTM Designation E 447-72.

**History:** Cr. Register, October, 1967, No. 142, eff. 11-1-67; cr. (88) to (93), Register, February, 1971, No. 182, eff. 7-1-71; r. (88) to (93) eff. 8-1-71 and recr. (88) to (93) eff. 1-1-72, Register, July, 1971, No. 187; r. and recr., Register, July, 1974, No. 223, eff. 1-1-75; am. (43), Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 51.26 Adoption of ACI Standards.** Pursuant to s. 227.025, Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards of the American Concrete Institute (ACI), P. O. Box 19150, Detroit, Michigan 48219. Copies of the standards in reference are on file in the offices of the department, the secretary of state, and the revisor of statutes.

(1) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. ACI 318-77.

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(2) RECOMMENDED PRACTICE FOR MANUFACTURED REINFORCED CONCRETE FLOOR AND ROOF UNITS. ACI 512-67.

(3) MINIMUM REQUIREMENTS FOR THIN-SECTION PRECAST CONCRETE CONSTRUCTION. ACI 525-63.

**History:** Cr. Register, October, 1967, No. 142, eff. 11-1-67; r. and recr., Register, July, 1974, No. 223, eff. 1-1-75; am. (intro.) and (1), Register, January, 1980, No. 289, eff. 2-1-80.

**Ind 51.27 Adoption of miscellaneous standards.** Pursuant to s. 227.025, Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards. Copies of the standards in reference are on file in the offices of the department, the secretary of state, and the revisor of statutes.

(1) Aluminum Association (The), 750 Third Avenue, New York City 10017, SPECIFICATIONS FOR ALUMINUM STRUCTURES, Aluminum Construction Manual, Section 1, second edition, November 1971.

(2) American Institute of Steel Construction, 400 North Michigan Ave., Chicago, Illinois 60611, SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, November 1, 1978; and COMMENTARY ON THE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, November 1, 1978.

(3) American Institute of Timber Construction, 333 West Hampden Ave., Englewood, Colorado 80110, STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF DOUGLAS FIR, WESTERN LARCH, SOUTHERN PINE AND CALIFORNIA REDWOOD, AITC 117-71; STANDARD SPECIFICATIONS FOR HARDWOOD GLUED LAMINATED TIMBER, AITC 119-71; STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER USING "E" RATED AND VISUALLY GRADED LUMBER OF DOUGLAS FIR, SOUTHERN PINE, HEM-FIR, AND LODGEPOLE PINE, AITC 120-71.

(4) American Iron and Steel Institute, 1000 16th St. NW, Washington, D.C. 20036, SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 1968 edition, including Addendum No. 1, Nov. 19, 1970; and Addendum No. 2, Feb. 4, 1977; STAINLESS STEEL COLD-FORMED STRUCTURAL DESIGN MANUAL 1974 edition; MANUAL FOR STRUCTURAL APPLICATIONS OF STEEL CABLES FOR BUILDINGS, 1973 edition.

(5) American National Standards Institute, Inc., 1430 Broadway, New York, N. Y. 10018, SPECIFICATION FOR REINFORCED GYPSUM CONCRETE, ANSI A 59.1-1968; SPECIFICATION FOR VERMICULITE CONCRETE ROOFS AND SLABS ON GRADE, ANSI A 122.1-1965; PERFORMANCE SPECIFICATIONS AND METHODS OF TESTING FOR SAFETY GLAZING MATERIALS USED IN BUILDINGS, ANSI Z 97.1-1972.

(6) American Welding Society, 2501 NW 7th Street, Miami, Florida 33125, STRUCTURAL WELDING CODE, AWS D 1.1-79; SPECIFI-

\*See Appendix A for further explanatory material.

CATION FOR WELDING SHEET STEEL IN STRUCTURES, AWS  
D 1.3-78.

(6a) American Wood Preservers Bureau, 2740 S. Randolph St., Arlington, Virginia 22206, STANDARD FOR SOFT-WOOD LUMBER, TIMBER AND PLYWOOD PRESSURE TREATED WITH WATER-BORNE PRESERVATIVES FOR ABOVE GROUND USE, AWPB standard LP-2, 1975; STANDARD FOR SOFT-WOOD LUMBER, TIMBER AND PLYWOOD PRESSURE TREATED WITH WATER-BORNE PRESERVATIVES FOR GROUND CONTACT USE, AWPB standard LP-22, 1975; QUALITY CONTROL PROGRAM FOR SOFT-WOOD LUMBER, TIMBER AND PLYWOOD PRESSURE TREATED WITH WATER-BORNE PRESERVATIVES FOR GROUND CONTACT USE IN RESIDENTIAL AND LIGHT COMMERCIAL FOUNDATIONS, AWPB standard FDN, 1975.

(7a) National Fire Protection Association, 470 Atlantic Avenue, Boston, Mass. 02210, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, NFPA No. 13-1974; STANDARD FOR THE INSTALLATION OF CENTRIFUGAL FIRE PUMPS, NFPA No. 20-1974; STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION, NFPA No. 22-1974; STANDARD FOR OUTSIDE PROTECTION, NFPA No. 24-1973; STANDARD FOR THE INSTALLATION OF OIL-BURNING EQUIPMENT, NFPA No. 31-1978; NATIONAL FUEL GAS CODE, NFPA No. 54-1974; STANDARD FOR CENTRAL STATION PROTECTIVE SIGNALING SYSTEMS, NFPA No. 71-1974; STANDARD FOR AUXILIARY PROTECTIVE SIGNALING SYSTEMS, NFPA No. 72B-1974; STANDARD FOR REMOTE STATION PROTECTIVE SIGNALING SYSTEMS, NFPA No. 72C-1974; STANDARD FOR PROPRIETARY PROTECTIVE SIGNALING SYSTEMS, NFPA No. 72D-1974; STANDARD ON AUTOMATIC FIRE DETECTORS, NFPA No. 72E-1974; STANDARD FOR CHIMNEYS, FIREPLACES AND VENTS, NFPA No. 211-1977.

(8) National Forest Products Association, 1619 Massachusetts Ave. NW, Washington, D.C. 20036, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 1977 edition, with amendments to sections 2.2.5.3, 4.1.7 and 4.2.2, including DESIGN VALUES FOR WOOD CONSTRUCTION, a supplement to the 1977 edition of National Design Specification for Wood Construction; THE ALL-WEATHER WOOD FOUNDATION SYSTEM, BASIC REQUIREMENTS, Technical Report No. 7, Revised 1976, with amendments to section 6.7, including Supplement to Technical Report No. 7, dated June 1, 1977, with amendments to Article 3.3.1 of section 3.3.

(9) Steel Joist Institute, 1703 Parnum Blvd., Suite 204, Richmond, Virginia 23229, STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS, 1979.

(10) Truss Plate Institute, Inc., 1800 Pickwick Ave., Glenview, Illinois 60025, DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, TPI-78.

\*See Appendix A for further explanatory material.

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(11) Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, U. S. PRODUCT STANDARDS PS 1-66 for softwood plywood/construction and industrial, including all amendments through No. 6, dated June 8, 1970 (National Bureau of Standards).

**History:** Cr. Register, July, 1974, No. 223, eff. 1-1-75, am. (5) and (10), cr. (7a), Register, December, 1974, No. 228, eff. 1-1-75; am. (2) and r. (7), Register, December, 1976, No. 252, eff. 1-1-77; cr. (6a) and am. (8), Register, December, 1978, No. 276, eff. 1-1-79; am. (10), Register, February, 1979, No. 278, eff. 3-1-79; am. (2), (6), (7a), (9) and (10), Register, January, 1980, No. 289, eff. 2-1-80.

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\*See Appendix A for further explanatory material.

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