

# **Wisconsin Administrative Code**

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## **DEPARTMENT OF COMMERCE**

### **Chapters Comm 61 to 65 WISCONSIN COMMERCIAL BUILDING CODE**

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## INTRODUCTION

### Purpose and Structure

The Legislature, by s. 35.93 and ch. 227, Stats., directed the publication of the rules of executive agencies having rule-making authority in a loose-leaf, continual revision system known as the Wisconsin Administrative Code. The Code is kept current by means of new and replacement pages. The pages are issued monthly, together with notices of hearings, notices of proposed rules, notices of emergency rules, instructions for insertion of new material, and other information relating to administrative rules and the administrative rulemaking process. This service is called the Wisconsin Administrative Register, and comes to the subscriber near the middle and at the end of each month. Code pages are issued to subscribers only with the end of the month Register. The editing and publishing of the Register and Code is done by the Revisor of Statutes Bureau, Suite 800, 131 W. Wilson St., Madison, Wisconsin, 53703. E-mail-gary.poulson@legis.state.wi.us Telephone (608-266-7275).

### Availability

The complete code and the upkeep service are distributed to the county law libraries; to the libraries of the University of Wisconsin Law School and Marquette University Law School; to the State Historical Society; to the Legislative Reference Bureau and to the State Law Library, and to certain designated public libraries throughout the state.

The sale and distribution of the printed Register, Code and of its parts is handled by Department of Administration, Document Sales, P.O. Box 7840, Madison, Wisconsin 53707. (608-266-3358 information) (1-800-362-7253 or 608 264-9419 charge card orders).

The entire Code and Registers from January, 1996, can be found on the WisLaw<sup>®</sup> CD-ROM. End-user license and subscription order forms are available from Document Sales and Distribution.

The Code and Register can also be found on the internet at [www.legis.state.wi.us/rsb](http://www.legis.state.wi.us/rsb)

### Arrangement and Table of Contents

The Code is arranged in the complete set alphabetically by agency. Certain descriptors such as "Department" and "Wisconsin" are ignored for arrangement purposes. Several agencies further subdivide their rules either by program e.g. Department of Commerce - Plumbing or by division within the agency e.g. Department of Health & Family Services - Health, chs. HFS 110-. These Codes are arranged in numerical order within the appropriate alphabetical arrangement for the agency.

Each agency adopts a prefix to identify their rules. For example, the Department of Natural Resources uses "NR" before each chapter number.

Each Code with more than one chapter will have a table of chapters. After the title of each chapter will be the page numbers on which the chapter begins. Each chapter will have a table of sections.

### History Notes

Each page of the Code as it was originally filed and printed pursuant to the 1955 legislation, had a date line "1-2-56". A rule which is revised or created subsequent to the original printing date is followed by a history note indicating the date and number of the Register in which it was published and the date on which the revision or creation of the rule became effective. Additions to a section's history note will be shown in bold face when those affected code sections are first released. The absence of a history note at the end of a section indicates that the rule has remained unchanged since the original printing in 1956. The date line at the bottom of the page indicates the month in which the page was released, but does not necessarily mean a substantive change has occurred on that page. Some common abbreviations used in the history notes are: cr. - created, am. - amend, r. - repeal, recr. - recreate, renum. - renumber, eff. - effective and emerg. - emergency.

In some instances an *entire* chapter has been repealed and recreated or renumbered subsequent to the original printing date. When this occurs a note has been placed at the beginning of the chapter after the table of sections to contain this information. A separate history note appears after each section indicating the date when the revision or creation became effective.

Beginning July 2001, history notes will indicate the Clearinghouse Rule number associated with a rule revision. The Clearinghouse Rule number is assigned by the Legislative Council Rules Clearinghouse to a proposed rule near the start of the rulemaking process. This number is portrayed in a history note as, for example, the following: **CR 01-041**. The first 2 numbers indicate the year the rule proposal was initiated and the last 3 numbers refer to a sequential numbering of proposals as the rule proposals are received by the Legislative Council during the course of the year.

### Emergency Rules

The Legislature has granted state agencies the authority to enact rules without using the normal rule-making process by publishing those rules in the official state newspaper. To justify the use of the emergency rule process, an agency must find that the preservation of the public peace, health, safety or welfare will be jeopardized without the emergency rule. Readers should review the current Wisconsin Administrative Register to see if a particular published rule is also affected by an emergency rule. Most emergency rules are eventually adopted as permanent rules and published in the Code.

### Index

The index for the complete Wisconsin Administrative Code will be found in the last volume of the complete set. It will be recompiled, reprinted and distributed at least 3 times a year. Some Codes have a separate index prepared by the agency involved. Agency prepared indexes tend to be more comprehensive than the general index prepared by the Revisor of Statutes. See the Uniform Dwelling Code (chs. Comm 20-25) as an example.



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## Chapter Comm 61

### ADMINISTRATION AND ENFORCEMENT

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Note: Chapters Comm 50 to 64 and Appendices A and B as they existed on June 30, 2002 were repealed and new chapters Comm 61 to 65 and Appendix A and B were created effective July 1, 2002.

#### Subchapter I — Scope and Application

**Comm 61.01 Purpose of code.** Pursuant to various statutory provisions under subch. I of ch. 101, Stats., the purpose of this code is to protect the health, safety and welfare of the public and employees by establishing minimum standards for the design, construction, maintenance and inspection of public buildings, including multifamily dwellings, and places of employment.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.02 Scope.** (1) Except as provided in subs. (2) and (3), this code applies to all public buildings and places of employment.

Note: Under s. 101.01 (11), Stats., "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, employed by another for direct or indirect gain or profit, but does not include any place where persons are employed in private domestic service which does not involve the use of mechanical power or in farming. "Farming" includes those activities specified in s. 102.04 (3), and also includes the transportation of farm products, supplies or equipment directly to the farm by the operator of said farm or employees for use thereon, if such activities are directly or indirectly for the purpose of producing commodities for market, or as an accessory to such production. When used with relation to building codes, "place of employment" does not include an adult family home, as defined in s. 50.01 (1), or, except for the purposes of s. 101.11, a previously constructed building used as a community-based residential facility, as defined in s. 50.01 (1g), which serves 20 or fewer residents who are not related to the operator or administrator.

Under s. 101.01 (12), Stats., "public building" means 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. When used in relation to building codes, "public building" does not include a previously constructed building used as a community-based residential facility as defined in s. 50.01 (1g) which serves 20 or fewer residents who are not related to the operator or administrator or an adult family home, as defined in s. 50.01 (1).

(2) This code does not apply to buildings or situations listed under the exclusions in ss. 101.01 (11) and 101.01(12), Stats., or under the exemptions in s. 101.05, Stats.

Note: Section 102.04 (3), Stats., as referenced in s. 101.01 (11), Stats., reads as follows: "As used in this chapter 'farming' means the operation of farm premises owned or rented by the operator. 'Farm premises' means areas used for operations herein set forth, but does not include other areas, greenhouses or other similar structures unless used principally for the production of food and farm plants. 'Farmer' means any person engaged in farming as defined. Operation of farm premises shall be deemed to be the planting and cultivating of the soil thereof; the raising and harvesting of agricultural, horticultural or arboricultural crops thereon; the raising, breeding, tending, training and management of livestock, bees, poultry, fur-bearing animals, wildlife or aquatic life, or their products, thereon; the processing, drying,

packing, packaging, freezing, grading, storing, delivering to storage, to market or to a carrier for transportation to market, distributing directly to consumers or marketing any of the above-named commodities, substantially all of which have been planted or produced thereon; the clearing of such premises and the salvaging of timber and management and use of wood lots thereon, but not including logging, lumbering or wood cutting operations unless conducted as an accessory to other farming operations; the managing, conserving, improving and maintaining of such premises or the tools, equipment and improvements thereon and the exchange of labor, services or the exchange of use of equipment with other farmers in pursuing such activities. The operation for not to exceed 30 days during any calendar year, by any person deriving the person's principal income from farming, of farm machinery in performing farming services for other farmers for a consideration other than exchange of labor shall be deemed farming. Operation of such premises shall be deemed to include also any other activities commonly considered to be farming whether conducted on or off such premises by the farm operator."

Note: Under s. 50.01 (1), Stats., as referenced in s. 101.01 (12), Stats., "adult family home" means one of the following:

(a) A private residence to which all of the following apply:

1. Care and maintenance above the level of room and board but not including nursing care are provided in the private residence by the care provider whose primary domicile is this residence for 3 or 4 adults, or more adults if all of the adults are siblings, each of whom has a developmental disability, as defined in s. 51.01 (5), or, if the residence is licensed as a foster home, care and maintenance are provided to children, the combined total of adults and children so served being no more than 4, or more adults or children if all of the adults or all of the children are siblings, or, if the residence is licensed as a treatment foster home, care and maintenance are provided to children, the combined total of adults and children so served being no more than 4.

2. The private residence was licensed under s. 48.62 as a foster home or treatment foster home for the care of the adults specified in subd. 1. at least 12 months before any of the adults attained 18 years of age.

(b) A place where 3 or 4 adults who are not related to the operator reside and receive care, treatment or services that are above the level of room and board and that may include up to 7 hours per week of nursing care per resident. "Adult family home" does not include a place that is specified in sub. (1g) (a) to (d), (f) or (g).

Under s. 50.01 (1g), Stats., as referenced in s. 101.01 (12), Stats., "community-based residential facility" means a place where 5 or more adults who are not related to the operator or administrator and who do not require care above intermediate level nursing care reside and receive care, treatment or services that are above the level of room and board but that include no more than 3 hours of nursing care per week per resident. "Community-based residential facility" does not include any of the following:

(a) A convent or facility owned or operated by members of a religious order exclusively for the reception and care or treatment of members of that order.

(b) A facility or private home that provides care, treatment and services only for victims of domestic abuse, as defined in s. 46.95 (1) (a), and their children.

(c) A shelter facility as defined under s. 16.352 (1) (d).

(d) A place that provides lodging for individuals and in which all of the following conditions are met:

1. Each lodged individual is able to exit the place under emergency conditions without the assistance of another individual.

2. No lodged individual receives from the owner, manager or operator of the place or the owner's, manager's or operator's agent or employee any of the following:

a. Personal care, supervision or treatment, or management, control or supervision of prescription medications.

b. Care or services other than board, information, referral, advocacy or job guidance; location and coordination of social services by an agency that is not affiliated with the owner, manager or operator, for which arrangements were made for an indi-

vidual before he or she lodged in the place; or, in the case of an emergency, arrangement for the provision of health care or social services by an agency that is not affiliated with the owner, manager or operator.

(e) An adult family home.

(f) A residential care apartment complex.

(g) A residential facility in the village of Union Grove that was authorized to operate without a license under a final judgment entered by a court before January 1, 1982, and that continues to comply with the judgment notwithstanding the expiration of the judgment.

**Note:** Section 101.05, Stats., reads as follows: "Exempt buildings and projects.

(1) No building code adopted by the department under this chapter shall affect buildings located on research or laboratory farms of public universities or other state institutions and used primarily for housing livestock or other agricultural purposes.

"(2) A bed and breakfast establishment, as defined under s. 254.61 (1), is not subject to building codes adopted by the department under this subchapter.

"(3) No standard, rule, code or regulation of the department under this subchapter applies to construction undertaken by the state for the purpose of renovation of the state capitol building.

"(4) No standard, rule, order, code or regulation adopted, promulgated, enforced or administered by the department under this chapter applies to a rural school building if all of the following are satisfied:

"(a) The school building consists of one classroom.

"(b) The school building is used as a school that is operated by and for members of a bona fide religious denomination in accordance with the teachings and beliefs of the denomination.

"(c) The teachings and beliefs of the bona fide religious denomination that operates the school prohibit the use of certain products, devices or designs that are necessary to comply with a standard, rule, order, code or regulation adopted, promulgated, enforced or administered by the department under this chapter."

Under s. 254.16 (1) Stats., as referenced in 101.05, Stats., "bed and breakfast establishment" means any place of lodging that:

(a) Provides 8 or fewer rooms for rent to no more than a total of 20 tourists or transients;

(b) Provides no meals other than breakfast and provides the breakfast only to renters of the place;

(c) Is the owner's personal residence;

(d) Is occupied by the owner at the time of rental;

(e) Was originally built and occupied as a single-family residence, or, prior to use as a place of lodging, was converted to use and occupied as a single-family residence; and

(f) Has had completed, before May 11, 1990, any structural additions to the dimensions of the original structure, including by renovation, except that this limit does not apply to any of the following:

1. A structural addition, including a renovation, made to a structure after May 11, 1990, within the dimensions of the original structure.

2. A structural addition, made to a structure that was originally constructed at least 50 years before an initial or renewal application for a permit under s. 254.64 (1) (b) is made and for which no use other than as a bed and breakfast establishment is proposed. The structural addition under this subdivision shall comply with the rules under s. 101.63 (1) and (1m).

**(3)** This code does not apply to all of the following types of buildings, structures or situations:

(a) A temporary building or structure used exclusively for construction purposes, not exceeding 2 stories in height, and not used as living quarters.

(b) A building or structure located on Indian reservation land held in trust by the United States.

(c) Buildings and portions of buildings that are exempted by federal statutes or treaties.

(d) Portions of buildings leased to the federal government provided all of the following conditions are met:

1. A statement is filed with the register of deeds that describes the steps necessary for compliance to this code if the space is converted to a nonexempt use.

2. The statement filed with the register of deeds is recorded in a manner that will permit the existence of the statement to be determined by reference to the property where the building is located.

3. The owner of the building submits a copy of the recorded document to the department or its authorized representative.

(e) Buildings and structures that are on a farm premises and used exclusively for farming purposes, provided any use of the building or structure by the public consists only of consumers directly receiving farm commodities, substantially all of which have been planted or produced on the farm premises. In this application, "substantially all" means at least 90 percent of the commodities were planted or produced on the farm premises.

(f) A one- or 2-family dwelling used as a foster home, treatment foster home, or group home, or as a child caring institution having a capacity for 8 or fewer children, all as defined in s. 48.02, Stats.

**Note:** The definitions in s. 48.02, Stats., limit foster homes to no more than 4 children unless all the children are siblings, limit treatment foster homes to no more than 4 children, and limit group homes to no more than 8 children. Where permitted by the department of health and family services, a group home or a child caring institution having a capacity for 8 or fewer children may be located in a one- and 2-family dwelling as a community living arrangement, as defined in s. 46.03 (22), Stats.

(g) A one- or 2-family dwelling in which a public or private day care center for 8 or fewer children is located.

(h) That portion of or space within a one- or 2-family dwelling in which a home occupation is located.

**(4)** In this section, "home occupation" means any business, profession, trade or employment conducted in a person's dwelling unit, that may involve the person's immediate family or household and a maximum of one other unrelated person, but does not involve any of the following:

(a) Explosives, fireworks or repair of motor vehicles.

(b) More than 25% of the habitable floor area of the dwelling unit.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.03 Application. (1) RETROACTIVITY.** A rule of this code does not apply retroactively to public buildings and places of employment existing prior to the effective date of the rule unless specifically stated in the administrative rule.

**(2) CONFLICTS.** (a) Where rules of the department specify conflicting requirements, types of materials or methods of construction, the most restrictive rule shall govern, except as provided in pars. (b) and (c).

(b) Where there is a conflict between a rule that prescribes a general requirement and a rule that prescribes a specific or more detailed requirement, the specific or more detailed requirement shall govern.

(c) The requirements in IBC Appendix C may be applied to certain agricultural buildings, as specified in s. Comm 62.3600 (2), in lieu of corresponding, otherwise applicable requirements of this code.

**Note:** Under s. Comm 62.0100 (1) and IBC section 102.4, where differences occur between the requirements of this code and referenced codes or standards, the requirements of this code apply.

**(3) DEPARTMENT AUTHORITY.** Pursuant to s. 101.02 (1), Stats., the department reserves the right to interpret the requirements in this chapter and in all adopted codes and standards.

**Note:** Section 101.02 (1), Stats., reads as follows: "The department shall adopt reasonable and proper rules and regulations relative to the exercise of its powers and authorities and proper rules to govern its proceedings and to regulate the mode and manner of all investigations and hearings."

**(4) LOCAL ORDINANCES.** (a) 1. Except as provided in par. (b), pursuant to s. 101.02 (7), Stats., a city, village, town or local board of health may enact and enforce additional or more restrictive standards for public buildings and places of employment, provided the standards do not conflict with this code.

2. Nothing in this code affects the authority of a municipality to enact and enforce standards relative to land use, zoning or regulations under ss. 59.69, 60.61, 60.62, 61.35 and 62.23 (7), Stats.

(b) 1. Pursuant to s. 101.02 (7m), Stats., a city, village, town or county may not enact and enforce additional or more restrictive standards for multifamily dwellings, except as provided under s. 101.975, Stats., and that do not conflict with this code.

2. Under subch. VI of ch. 101, Stats., only a municipality with a preexisting stricter sprinkler ordinance as specified under s. 101.975 (3), Stats., may enact an ordinance requiring the automatic fire sprinkler system protection or 2-hour fire resistance specified in s. 101.14 (4m) (d) and (e), Stats. Under s. 101.14 (4m) (am), Stats., no municipality may enact an ordinance specifying thresholds for sprinkler protection or fire resistance that differ from s. Comm 62.0903 or s. 101.14 (4m) (d) and (e), Stats. Speci-

fying the thresholds in s. 101.14 (4m) (d) and (e), Stats. does not enable a municipality to depart from any other criteria or procedure in this code.

Note: See Appendix A for a tabular listing of the thresholds in s. 101.14 (4m) (d) and (e), Stats., and for a listing of the municipalities that the department believes have a preexisting stricter sprinkler ordinance.

3. This code does not affect municipal requirements contained in a "preexisting stricter sprinkler ordinance," as provided in s. 101.975 (3), Stats.

Note: Section 101.975 (3), Stats., reads: In this subsection, "preexisting stricter sprinkler ordinance" means an ordinance that fulfills all of the following requirements:

1. The ordinance requires an automatic sprinkler system in multifamily dwellings containing 20 or less attached dwelling units.

2. The ordinance was in effect on January 1, 1992, and remains in effect on May 1, 1992.

3. The ordinance does not conform to this subchapter and s. 101.02 (7m) or is contrary to an order of the department under subch. I.

4. The ordinance is more stringent than the corresponding provision of this subchapter or s. 101.02 or the contrary provision of an order of the department under subch. I.

If a political subdivision has a preexisting stricter sprinkler ordinance, that ordinance remains in effect, except that the political subdivision may amend the ordinance to conform to this subchapter and s. 101.02 (7m) and to be not contrary to an order of the department under ss. 101.01 to 101.25.

4. a. Any municipality exercising or intending to exercise jurisdiction under this code may apply to the department for a variance permitting the municipality to adopt an ordinance pertaining to multifamily dwellings not in conformance with this code. The department shall review and make a determination on a municipal request under this section within 60 business days of receipt of the request.

5. a. The department may grant a municipal variance only where all of the conditions in subd. 5. b. and c. are demonstrated.

b. The municipality demonstrates that the variance is necessary to protect the health, safety, and welfare of individuals within the municipality because of specific climate or soil conditions generally existing within the municipality.

c. The municipality demonstrates that the granting of the variance, when viewed both individually and in conjunction with other variances requested by the municipality, does not impair the statewide uniformity of this code.

d. Prior to making a determination on a municipal variance, the department shall solicit within the municipality and consider the statements of any interested persons as to whether the variance should be granted.

e. This subdivision shall be strictly construed in accordance with the goal of promoting statewide uniformity.

(5) ALTERNATIVES. Nothing in this code is intended to prohibit or discourage the design and utilization of new building products, systems, or components provided written approval from the department is obtained first.

(6) NEW BUILDINGS AND STRUCTURES. Buildings, structures and additions to buildings, structures and components, to be constructed or erected on or after the effective dates of the rules under this code shall be designed, constructed and maintained in accordance with the rules of this code as these rules exist on one of the following:

(a) Pursuant to s. Comm 61.30, the date plans for the building, structure or addition are approved by the department or authorized representative.

(b) The date the local building permit is issued, if plan submission and approval is not required under s. Comm 61.30.

(c) The date construction is initiated, where pars. (a) and (b) do not apply.

(7) ALTERATIONS. Those portions, elements, systems or components of existing buildings and structures to be altered or modified on or after the effective dates of the rules under this code and where the alteration or the modification affects a building element or component relating to subject matters regulated by this code, shall be designed, constructed and maintained in accordance with

the applicable rules of this code as the rules exist on one of the following:

(a) Pursuant to s. Comm 61.30, the date plans for the alteration or modification are approved by the department or authorized representative.

(b) The date the local building permit is issued, if plan submission and approval is not required under s. Comm 61.30.

(c) The date the alteration is initiated, where pars. (a) and (b) do not apply.

(8) REPLACEMENTS. Those building systems or components of existing buildings and structures to be replaced on or after the effective dates of the rules under this code and where the replacement involves a building element or component relating to subject matters regulated by this code shall conform and be maintained in accordance with the applicable rules of this code as these rules exist on either one of the following:

(a) Pursuant to s. Comm 61.30, the date plans for the replacement are approved by the department or authorized representative.

(b) The date the local building permit is issued, if plan submission and approval is not required under s. Comm 61.30.

(c) The date the replacement is initiated, where pars. (a) and (b) do not apply.

(9) REPAIRS. Those portions, elements, systems or components of existing buildings and structures repaired on or after the effective dates of the rules under this code shall conform and be maintained in accordance with the standards of this code as these standards exist on one of the following:

(a) The date plans for that portion, element, system or component was approved by the department or authorized representative.

(b) The date the local building permit was issued for that portion, element, system or component, if plan submission and approval was not required.

(c) The date construction was initiated for that portion, element, system or component, where pars. (a) and (b) do not apply.

(d) The date repair is initiated.

(10) CHANGE OF OCCUPANCY OR USE. (a) Except as provided in par. (b), no change may be made in the use or occupancy of any building or structure, or any space within a building or structure, that would place the building, structure or space either in a different division of the same group of occupancies or in a different group of occupancies, unless the building, structure or space complies with this code's requirements for the new division or group of occupancies, as these requirements exist on one of the following dates:

1. Pursuant to s. Comm 61.30, the date when plans for the change in occupancy or use are approved by the department or authorized representative.

2. The date a local building permit is issued, if plan submittal and approval is not required under s. Comm 61.30.

3. The date construction is initiated, where subds. 1. and 2. do not apply.

(b) This subsection does not apply to a temporary use approved under sub. (11), or to a new use that will be less hazardous, based on life and fire risk, than an existing use.

(11) TEMPORARY USE. A municipal fire or building code official may allow a building or a portion of a building to be used temporarily in a manner that differs from the approved use for the building or space, or may approve a temporary building to be used by the public, subject to all of the following provisions:

(a) The official shall determine the time frame within which the temporary use is permitted, based on the extent hazards are created by the temporary use. This time frame may not exceed 180 days, except the official may grant extensions for demonstrated cause.

(b) Except as provided in par. (c), buildings or spaces considered for temporary use shall conform to the requirements of this code as necessary to ensure the public safety, health and general welfare.

(c) The official may require additional safety requirements for a temporary use as a trade-off for any safety provisions that may be lacking.

(d) The official may terminate the approval for a temporary use at any time and order immediate discontinuance of the use or complete evacuation of the building or space.

**(12) EXISTING BUILDINGS AND STRUCTURES.** Unless otherwise specifically stated in this code, an existing building or structure, and every element, system, or component of an existing building or structure shall be maintained to conform with the building code requirements that applied when the building, structure, element, system, or component was constructed, and to conform with ch. Comm 14 wherever applicable.

**(13) INTERNATIONAL FIRE CODE.** (a) The IFC, as referenced by the codes adopted under s. Comm 61.05, does not apply except as follows:

1. Design and construction-related requirements shall apply that are addressed in IFC section 102.6; IFC chapters 2 to 4; IFC sections 501 to 502 and 504 to 510; IFC sections 601 to 605 and 607 to 609; IFC chapters 7 and 8; IFC sections 901.1 to 901.4.2, 901.4.4 to 909.18.9, and 909.20 to 913; and IFC chapters 10, 12 to 21, 23 to 29, 31, 32, 36, 37, and 39 to 44.

2. Occupant loads addressed in IFC section 1003.2.2.10 shall apply but shall be established by the owner rather than by the code official.

3. Construction-related inspections and reports shall apply that are addressed in IFC chapters 2 to 8; IFC sections 901 to 909.18.9 and 909.20 to 913; and IFC chapters 10, 12 to 21, 23 to 29, 31, 32, 36, 37, and 39 to 44 but may be performed or compiled by any qualified agency, rather than by a special inspector.

4. All requirements that specify submittal and approval of either construction documents or acceptance tests and records, are applicable only at a local level, where required by a local code official.

5. All requirements that specify obtaining a permit, are applicable only at a local level, where required by a local ordinance.

6. Use and operation provisions shall apply which are a contingency of design and construction-related requirements and which are addressed in IFC chapters 2 to 4; IFC sections 501 to 502 and 504 to 510; IFC sections 601 to 605 and 607 to 609; IFC chapters 7 and 8; IFC sections 901.1 to 901.4.2, 901.4.4 to 909.18.9, and 909.20 to 913; and IFC chapters 10, 12 to 21, 23 to 29, 31, 32, 36, 37, and 39 to 44.

(b) Where a municipality has received a written special order from the department to use the IFC in lieu of NFPA 1 and subch. III of Comm 14, as authorized in ch. Comm 14, all of the IFC requirements referenced in the special order shall apply.

**Note:** The department and other state agencies may have other rules that may affect the design, construction, maintenance and use of public buildings and places of employment, including chs. Comm 5, Licenses, Certifications, and Registrations; Comm 7, Explosive Materials; Comm 9, Manufacture of Fireworks; Comm 10, Flammable and Combustible Liquids; Comm 14, Fire Prevention; Comm 16, Electrical; Comm 18, Elevators; Comm 40, Gas Systems; Comm 41, Boilers and Pressure Vessels; Comm 43, Anhydrous Ammonia; Comm 45, Mechanical Refrigeration; Comm 70, Historic Buildings; and Comm 75 to 79, Existing Buildings.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. (6) (c), (7) (c), (13) (a) 1. and 6. Register June 2002 No. 558, eff. 7-1-02.

#### **Comm 61.04 Definitions.** In this code:

(1) "Authorized representative" means any certified municipality or county as specified in s. Comm 61.70, and any appointed agent as specified in s. Comm 61.71.

(2) "Department" means the department of commerce.

(3) "HVAC" means heating, ventilating, and air conditioning.

(4) "This code" means chs. Comm 61 to 65, which is the Wisconsin Commercial Building Code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

#### **Comm 61.05 Adoption of the International Codes.**

(1) IBC. The *International Building Code*® – 2000, subject to the modifications specified in this chapter and ch. Comm 62 is hereby incorporated by reference into this code.

(2) IECC. The *International Energy Conservation Code*® – 2000, subject to the modifications specified in ch. Comm 63 is hereby incorporated by reference into this code.

(3) IMC. The *International Mechanical Code*® – 2000, subject to the modifications specified in ch. Comm 64 is hereby incorporated by reference into this code.

(4) IFGC. The *International Fuel Gas Code*® – 2000, subject to the modifications specified in ch. Comm 65 is hereby incorporated by reference into this code.

(5) ICC/ANSI. The ICC/ANSI A117.1–1998, Standard for Accessible and Usable Buildings and Facilities, subject to the modifications specified in ch. Comm 62 is hereby incorporated by reference into this code.

**Note:** A copy of the *International Building Code*®, *International Energy Conservation Code*®, *International Mechanical Code*®, *International Fuel Gas Code*®, and ICC/ANSI A117.1, Standard for Accessible and Usable Buildings and Facilities is on file in the offices of the department, the secretary of state, and the revisor of statutes. Copies of the International Codes may be purchased from the following organizations:

Building Officials and Code Administrators International, Inc., 4051 West Flossmoor Road, Country Club Hills, IL 60478-5695, (708) 799-2300, web page [www.bocai.org](http://www.bocai.org).

International Conference of Building Officials, 5360 Workman Mill Road, Whittier, CA, 90601-2298, (562) 699-0541, web page [www.icbo.org](http://www.icbo.org).

Southern Building Code Congress International, Inc. 900 Montclair Road, Birmingham, AL, 35213-1206, (205) 591-1853, web page [www.sbcci.org](http://www.sbcci.org).

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109: cr. (5) Register June 2002 No. 558, eff. 7-1-02.

**Comm 61.06 Fees.** Fees for petitions for variance, product approvals, notice registrations, plan examination and approvals, and for inspections of buildings, and structures shall be submitted as specified in ch. Comm 2. Fees shall be submitted at the time the application for approval is submitted. No plan examinations, approvals or inspections may be made until the fees are received.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

### **Subchapter II — Responsibilities, Appeals, Petitions and Penalties**

#### **Comm 61.115 Construction site soil erosion control.**

(1) A notice of intent for coverage under a Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-0067831-1 for storm water discharges associated with construction activities as required by 40 CFR part 122 shall be filed by the landowner for the construction project of a public building or a building that is a place of employment disturbing 5 or more acres of land. A construction site soil erosion control plan and storm water management plan shall be prepared in accordance with good engineering practices and the design criteria, standards and specifications outlined in the Wisconsin Construction Site Best Management Practices Handbook published by the department of natural resources (WDNR Pub. WR-222 November 1993 Revision).

**Note:** Copies of the Wisconsin Construction Best Management Practice Handbook are available through Wisconsin Department of Administration, Document Sales, 202 S. Thornton Ave., Madison, WI 53707.

(a) Prior to filing a notice of intent, a site specific soil erosion control plan and storm water management plan shall be prepared in accordance with ss. NR 216.46 and 216.47, respectively. If the soil erosion control plan or actions required by the plan fail to control the construction site soil erosion, the plan shall be amended or other actions taken to control construction site soil erosion.

(b) The landowner shall implement the soil erosion control plan throughout the construction period. Soil erosion control

measures shall be installed and maintained at the construction site until the construction site is stabilized and a notice of termination is filed with the department stating that the site has undergone final site stabilization in accordance with s. NR 216.55.

(c) The landowner shall meet the reporting and monitoring requirements in s. NR 216.48.

(d) The department may inspect and enforce the provisions of this section in the event of violations. Additional information requested by the department to ascertain compliance with this section shall be submitted within the time period specified by the department.

(e) If the department of natural resources determines the construction site to be a significant source of storm water pollution, the department of natural resources may require the site to be covered by an individual WPDES storm water discharge permit.

**Note:** An industrial construction site covered by this section may also require an Industrial Storm Water Discharge Permit issued by the department of natural resources as provided in subch. II of ch. NR 216.

(2) A notice of intent shall be filed either with the department or with certified municipalities and counties authorized to review plans and perform inspections under s. Comm 61.70. Municipalities and counties shall file a copy of the notice of intent with the department. The notice of intent shall be filed on form 3400-161 published by the department of natural resources.

**Note:** Copies of form 3400-161 may be obtained from the department or the department of natural resources.

(3) The notice of intent form shall be completed in accordance with the instructions and filed at least 14 working days prior to commencement of construction.

(4) The department shall provide a summary of the notice of intent information collected to department of natural resources.

(5) A landowner filing a notice of intent under this section shall be exempt from the department of natural resources' \$200 fee associated with filing form 3400-161.

**History:** CR 01-139; cr. Register June 2002 No. 558, eff. 7-1-02; renum. from s. Comm 50.115 under s. 13.93 (2m) (b) 1., Stats., Register June 2002 No. 558.

**Comm 61.20 Responsibilities. (1) OWNER.** Compliance with this code does not relieve the owner of a public building or place of employment from compliance with the administrative rules established by other state jurisdictions.

**Note:** Pursuant to s. 101.11 (2) (a), Stats., no employer or owner, or other person shall hereafter construct or occupy or maintain any place of employment, or public building, that is not safe, nor prepare plans which shall fail to provide for making the same safe.

**Note:** Section 101.12 (3) (h), Stats., prohibits local issuance of permits or licenses for construction or use of public buildings or places of employment until required drawings and calculations have been examined and approved by the department.

**Note:** Section 145.195 (1), Stats., prohibits local issuance of a building permit for construction of any structure requiring connection to a private domestic sewage treatment and disposal system unless a system satisfying all applicable regulations already exists to serve the proposed structure or all permits necessary to install such a system have been obtained.

(2) **DESIGN.** (a) Pursuant to ch. 443, Stats., a public building, structure or place of employment shall be designed by an architect or an engineer, except as provided under ss. 443.14 and 443.15, Stats.

(b) Pursuant to ch. 443, Stats., a component or a system, including an electrical system, a fire protection system, a heating ventilating and air conditioning system, or a plumbing system, for a public building, structure or place of employment shall be designed by an architect, engineer or a designer of engineering systems, except as provided under ss. 443.14 and 443.15, Stats.

**Note:** Sections 443.14 and 443.15 read:

**443.14 Exempt persons.** The following persons, while practicing within the scope of their respective exemptions, shall be exempt from this chapter:

(1) An employee of a person holding a certificate of registration in this state who is engaged in the practice of architecture or professional engineering and an employee of a person temporarily exempted from registration, if the practice does not include responsible charge of architecture or professional engineering practice.

(2) Officers and employees of the federal government while engaged within this state in the practice of architecture, landscape architecture or professional engineering for the federal government.

(3) A public service company and its regular employees acting in its behalf where the professional engineering services rendered are in connection with its facilities which are subject to regulation, supervision and control by a commission of this state or of the federal government.

(4) Any person who practices architecture or professional engineering, exclusively as a regular employee of a private company or corporation, by rendering to the company or corporation architectural or professional engineering services in connection with its operations, so long as the person is thus actually and exclusively employed and no longer, if the company or corporation has at least one architect or professional engineer who is registered under this chapter in responsible charge of the company's or corporation's architectural or professional engineering work in this state.

(5) A person engaged in the manufacture of a product or unit, including laboratory research affiliates of the person, where the services performed are the design, assembly, manufacture, sale or installation of that product or unit. "Product or unit" does not include any building.

(6) Notwithstanding any other provision of this chapter, contractors, subcontractors or construction material or equipment suppliers are not required to register under this chapter to perform or undertake those activities which historically and customarily have been performed by them in their respective trades and specialties, including, but not limited to, the preparation and use of drawings, specifications or layouts within a construction firm or in construction operations, superintending of construction, installation and alteration of equipment, cost estimating, consultation with architects, professional engineers or owners concerning materials, equipment, methods and techniques, and investigations or consultation with respect to construction sites, provided all such activities are performed solely with respect to the performance of their work on buildings or with respect to supplies or materials furnished by them for buildings or structures or their appurtenances which are, or which are to be, erected, enlarged or materially altered in accordance with plans and specifications prepared by architects or professional engineers, or by persons exempt under subs. (1) to (5) while practicing within the scope of their exemption.

(7) This chapter does not require manufacturers or their material or equipment suppliers to register under this chapter in order to enable them to perform engineering in the design, assembly, manufacture, sale or installation of their respective products.

(8) The following persons doing surveying work are exempt from the provisions of this chapter:

(a) An employee of a land surveyor registered in this state or authorized to practice under a permit, while working under the supervision of the employer. Such exempt employee shall not be in responsible charge of land surveying.

(b) Officers and employees of the federal government while engaged in land surveying for the federal government.

(c) Employees of this state while engaged in land surveying for the state.

(d) Employees of public utilities regulated by the public service commission in land surveying for such utilities.

(9) A license shall not be required for an owner to survey his or her own land for purposes other than for sale.

(10) Any person employed by a county or this state who is engaged in the planning, design, installation or regulation of land and water conservation activities under ch. 92 or s. 281.65 and who is certified under s. 92.18.

(11) Any land surveyor registered under s. 443.06 who is engaged in the planning, design, installation or regulation of land and water conservation activities under ch. 92 or s. 281.65.

(12m) A well driller, as defined in s. 280.01 (7), who is engaged in well drilling, as defined in s. 280.01 (8).

(13) A professional engineer who, while engaged in the practice of professional engineering in accordance with this chapter, collects, investigates, interprets or evaluates data relating to soil, rock, groundwater, surface water, gases or other earth conditions, or uses that data for analysis, consultation, planning, design or construction.

(14) A person who, while engaged in the practice of professional geology, hydrology or soil science as defined in s. 470.01 (2), (3) or (4), practices professional engineering, if the acts that involve the practice of professional engineering are also part of the practice of professional geology, hydrology or soil science.

**443.15 Exempt buildings. (1)** Nothing in this chapter prevents any person from advertising and performing services, including consultation, investigation, evaluation, in connection with and making plans and specifications for, or supervising the erection, enlargement or alterations of any of the following buildings:

(a) Dwellings for single families, and outbuildings in connection with single-family dwellings, including, but not limited to, barns and private garages.

(b) Apartment buildings used exclusively as the residence of not more than 2 families.

(c) Buildings used exclusively for agricultural purposes.

(d) Temporary buildings or sheds used exclusively for construction purposes, not exceeding 2 stories in height, and not used for living quarters.

(2) Nothing in this chapter prevents any person, firm or corporation from making plans and specifications for or supervising the erection, enlargement or alteration of any new building containing less than 50,000 cubic feet total volume or addition to a building which by reason of such addition results in a building containing less than 50,000 cubic feet total volume or structural alteration to a building containing less than 50,000 cubic feet total volume. Nothing in this chapter prevents any person, firm or corporation from making repairs or interior alterations to buildings which do not affect health or safety.

(3) Any multiple family building having a common roof and party walls shall be deemed a single building for purposes of this section.

(4) This section does not apply to inspection and service work done by employees of insurance rating bureaus, insurance service bureaus, insurance companies or insurance agents.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.21 Appeals.** (1) **APPEAL OF DEPARTMENT ORDER.** Pursuant to s. 101.02 (6) (e), Stats., any person who owns or occupies a property that is affected by an order of the department may petition the department for a hearing on the reasonableness of the order.

(2) **APPEAL OF LOCAL ORDER.** Pursuant to s. 101.02 (7) (b), Stats., any person affected by a local order that is in conflict with an order of the department may petition the department for a hearing.

Note: Section 101.01 (8), Stats., defines "local order" as any ordinance, order, rule or determination of any common council, board of alderpersons, board of trustees or the village board, of any village or city, or the board of health of any municipality, or an order or direction of any official of such municipality, upon any matter over which the department has jurisdiction.

Section 101.02 (7) (c) reads: "Upon receipt of such petition the department shall order a hearing thereon, to consider and determine the issues raised by such appeal, such hearing to be held in the village, city or municipality where the local order appealed from was made. Notice of the time and place of such hearing shall be given to the petitioner and such other persons as the department may find directly interested in such decision, including the clerk of the municipality or town from which such appeal comes. If upon such investigation it shall be found that the local order appealed from is unreasonable and in conflict with the order of the department, the department may modify its order and shall substitute for the local order appealed from such order as shall be reasonable and legal in the premises, and thereafter the said local order shall, in such particulars, be void and of no effect."

(3) **CONTESTED CASE HEARING.** In addition to any other right provided by law, any interested person may file a written request for a contested case hearing, as specified in s. 227.42, Stats.

(4) **PETITION OF ADMINISTRATIVE RULE.** Pursuant to s. 227.12, Stats., any municipality, corporation or any 5 or more persons having an interest in an administrative rule may petition the department requesting the adoption, amendment or repeal of the rule.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.22 Petition for variance.** The department shall consider and may grant a variance to a provision of this code in accordance with ch. Comm 3. The petition for variance shall include, where applicable, a position statement from the fire department having jurisdiction.

Note: Chapter Comm 3 requires the submittal of a petition for variance form (SBD-9890) and a fee, and that an equivalency is established in the petition for variance which meets the intent of the rule being petitioned. Chapter Comm 3 also requires the department to process regular petitions within 30 business days and priority petitions within 10 business days.

Note: The department forms required in this chapter are available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at www.commerce.state.wi.us.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.23 Penalties.** Penalties for violations shall be assessed in accordance with ss. 101.02 (12) and (13) (a), and 101.978, Stats.

Note: Section 101.02 (13) (a), Stats., indicates penalties will be assessed against any employer, employee, owner or other person who fails or refuses to perform any duty lawfully enjoined, within the time prescribed by the department, for which no penalty has been specifically provided, or who fails, neglects or refuses to comply with any lawful order made by the department, or any judgment or decree made by any court in connection with ss. 101.01 to 101.25. For each such violation, failure or refusal, such employee, owner or other person must forfeit and pay into the state treasury a sum not less than \$10 nor more than \$100 for each violation.

Note: Section 101.02 (12), Stats., indicates that every day during which any person, persons, corporation or any officer, agent or employee thereof, fails to observe and comply with an order of the department will constitute a separate and distinct violation of such order.

Note: Section 101.978, Stats., reads, "Any person who violates this subchapter or any rules promulgated under this subchapter shall forfeit not less than \$25 nor more than \$500 for each offense. Each day of continued violation constitutes a separate offense."

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Subchapter III — Plan Review**

**Comm 61.30 Plan review and approval.** (1) **TYPES OF BUILDINGS.** (a) Except as provided in par. (b), the construction of,

the alteration of or the addition to a public building or a place of employment may not commence unless plans for the project have been submitted to and approved by department or its authorized representative in accordance with s. Comm 61.31.

(b) 1. Plans for the types of public buildings and places of employment and components thereof delineated in Table 61.30-1 do not need to be submitted and approved by the department or authorized representative.

Note: The exemption under par. (b) for not having to submit and obtain prior approval from the department for specific building projects does not waive the obligation for these type of projects to conform to the standards of this code.

Note: The exemption under par. (b) for not having to submit and obtain prior approval from the department for specific building projects does not prohibit a municipality from requiring the submission, review and approval of plans by the municipality nor does it supercede the necessity of obtaining local building permits prior to the commencement of the project.

**Table 61.30-1**

**Buildings Exempt from Plan Review**

Building Type or Occupancy	Building Description
Assembly Group A-2 Business Group B Factory Group F Mercantile Group M Storage Group S Utility and Miscellaneous Group U	Containing less than 25,000 cubic feet in volume

2. Plans for the types of public buildings and places of employment and components thereof delineated in Table 61.30-2 do not need to be submitted and approved by the department or authorized representative provided all of the following conditions are met:

a. The building or the component thereof is designed by a registered individual under ch. 443, Stats.

b. The project is supervised by an individual in accordance with s. Comm 61.50.

3. a. Where the exemption in subd. 2. is elected, a notice shall be filed with the department or its authorized representative prior to commencement of the project, that identifies the building location, the name and address of the building owner, and the name and Wisconsin registration number for the designer and supervising professional.

b. Where the exemption in subd. 2. is elected, the architect, engineer, designer, or owner shall keep at the building site one set of construction documents for the project. The construction documents shall be open to inspection by the department, its authorized representative or the municipality.

**Table 61.30-2**

**Buildings Exempt from Plan Review if Registered**

Building Type or Occupancy	Building Description
Assembly Group A-2 Business Group B Factory Group F Mercantile Group M Storage Group S Utility and Miscellaneous Group U	Containing 25,000 to less than 50,000 cubic feet in volume
Assembly Group A-1, A-3, A-4, A-5 Educational Group E High Hazard Group H Residential Group R	Containing less than 25,000 cubic feet in volume

(2) **TYPES OF STRUCTURES.** Plans for all of the following types of structures shall be submitted and approved by the department or authorized representative prior to commencement of the project:

(a) Assembly seating facilities to be located within a public building or place of employment.

(b) Assembly seating facilities more than 5 rows in height and not located within a public building or place of employment.

(c) Public mausoleum structures.

**Note:** Section 157.061 (9), Stats., reads as follows: " 'Mausoleum' " means a building, structure or part of a building or structure that is used or intended to be used for the burial of human remains."

(3) **TYPES OF BUILDING COMPONENTS.** If the construction of, the alteration of or the addition to a public building or a place of employment involves a type of building component or system delineated in Table 61.30-3, the plans under sub. (1) (a) shall include, or separate plans for the component or system, shall be submitted and approved by the department or authorized representative prior to installation of the component.

**Table 61.30 -3**  
**Building Components and Systems**

Building Component or System	Building Type or Occupancy
Premanufactured and Pre-engineered structural components	Public buildings or places of employment
Heating, ventilating and air conditioning system	Public buildings or places of employment
Fire protection system	Atria public building or places of employment
	Public buildings exceeding 60 feet in height
	Educational Group E
	Institutional Group I-1, I-3
	Mercantile Group M buildings that combine retail areas with rack storage and have floor areas exceeding 50,000 square feet
	Residential Group R-1
	State-owned buildings except hospitals and nursing homes

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: cr. (2) (c), r. and recr. Table 61.30-3 Register June 2002 No. 558, eff. 7-1-02.

**Comm 61.31 Plans.** (1) **SIGNING AND SEALING.** (a) Except as provided in par. (b), construction documents submitted to the department or its authorized representative for review shall be prepared, signed and sealed in accordance with ch. 443, Stats., and s. A-E 2.02.

(b) Sprinkler construction documents that are required by s. Comm 61.34 (1) to be at an installation site shall comply with one of the following:

1. Be signed and sealed in accordance with s. A-E 2.02 by an architect, engineer or fire protection systems designer who is registered by the department of regulation and licensing.

2. Be signed, including license number, and dated by an automatic fire sprinkler contractor who is responsible for the installation of the sprinklers and who is licensed by the department of commerce.

**Note:** Pursuant to s. A-E 2.02 (4) and (5) read:  
"A-E 2.02 (4) Each sheet of plans, drawings, documents, specifications and reports for architectural, landscape architectural, professional geological, profes-

sional engineering, design or land surveying practice shall be signed, sealed and dated by the registrant or permit holder who prepared, or directed and controlled preparation of, the written material, except as specified in sub. (5).

"(5) If more than one sheet is bound together in a volume, the registrant or permit holder who prepared or directed and controlled the preparation of the volume, may sign, seal and date only the title or index sheet if the signed sheet identifies clearly all other sheets comprising the bound volume and if any other sheets which are prepared by or under the direction and control of another registrant or permit holder are signed, sealed and dated by the other registrant or permit holder."

(2) **CONTENTS AND INFORMATION.** (a) 1. Construction documents submitted to the department or its authorized representative for review shall be dimensioned and drawn to scale.

2. The scale used for the construction documents shall be indicated on the documents.

(b) 1. Except as provided in subd. 2., at least 4 sets of construction documents shall be submitted to the department or authorized representative for review.

2. At least one set of construction specifications shall be submitted to the department or authorized representative for review.

(c) All construction documents submitted to the department or authorized representative for review shall be permanent copies of the original documents and the copies shall be bound into sets in a manner that enables the documents to be reviewed without removing the binding.

(d) Construction documents submitted to the department or its authorized representative for review shall be of sufficient clarity, character and detail to show how the proposed design will conform to this code.

(e) 1. Construction documents shall be accompanied by sufficient calculations or information to substantiate that the documents conform to this code.

2. When requested by the department or its authorized representative, additional data pertaining to the design, construction, materials and equipment shall be submitted to the department or the authorized representative to substantiate conformance to this code.

(3) **APPLICATION FOR APPROVAL.** (a) A plan approval application form shall be included with the construction documents and information submitted to the department for examination and approval. Pursuant to s. Comm 2.07 (3), the department shall review and make a determination on an application for plan review within 15 business days of receipt of the application and all forms, fees, construction documents and information required to complete the review.

**Note:** The department forms required in this chapter are available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at [www.commerce.state.wi.us](http://www.commerce.state.wi.us).

**Note:** Also refer to the Safety and Buildings Division's *Commercial Building Code Submittal Guide* (SBD-8927-P) for forms and other helpful information on how to successfully submit plans for approval.

(b) If, upon examination, the department determines that the construction documents or application for approval do not substantially conform to this code, the application for conditional approval will be denied, in writing.

(c) If, upon examination, the department determines that the construction documents and the application for approval substantially conform to this code, a conditional approval, in writing, will be granted and the plans will be stamped conditionally approved. All conditions stated in the conditional approval shall be complied with before or during construction.

**Note:** The plan examination and approval by the department does not constitute an approval to proceed with construction prior to obtaining any permits or approvals that are required by a local unit of government.

(4) **REVISIONS TO APPROVED PLANS.** (a) 1. All proposed revisions and modifications which involve rules under this code and which are made to construction documents that have previously been granted approval by the department or its authorized representative, shall be submitted for review to the office that granted the approval.

2. All revisions and modifications to the plans shall be approved in writing by the department or its authorized represen-

tative prior to the work involved in the revision or modification being carried out.

(b) A revision or modification to a plan, drawing or specification shall be signed and sealed in accordance with s. Comm 61.31 (1).

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (3) (intro.) to (b) to be (3) (a) to (c) Register June 2002 No. 558, eff. 7-1-02.

**Comm 61.32 Permission to start construction.**

(1) A building owner may request and the department or its authorized representative may grant permission to start construction for the footings and foundations upon submission of construction documents under s. Comm 61.31.

(2) A building owner who has been granted permission to start construction of the footings and foundations may proceed at the owner's own risk without assurance that a conditional approval for the building will be granted.

(3) The department shall review and make a determination on an application for permission to start construction of the footings and foundations within 3 business days of receipt of the application and all forms, fees, construction documents and information required to complete the review.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.33 Evidence of plan approval.** Where plan approval is required by this code, one set of plans bearing the stamp of conditional approval and a copy of the specifications shall be kept at the building site. The plans and specifications shall be open to inspection by the department or its authorized representative.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.34 Sprinkler documents.** (1) **PLANS.** (a) 1. Except as provided in subd. 2. or when fire protection systems are required to be submitted under s. Comm 61.30, where automatic fire sprinkler systems are to be installed or altered, sprinkler construction documents shall be present at the job site and made available, upon request, to the department, its authorized representative or local governmental agency exercising jurisdiction.

2. a. When a project involves the alteration or addition of 20 or fewer sprinkler heads to an existing automatic fire sprinkler system, sprinkler construction documents shall not be required to be present at the job site or made available, unless required by local ordinance.

b. When sprinkler plans and specifications are not provided for a project involving the alteration or addition of 20 or fewer sprinkler heads to an existing automatic fire sprinkler system, the automatic fire sprinkler contractor responsible for the work shall provide a written description of the type and scope of the work. The description shall be included with the material and test certificate, if required. The description shall be made available, upon request, to the department, its authorized representative or local governmental agency exercising jurisdiction.

(b) Where automatic fire sprinkler plans are required by local ordinance to be reviewed and approved by a local governmental agency, the sprinkler plans at the installation site shall bear evidence of that approval.

(2) **CONTRACTOR'S MATERIAL AND TEST CERTIFICATES.** (a) Where automatic fire sprinkler systems have been installed or altered, completed contractor's material and test certificates shall be made available, upon request, to the department, its authorized representative or local governmental agency exercising jurisdiction.

(b) A sprinkler material and test certificate shall provide at least the information as enumerated in appropriate NFPA standard, NFPA 13 or NFPA 13R.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.35 Revocation of approval.** The department may revoke any approval, issued under this code, for any false statements or misrepresentation of facts on which the approval was based.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.36 Expiration of plan approval and extension of plan approval.** (1) **EXPIRATION OF PLAN APPROVAL.** (a)

*Building shell.* Except as provided in par. (f), plan approval by the department or its authorized representative for new buildings and building additions shall expire 2 years after the approval date indicated on the approved building plans if the building shell is not closed in within those 2 years.

(b) *Occupancy.* Except as provided in sub. (2), plan approval by the department or its authorized representative for new buildings and building additions shall expire 3 years after the approval date indicated on the approved building plans if the building is not ready for occupancy within those 3 years.

(c) *Alterations.* Except as provided in sub. (2), plan approval by the department or its authorized representative for interior building alterations shall expire one year after the approval date indicated on the approved building plans if the alteration work is not completed within that year.

(d) *HVAC construction only.* Except as provided in sub. (2), plan approval by the department or its authorized representative for heating, ventilating, or air conditioning construction that does not include any associated building construction shall expire one year after the approval date indicated on the approved plans if the building or building area affected by the plans is not ready for occupancy within that year.

(e) *Fire protection systems only.* Except as provided in sub. (2), plan approval by the department or its authorized representative for a fire protection system that does not include any associated building construction shall expire 2 years after the approval date indicated on the approved plans if the building or building area affected by the plans is not ready for occupancy within those 2 years.

(f) *Mausoleums.* Plan approval by the department or its authorized representative for mausoleums within the scope of s. 440.92 (2) (e), Stats., shall expire 3 years after the date indicated on the approved building plans of the building shell if not closed within those 3 years.

(2) **EXTENSION OF PLAN APPROVAL.** Upon request and payment of the fee specified in ch. Comm 2, the expiration dates in sub. (1) (b) to (f) shall be extended for one 1-year period provided the request is submitted prior to expiration of the original approval.

**Note:** According to s. 66.0413, Stats., the local governmental body or building inspector may order the razing of buildings or portions thereof, where there has been a cessation of normal construction for more than 2 years.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.37 Department limitation.** A conditional approval of a plan by the department may not be construed as an assumption of any responsibility on the part of the department for the design or construction of the project.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.38 Construction documents for fire apparatus access.** Where required by a fire department, construction documents for proposed fire apparatus access, location of fire lanes and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Subchapter IV — Multifamily Building Permits**

**Comm 61.40 Wisconsin uniform multifamily building permit.** (1) **GENERAL.** A building owner or authorized agent shall obtain a Wisconsin uniform multifamily building permit from the municipality administering and enforcing this code

before any on-site construction of a multifamily dwelling is commenced, including excavation for a building, except where a permit to start construction has been issued under s. Comm 61.32.

(2) **SANITARY PERMIT.** Pursuant to s. 145.195, Stats., if the proposed construction requires connection to a private onsite wastewater treatment system, a Wisconsin uniform multifamily building permit may not be issued unless conformance with s. Comm 83.25 (2) has first been determined.

(3) **APPLICATION FOR A WISCONSIN UNIFORM MULTIFAMILY BUILDING PERMIT.** Application for a Wisconsin uniform multifamily building permit shall be on a form obtained from the department or on a form obtained from the municipality administering and enforcing this code. Forms provided by the municipality shall include all the information prescribed by the department. No application may be accepted that does not contain all the information requested on the form.

*Note:* The department forms required in this chapter are available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at [www.commerce.state.wi.us](http://www.commerce.state.wi.us).

*Note:* Section 101.973 (5) requires the department to collect and publish data secured from multifamily building permits.

*Note:* Any municipality exercising jurisdiction may require reasonable supplementary information not contained on the Wisconsin multifamily building permit application.

(4) **FILING OF A WISCONSIN UNIFORM MULTIFAMILY BUILDING PERMIT APPLICATION.** A Wisconsin uniform multifamily building permit application shall be filed with a municipality administering and enforcing this code under s. Comm 61.60 or 61.61 or with a representative that the municipality has authorized to receive the application.

(5) **PERMIT FEES.** The municipality shall by ordinance determine fees to cover expenses for issuance of the Wisconsin uniform multifamily building permit. Fees shall be submitted to the municipality when a Wisconsin uniform multifamily building permit application is filed there.

(6) **ISSUANCE OF PERMITS.** A Wisconsin uniform multifamily building permit shall be issued if the department and municipal requirements for filing and fees are satisfied and the plans have been conditionally approved. The municipality may require a building permit card to be posted in a conspicuous place at the dwelling site. The permit shall expire 2 years after issuance if the dwelling exterior has not been completed, unless the permit has been extended by the municipality or the department for a period of up to 2 years. A municipality issuing the permit shall either send a copy of the application to the department or tally and transfer the data to the department in either written or electronic-based format.

(7) **ACTION TO APPROVE OR DENY.** Action to approve or deny a uniform multifamily building permit application shall be completed within 15 business days of receipt of all forms, fees, plans, and documents required to process the application. Denied applications shall include a written statement specifying the reasons for denial.

(8) **SUSPENSION OR REVOCATION OF PERMIT.** The department or the municipality administering and enforcing this chapter may suspend or revoke any Wisconsin uniform multifamily building permit if it appears that the permit or plan approval was obtained through fraud or deceit, where the applicant has willfully refused to correct a violation order issued under s. Comm 61.51, or where the inspector is denied access to the premises. No construction may take place on a multifamily dwelling after suspension or revocation of a permit.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; correction in (2) made under s. 13.93 (2m) (b) 7., Stats., Register June 2002 No. 558.

## Subchapter V — Supervision and Inspections

**Comm 61.50 Supervision.** (1) **GENERAL.** (a) Except as provided in par. (b), the proposed construction of a project within the scope of this code shall be supervised by a Wisconsin regis-

tered architect or engineer, except that a Wisconsin registered designer may supervise the installation of heating, ventilating and air conditioning systems, fire protection systems and illumination systems. The person responsible for supervision shall also be responsible for the construction and installation being in substantial compliance with the approved plans and specifications. If the supervising architect, engineer or designer is confronted with a nonconformance with the code during or at the end of construction, that party, together with the designing architect, engineer or designer shall effect compliance or shall notify the department of the noncompliance.

(b) 1. Except as provided in s. Comm 61.30 (1) (b) 2. b., a project does not require supervision by a Wisconsin registered architect or engineer, if the project qualifies under one of the following conditions:

a. The building contains less than 50,000 cubic feet total volume.

b. An addition to an existing building does not cause the entire building to contain or exceed a volume of 50,000 cubic feet.

2. For the purposes of this paragraph, the utilization of fire walls to divide up a building does not create separate buildings.

(2) **DUTIES.** Supervision of construction is a professional service, as distinguished from superintending of construction by a contractor, and means the performance, or the supervision thereof, of reasonable on-the-site observations to determine that the construction is in substantial compliance with the approved plans and specifications.

(3) **NAME OF SUPERVISING ARCHITECT, ENGINEER OR DESIGNER.** Prior to the start of construction, the owner of the building or structure shall designate in writing to the authority that issued plan approval the name and Wisconsin registration number of the architect, engineer or designer retained to supervise construction of the building or structure.

(4) **COMPLIANCE STATEMENT.** Prior to initial occupancy of a new building or addition, and prior to final occupancy of an alteration of an existing building, the supervising architect, engineer or designer shall file a written statement with the authority that issued plan approval certifying that, to the best of his or her knowledge and belief, construction of the portion to be occupied has been performed in substantial compliance with the approved plans and specifications. This statement shall be provided on a form prescribed by the department.

*Note:* The department forms required in this chapter are available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at [www.commerce.state.wi.us](http://www.commerce.state.wi.us).

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; am. (1) (b) 1. a. and b. Register June 2002 No. 558, eff. 7-1-02.

**Comm 61.51 Inspections.** (1) **ON-SITE.** On-site inspections shall be conducted by an authorized representative of the department to determine whether or not the construction or installations conform to the conditionally approved plans, the conditional approval letter, and this code.

(2) **IN-PLANT.** (a) *General.* Manufacturers of manufactured buildings shall contract with the department or an independent inspection agency to conduct in-plant inspections to assure that the manufactured buildings are in compliance with the plans approved by the department. All inspections shall be performed by a certified commercial building inspector.

(b) *Wisconsin insignia for manufactured buildings.* Pursuant to s. 101.75, Stats., a Wisconsin insignia shall be installed on a manufactured dwelling unit approved by the department and inspected at the manufacturing plant. Each Wisconsin insignia shall be assigned and affixed to a specific manufactured multifamily dwelling, in the manner approved by the department, before the dwelling is shipped from the manufacturing plant. The serial number shall be located on the manufacturer's data plate.

(c) *Manufacturer's responsibilities.* 1. 'Insignia records.' The manufacturer shall keep permanent records regarding the han-

dling of all Wisconsin insignias indicating the number of Wisconsin insignias which have been affixed to manufactured buildings, building components, or groups of components; which Wisconsin insignias have been applied to which manufactured building or building component; and the disposition of any damaged or rejected Wisconsin insignias. The records shall be maintained by the manufacturer or by the independent inspection agency for at least 10 years. A copy of the records shall be sent to the department upon request.

2. 'Lost or damaged insignia.' a. If Wisconsin insignias become lost or damaged, the department shall be notified immediately in writing by the manufacturer or dealer.

b. If a Wisconsin insignia becomes damaged, the insignia shall be returned to the department with the fee specified in ch. Comm 2 to obtain a new insignia.

(d) *Insignia suspension and revocation.* 1. The department may suspend or revoke its approval if it determines that the standards for the construction or manufacture and installation of a manufactured building do not meet this code, or if such standards are not being enforced as required by this chapter.

2. Upon suspension or revocation of the approval, no further insignias may be attached to any manufactured building or type of manufactured building with respect to which the approval was suspended or revoked.

3. Upon suspension or revocation of the approval, all insignias allocated to the manufacturer shall be returned to the department no later than 30 days from the effective date of the suspension or revocation.

(3) **PUBLIC MAUSOLEUM.** Within 30 days after receiving written notice from a cemetery authority that the construction or conversion of a public mausoleum has been completed, the department or authorized representative shall inspect the public mausoleum and provide written notification of violations. Except as provided in s. 157.12 (2) (b), Stats., public mausoleum spaces may not be sold prior to approval by the department or its authorized representative.

**Note:** Sale of public mausoleum spaces is permitted prior to departmental approval in accordance with the requirements of the department of regulation and licensing.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (2) (e) to be (3) Register June 2002 No. 558, eff. 7-1-02.

## Subchapter VI — Product and Standard Review and Approval

**Comm 61.60 Building product approvals.** (1) **VOLUNTARY APPROVAL.** (a) Materials, equipment and products regulated by this code may receive a written approval from the department indicating code compliance.

(b) 1. Approval of materials, equipment, and products shall be based on sufficient data, tests and other evidence that prove the material, equipment or product is in compliance with the standards specified in this code.

2. Tests, compilation of data, and calculations shall be conducted by a qualified independent third party.

(2) **ALTERNATE APPROVAL.** (a) Materials, equipment, and products that meet the intent of this code and which are not approved under sub. (1) shall be permitted if approved in writing by the department.

(b) 1. Approval of materials, equipment, and products shall be based on sufficient data, tests and other evidence that prove the material, equipment or product meets the intent of the standards specified in this code.

2. Tests, compilation of data, and calculations shall be conducted by a qualified independent third party.

(3) **EXPERIMENTAL APPROVAL.** (a) The department may allow use of an experimental material, equipment or product for the purpose of proving compliance with the intent of this code.

(b) The department may require the submission of any information deemed necessary for review.

(c) The department may limit the number of applications it will accept for approval of experimental materials, equipment or products.

(d) Installations of a material, equipment or product under an experimental approval shall comply with all of the following:

1. Plans detailing the installation for each project where the experimental material, equipment or product is to be used shall be submitted to the department in accordance with s. Comm 61.31.

2. A copy of the experimental approval shall be attached to the submitted plans and approved plans.

3. a. A letter of consent from the owner of the project shall be attached to the submitted plans and approved plans.

b. The letter shall acknowledge that the owner has received and read a copy of the experimental approval and is in compliance with all conditions of the approval.

4. If a supervising professional is not required for the project by s. Comm 61.50, a person responsible for construction of the project shall be designated in writing by the owner.

5. The supervising professional or person designated as responsible for the construction of the project shall, upon completion of construction, certify in writing to the department that the installation is in compliance with the experimental approval, approved plans, specifications and data.

(e) 1. Any onsite inspections shall be performed by the department, or other person approved by the department, at time intervals as specified by the department, but not less than once a year. An inspection report shall be written.

2. The department may assess a fee for each inspection.

(f) Five years and six months after the date of the completed installation, the department shall order the removal of the experimental material, equipment or product, or issue an approval for the material, equipment or product.

(g) Paragraphs (e) and (f) do not apply to an experimental system if this code is revised to include or enable the experimental system to conform to the intent of this code.

(4) **REVIEW, APPROVAL AND REVOCATION PROCESSES.** (a) 1. Upon receipt of a fee and a written request, the department may issue an approval for a material, equipment or product.

2. The department shall review and make a determination on an application for approval after receipt of all forms, fees, plans and information required to complete the review.

3. For voluntary and alternate approvals, a determination shall be made within 40 business days of receipt of all required materials.

4. For an experimental approval, the determination shall be made within 6 months of receipt of all required materials.

(b) 1. The department may include specific conditions in issuing an approval, including an expiration date for the approval.

2. Violations of the conditions under which an approval is issued shall constitute a violation of this code.

(c) If the department determines that the material, equipment or product does not comply with this code or the intent of this code, or that an experimental approval will not be issued, the request for approval shall be denied in writing.

(d) If an approved material, equipment or product is modified, the approval shall be considered null and void, unless the material, equipment or product is resubmitted to the department for review and approval is granted.

(e) 1. The department may revoke or deny an approval for any false statements or misrepresentations of relevant facts or data, unacceptability of a third party that provided any information on which the approval was based, or as a result of material, equipment or product failure.

2. The department may reexamine an approved material, equipment or product and issue a revised approval at any time.

(f) The department may revoke an approval if the department determines that the material, equipment or product does not comply with this code or the intent of this code due to a change in the code or department interpretation of the code.

(g) An approval issued by the department may not be construed as an assumption of any responsibility for defects in design, construction or performance of the approved material, equipment or product nor for any damages that may result.

(h) Fees for the review of a material, equipment or product under this section and any onsite inspections shall be submitted in accordance with ch. Comm 2.

**(5) UNGRADED OR USED PRODUCTS.** (a) 1. Except as provided in subd. 2, ungraded or used building products may be used or reused as long as the materials possess the essential properties necessary to achieve the level of performance required by this code for the intended use.

2. Ungraded or used products may not be utilized, if specifically prohibited under a specific referenced standard.

(b) The department or the municipality enforcing this code may require tests in accordance with sub. (1) or (2). Approval for use of ungraded or used materials may be issued under this section or may be issued for a specific project under s. Comm 61.31.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.61 Alternate standards.** (1) Alternate standards that are equivalent to or more stringent than the standards referenced in this code may be used in lieu of the referenced standards when approved by the department or if written approval is issued by the department in accordance with sub. (2).

(2) (a) Upon receipt of a fee and a written request, the department may issue an approval for the use of the alternate standard.

(b) The department shall review and make a determination on an application for approval within 40 business days of receipt of all forms, fees and documents required to complete the review.

(3) Determination of approval shall be based on an analysis of the alternate standard and the standard referenced in this code, prepared by a qualified independent third party or the organization that published the standard contained in this code.

(4) The department may include specific conditions in issuing an approval, including an expiration date for the approval. Violations of the conditions under which an approval is issued shall constitute a violation of this code.

(6) The department may revoke an approval for any false statements or misrepresentations of facts on which the approval was based.

(7) The department may reexamine an approved alternate standard and issue a revised approval at any time.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

## Subchapter VII — First Class City and Certified Municipality Approvals

### Comm 61.70 Certified municipalities and counties.

**(1) GENERAL.** This section establishes the manner under which cities, villages, towns and counties may examine building plans and inspect buildings under s. 101.12 (3) (a), (am), (b) and (g), Stats.

**(2) CONDITIONS OF PARTICIPATION.** (a) Before assuming the responsibilities of examining building plans and providing inspection services, cities, villages, towns and counties shall comply with all of the following:

1. Notify the department, in writing, at least 30 days prior to the date upon which the municipality or county intends to assume the plan examination and building inspection responsibilities.

2. Adopt by ordinance or regulation the responsibilities of plan examination and building inspection.

3. Adopt by ordinance or regulation this code in its entirety.

4. Submit to the department a certified copy of all ordinances or regulations assuming the plan examination and building inspection responsibilities and adopting this code.

5. Employ certified commercial building inspectors to perform the plan examination and building inspection functions.

6. Forward to the department any information requested by the department relative to examination of plans and inspection of buildings.

7. Receive from the department certification to perform plan examination and building inspection.

(b) While certified, a municipality or county shall comply with all of the following:

1. Employ certified commercial building inspectors to perform the plan examination and building inspection functions.

2. Forward to the department any information requested by the department relative to examination of plans and inspection of buildings.

3. Notify the department, in writing, at least 30 days prior to the date upon which the municipality or county intends to relinquish the plan examination and building inspection responsibilities.

(c) Second class cities intending to perform the expanded plan examination and inspection specified in sub. (5) (b) shall comply with pars. (a) 1. to 7. and (b) 3., sub. (7) (b), and all of the following:

1. Employ at least one person who complies with all of the following:

a. Is registered under ch. 443, Stats., as an architect or professional engineer.

b. Is a certified commercial building inspector.

c. Performs or directly supervises the plan examinations specified in sub. (5) (b).

2. Provide a monthly report to the department of all projects completed under this subsection, in an electronic-based format prescribed by the department.

(d) 1. To assume the building inspection responsibility but not the plan examination responsibility for the buildings and structures specified in sub. (5) (c), a municipality or county shall comply with pars. (a) 1. to 7. and (b) 3., except the plan examination requirements do not apply, and the department may delegate the inspection authority in a written manner other than a certification.

2. To assume the building inspection responsibility but not the plan examination responsibility for the buildings and structures that exceed the limits specified in sub. (5) (c), a municipality or county shall comply with subd. 1. and all of the following:

a. Obtain authorization for these inspections from the department.

b. Use an inspection process that is based on the inspection process used by the department.

c. Retain inspection records in a manner that is accessible to the department.

d. Forward to the department any information requested by the department relative to the inspection of buildings.

3. A municipality or county may waive its jurisdiction for the inspection of a specific project, in which case the department shall conduct the inspection.

(e) The department may revoke the certification or delegation of authority for any municipality or county where the plan examiners or inspectors do not meet the standards specified by the department or where other requirements of this section are not met.

Note: For any certified municipality or county, the department may review the competency of plan examiners on a regular basis, and review the correspondence and

inspection reports, to determine if uniformity in code application decisions is being maintained, and to determine if the standards specified by the department are being met. Regular meetings and correspondence may be maintained between a certified municipality or county and the department in order to discuss and resolve any problems.

**(3) JURISDICTION.** (a) *Departmental.* 1. Nothing in this section shall prevent the department from conducting its own investigations or inspections or issuing orders relative to the administration and enforcement of this code.

2. The department shall administer and enforce this code in any municipality or county which has not assumed the responsibilities for plan examination and building inspection under sub. (2).

(b) *County.* 1. Ordinances enacted by a county under sub. (2) establishing county plan examination and building inspection functions shall apply to all municipalities within that county which have not assumed those functions pursuant to sub. (2).

2. Ordinances enacted by a county under sub. (2) establishing county plan examination and building inspection functions may not prevent or prohibit any municipality within that county from assuming those functions pursuant to sub. (2) at any time.

**(4) CERTIFICATION OF INSPECTORS.** Inspectors employed by certified municipalities and counties to administer and enforce this code under sub. (2) shall be certified by the department in accordance with ch. Comm 5 as certified commercial building inspectors.

**(5) PLAN EXAMINATION.** (a) *First class cities.* Drawings, specifications and calculations for all the types of buildings and structures specified in s. Comm 61.30, except state-owned buildings and structures, to be constructed within the limits of a first class city shall be submitted to that city, if that city has assumed the responsibilities of plan examination and building inspection in accordance with sub. (2).

(b) *Second class cities performing expanded plan examination.* Drawings, specifications and calculations for all the types of buildings and structures specified in s. Comm 61.30, except state-owned buildings and structures, to be constructed within the limits of a second class city shall be submitted to either the department or to that city, if that city has assumed the responsibilities of examining those plans and inspecting those buildings and structures in accordance with sub. (2) (c). Second class cities performing these examinations are not subject to the plan examination limits specified in par. (c).

*Note:* Second class cities may also request approval to perform other additional plan review functions under the appointed-agent process in s. Comm 61.71.

(c) *Other municipalities and counties.* Drawings, specifications and calculations for all the types of buildings and structures specified in s. Comm 61.30, except state-owned buildings and structures, to be constructed within the limits of a municipality or county that is not included in pars. (a) and (b) shall be submitted to either the department or to that municipality or county if the municipality or county has assumed the responsibilities of plan examination and building inspection in accordance with sub. (2) and if the plans are for any of the following

1. A new building or structure containing less than 50,000 cubic feet of total volume.

2. a. An addition to a building or structure where the area of the addition results in the entire building or structure containing less than 50,000 cubic feet of total volume.

b. An addition containing no more than 2,500 square feet of total floor area and no more than one floor level, provided the largest roof span does not exceed 18 feet and the exterior wall height does not exceed 12 feet.

3. An alteration of a space involving less than 100,000 cubic feet of total volume.

(d) *Project waiver.* 1. A certified municipality or county may waive its jurisdiction for the plan review of a specific project or types of projects, or components thereof, in which case plans and specifications shall be submitted to the department for review and approval.

2. The department may waive its jurisdiction for the plan review of a specific project, where agreed to by a certified municipality or county, in which case plans and specifications shall be submitted to the certified municipality or county for review and approval.

(e) *Plan submission procedures.* 1. a. A building permit application shall be included with the plan submitted to the municipality or county having jurisdiction for examination.

b. Plans for a building or structure that exceeds the limits specified in par. (c) which are submitted either to a second class city under par. (b) or to an appointed agent under s. Comm 61.61 shall include the department's plan approval application form specified in s. Comm 61.31, unless a municipally supplied form is submitted that includes the owner's, designer's and supervising professional's statements and signatures which are required on the department's form.

2. At least 2 sets of complete building plans and one copy of specifications shall be submitted to the municipality or county having jurisdiction for examination.

3. a. Building plans submitted to a municipality or county for examination shall include the information specified in subd. 3. b. and s. Comm 61.31.

b. Plans that are submitted to a municipality under par. (c) by use of the volumes specified in par. (c) 1. to 3. shall include calculations showing the total volume.

4. After plans and specifications for a project have been submitted to a municipality or county under this section, or to a department office, any subsequent submittal for the purpose of complying with this code shall be submitted to that same office, except as provided in subds. 6. to 9.

5. Except as provided in subds. 6. to 9., plans and specifications for all components of a project, including but not limited to trusses, precast concrete, laminated wood, or heating, ventilating and air conditioning, shall be submitted to the same office.

6. For an individual building in a multiple-building complex, the submitter may choose whether to submit plans and specifications to a municipality or county having jurisdiction for examination, or to any of the department's offices, even if a previous building in the complex had been reviewed by another office. A subsequent reviewing office may request of the other office complete copies of all pertinent data, including but not limited to petitions, application forms, preliminaries, staff notes and comments. The applicant may be charged a fee to offset the costs of providing these copies. If plans for some of the buildings are submitted to the department and some are submitted to the municipality or county, and then plans for the building components are submitted for all the buildings, the component submitter shall split the submission and submit the plans to the applicable offices.

7. For multiple-tenant or -owner buildings, including but not limited to shopping centers or office buildings, the plans and specifications for the initial tenant or owner in each space, and the alteration plans and specifications for changing a previously approved space may be submitted either to the municipality or county or to a department office, provided the requirements in s. Comm 61.31 (2) (d) are met.

8. Decisions as to whether plans and specifications for building additions may be submitted to offices other than where the previous approvals occurred shall be handled between the municipality or county, department and submitter on a case-by-case basis. These submittals shall comply with s. Comm 61.31 (2) (e).

9. Departmental review of plans and specifications under this subsection does not satisfy any need for municipal review of these plans and specifications for conformance with local requirements adopted under s. Comm 61.03 (4) that are in addition to or more stringent than chs. Comm 61 to 65, 70, and 75 to 79.

(f) *Plan approval.* 1. If the municipality or county having jurisdiction determines that the plans submitted substantially con-

form to this code or other ordinances and regulations, an approval shall be issued in accordance with all of the following:

a. The plans shall be stamped "CONDITIONALLY APPROVED", signed and dated by a certified commercial building inspector.

b. One set of the conditionally approved plans, and all calculations and correspondence shall be retained in their original form or as readable microfilm— or electronic—based copies for at least 4 years by the municipality or county, and all other approved plans shall be returned to the submitter or their representative.

c. A notice of conditional approval shall be provided, in writing, to the submitter and the building owner stating all conditions of approval. A copy of the notice shall be provided to the department of health and family services for health care facilities, and to the department of corrections for jails and places of detention.

2. All non-code-complying and other conditions stated in the conditional approval notice shall be corrected or met before or during construction, and before occupancy of the building.

(g) *Denial of plan approval.* If the municipality or county determines that the plans submitted do not substantially conform to this code or other legal ordinances and regulations, a denial for plan approval shall be issued in accordance with all of the following:

1. The plans shall be stamped "NOT APPROVED," signed and dated by a certified commercial building inspector.

2. One set of the not-approved plans shall be retained by the municipality or county and all other plans shall be returned to the submitter or their representative.

3. A notice of the not-approved plans shall be provided in writing, to the submitter and the building owner stating the reasons for the denial.

(h) *Liability.* A conditional approval of a plan by a municipality or county may not be construed as an assumption of any responsibility on the part of the municipality, the certified commercial building inspector or the department for the design or construction of the building.

(6) **INSPECTION.** Inspections shall be conducted by a municipality or county to ascertain whether or not the construction or installation for buildings and structures conforms to the conditionally approved plans, the notice of conditional approval and this code, in accordance with all of following:

(a) All inspections, for the purpose of administration and enforcement of this code, shall be performed by a certified commercial building inspector.

(b) A written report of each inspection shall be prepared. The report shall include the name of the certified commercial building inspector.

(c) A copy of each inspection report shall be furnished to the owner and plan submitter.

(d) A copy of each inspection report shall be permanently maintained in the municipal files or county files.

(e) The inspection report shall indicate all items of non-compliance noted during the inspection.

(f) If non-complying items are not corrected, orders to correct shall be issued in accordance with local ordinances.

**Note:** Certified municipalities are authorized to perform the inspections specified in s. Comm 61.51.

(7) **FEES.** (a) Municipalities and counties having jurisdiction of plan examination and building inspection may set by ordinance the fees for plan examination and building inspection services.

(b) A second class city that is certified to perform the expanded plan examination specified in sub. (5) (b) shall submit to the department the fees specified in s. Comm 2.31 (1) (g).

**Note:** A list of the municipalities and counties providing plan examination and building inspection under this section is available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at [www.commerce.state.wi.us](http://www.commerce.state.wi.us).

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 61.71 Appointed agents. (1) GENERAL.** This section establishes the manner under which a city, village, town or county may examine building plans and inspect buildings as an appointed agent for the department relative to s. 101.02 (5) (b), Stats.

(2) **CONDITIONS OF PARTICIPATION.** (a) Before assuming any of the department's plan examination or building inspection responsibilities that are not listed in s. Comm 61.70 (5), the applicant shall comply with all of the following:

1. Submit a written request to the department, at least 30 days prior to the date upon which the applicant desires to assume agent responsibilities for plan examination or building inspection.

2. Include in the request a description of the desired responsibilities, such as plan examination for buildings that are not within the applicant's jurisdiction, or plan examination for building additions or alterations that are beyond the limits specified in s. Comm 61.70 (5) (c).

3. Include in the request a description of the qualifications the applicant has for assuming the desired responsibilities.

4. Receive from the department a written statement prescribing the responsibilities that are to be assumed.

(b) While appointed, an agent shall comply with all of the following:

1. Apply the corresponding requirements in s. Comm 61.70 (5) (d) to (h) and (6).

2. Submit to the department the fees specified in s. Comm 2.31 (1) (h).

3. Provide a monthly report to the department of all projects completed under this section, in an electronic-based format prescribed by the department.

4. Notify the department, in writing, at least 30 days prior to the date upon which the appointed agent intends to relinquish the responsibilities assumed under this section.

(3) **REVOCATION.** The department may revoke the appointment of an agent where the plan examiners or inspectors of the agent do not meet the standards specified by the department, or where other requirements of this section are not met.

**Note:** A list of appointed agents providing plan examination and building inspection under this section is available from the Safety and Buildings Division at P.O. Box 7162, Madison, WI 53707-7162, or at telephone 608/266-3151 and 608/264-8777 (TTY), or at the Safety and Buildings' web site at [www.commerce.state.wi.us](http://www.commerce.state.wi.us).

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.



## Chapter Comm 62

### BUILDINGS AND STRUCTURES

Comm 62.0001	Standards.	Comm 62.1603	Construction documents.
Comm 62.0100	Administration.	Comm 62.1604	In-situ load tests.
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Comm 62.0400	Special detailed requirements based on use and occupancy.	Comm 62.1610	Soil lateral loads.
Comm 62.0401	Chapter Comm 10 compliance.	Comm 62.1612	Flood loads.
Comm 62.0402	Lease plan.	Comm 62.1614	Earthquake loads – general.
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Comm 62.0415	Hazardous materials.	Comm 62.1802	Foundation and soil investigation.
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Comm 62.0904	Alternative automatic fire-extinguishing systems.	Comm 62.2303	Truss design drawings.
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Comm 62.1403	Exterior walls.	Comm 62.3406	Historic buildings.
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Comm 62.1505	Roof covering classification.	Comm 62.3500	Referenced standards.
Comm 62.1506	Roof covering materials.	Comm 62.3600	Appendices.

Note: Chapter Comm 62 as it existed on June 30, 2002 was repealed and a new chapter Comm 62 was created, Register December 2001 No. 552, effective July 1, 2002.

**Comm 62.0001 Standards.** The design, construction, and maintenance of public buildings and places of employment shall comply with s. Comm 61.05, except as provided in this code and ch. Comm 14.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0100 Administration.** Except for the requirements in IBC sections 102.4 and 115, the requirements in IBC chapter 1 are not included as part of this code.

Note: The sections in this chapter are generally numbered to correspond with the section numbering in the IBC; e.g., s. Comm 62.0202 corresponds to IBC section 202, and s. Comm 62.3408 corresponds to IBC section 3408.

Note: As used throughout this code, "not included as part of this code" is intended to convey that the referenced requirements are not incorporated herein, and therefore cannot be enforced through this code. However, local ordinances may include the referenced requirements, as specified in s. Comm 61.03.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (1) and (2) to be Comm 62.0100 and Comm 62.0115 Register June 2002 No. 558, eff. 7-1-02.

#### Comm 62.0115 Unsafe structures and equipment.

This is a department rule in addition to the requirements in IBC section 115: The requirements in IBC section 115 apply to all public buildings and structures and places of employment, that exist before, on, or after the effective date of this code.

History: CR 01-139: renum. from Comm 62.0100 (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.0202 Definitions. (1) ADDITIONS.** These are department definitions in addition to the definitions in IBC section 202:

(a) "Air barrier" means a material or combination of materials collectively having a maximum air leakage rate of 0.06 cfm/ft.<sup>2</sup> at 0.30 in. H<sub>2</sub>O, when tested in accordance with ASTM E 783, installed to resist air leakage into the exterior envelope.

(b) "IBC and International Building Code" mean the 2000 edition of the *International Building Code*<sup>®</sup>, as adopted and modified in this code.

(c) "ICC Electrical Code" means ch. Comm 16.

(d) "IECC and International Energy Conservation Code" mean the 2000 edition of the *International Energy Conservation Code*<sup>®</sup>, as adopted and modified in this code.

(e) "IFC and International Fire Code" mean the 2000 edition of the *International Fire Code*<sup>®</sup>.

(f) "IFGC and International Fuel Gas Code" mean the 2000 edition of the *International Fuel Gas Code*<sup>®</sup>, as adopted and modified in this code.

(g) "IMC and International Mechanical Code" mean the 2000 edition of the *International Mechanical Code*<sup>®</sup>, as adopted and modified in this code.

(h) "IPC and International Plumbing Code" mean chs. Comm 81 to 87.

(i) "IPSC and International Private Sewage Code" mean chs. Comm 81 to 87.

(j) "Multifamily dwelling" has the meaning given in s. 101.971 (2), Stats.

**Note:** Section 101.971 (2), Stats., reads as follows: " 'Multifamily dwelling' means an apartment building, rowhouse, town house, condominium or manufactured building, as defined in s. 101.71 (6), that does not exceed 60 feet in height or 6 stories and that consists of 3 or more attached dwelling units the initial construction of which is begun on or after January 1, 1993. 'Multifamily dwelling' does not include a facility licensed under ch. 50."

(2) **SUBSTITUTIONS.** Substitute the following definitions for the corresponding definitions listed in IBC section 202:

(a) "Approved" means acceptable to the department.

(b) "Dwelling unit" has the meaning given in s. 101.61 (1), Stats.

**Note:** Section 101.61 (1), Stats., reads in part: " 'Dwelling unit' means a structure or that part of a structure which is used or intended to be used as a home, residence or sleeping place by one person or by 2 or more persons maintaining a common household, to the exclusion of all others."

(c) "Historic building" means a "qualified historic building" as defined in s. Comm 70.17 (15).

**Note:** Section Comm 70.17 (15) reads as follows:

" 'Qualified historic building' means a building which is:

"(a) Listed on, or nominated by the state historical society for listing on, the national register of historic places in Wisconsin;

"(b) Included in a district which is listed on, or has been nominated by the state historical society for listing on, the national register of historic places in Wisconsin, and has been determined by the state historical society to contribute to the historic significance of the district;

"(c) Listed on a certified municipal register of historic property; or

"(d) Included in a district which is listed on a certified municipal register of historic property, and has been determined by the municipality to contribute to the historic significance of the district."

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (1) (b) to be (2) (c) and renum. (1) (c) to (k) to be (1) (b) to (j) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.0310 Use and occupancy classification.** This is a department informational note to be used under IBC section 310.2:

**Note:** See s. Comm 61.02 Notes for statutory definitions of adult family home and community-based residential facility. See s. Comm 62.0202 for definitions of dwelling unit and multifamily dwelling.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0400 Special detailed requirements based on use and occupancy.** These are department rules in addition to the requirements in IBC chapter 4:

(1) **FIREWORKS, BLACK POWDER AND EXPLOSIVE MATERIALS.** Fireworks, black powder and explosive materials shall be stored and isolated in accordance with chs. Comm 7 and Comm 14.

(2) **RECYCLING SPACE.** An owner of a building shall provide a separate room or designated space within or adjacent to the building for the separation, temporary storage and collection of recyclable materials that are likely to be generated by the building occupants, under any of the following conditions:

(a) The construction of a new building.

(b) An increase in the existing area of a building that increases the gross floor area of the structure by 50% or more.

(c) An alteration of 50% or more of the existing area of a building that is 10,000 square feet or more in area.

**Note:** See Appendix B for guidelines for recommended designated areas.

**Note:** The collection and temporary storage of recyclable materials that are flammable or combustible is regulated by ch. Comm 14. Storage of liquids that are flammable or combustible is regulated by ch. Comm 10. Owners of buildings where these materials are stored should consult those chapters for isolation, removal and storage standards.

(3) **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.

(4) **COMMUNITY-BASED RESIDENTIAL FACILITIES.** A newly constructed building or portion thereof that is a community-based residential facility serving three to eight unrelated adults shall comply with chs. Comm 20 to 25 instead of all other requirements of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0401 Chapter Comm 10 compliance.** This is a department informational note to be used under IBC section 401.1:

**Note:** See ch. Comm 10 for additional requirements for motor vehicle service stations and for storage, handling, processing and transporting of flammable and combustible liquids.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0402 Lease plan.** The requirements in IBC section 402.3 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0403 High-rise buildings. (1) AUTOMATIC SPRINKLERS FOR HIGH-RISE AND DORMITORY BUILDINGS.** These are department informational notes to be used under IBC section 403.2:

**Note:** Under s. 101.14 (4) (b) 1, Stats., an automatic sprinkler system must be installed throughout every building that is more than 60 feet in height, except this requirement does not apply to open parking structures.

**Note:** Under s. 101.14 (4) (b) 3, Stats., an automatic sprinkler system must be installed by January 1, 2006, on each floor of all University of Wisconsin System residence halls and dormitories which are over 60 feet tall and for which initial construction was begun prior to April 26, 2000.

(2) **FUEL SUPPLY FOR STANDBY POWER.** Substitute the following wording for the exception in IBC section 403.10.1.1: Where the system is supplied with pipeline natural gas.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0406 Special hazards in parking garages.** Substitute the following wording for the requirements and exception in IBC section 406.2.8:

(1) Except as provided in subs. (2) and (3), fuel-fired appliances shall be located in a room that is separated from the parking garage by construction which will form a solid barrier between the room and the garage. Entrance to the room shall be from the outside, or by means of a vestibule creating a two-doorway separation, with both doors self-closing.

(2) Unit heaters may be suspended in a parking garage in accordance with the IMC.

(3) A single interior self-closing door shall be allowed provided the sources of ignition in the appliance are at least 18 inches above the floor.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0414 Information required.** The requirements in IBC section 414.1.3 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0415 Hazardous materials.** Substitute the following wording for the corresponding definition in IBC section 415.2: Immediately dangerous to life and health (IDLH). The concentration of air-borne contaminants which poses a threat of death, immediate or delayed permanent adverse health effects, or effects which could prevent escape from such an environment. This contaminant concentration level is established by the National Institute of Occupational Safety and Health based on

both toxicity and flammability. It generally is expressed in parts per million by volume, or milligrams per cubic meter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0500 Fire apparatus access.** These are department rules in addition to the requirements in IBC chapter 5:

(1) **GENERAL.** Unobstructed fire lanes that are accessible from a public road shall be provided for every facility, building or portion of a building in accordance with this code.

(2) **EXTENT.** (a) 1. Except as provided in par. (b), the fire lane shall extend to within 150 feet of all portions of the building or facility or any portion of the exterior wall of the first story as measured by an approved route around the exterior of the building or facility.

2. Where any part of the building or facility is more than 30 feet above the lowest level of fire apparatus access, the fire lane shall also be parallel to one entire side of the building or facility with the near edge of the fire lane within 30 feet of the building or facility on that parallel side.

(b) The fire code official may increase the dimension of 150 feet where any one of the following conditions are met:

1. The building is equipped with a complete automatic fire sprinkler system.

2. A code-complying fire lane cannot be provided due to location on property, topography, grades, waterways or other similar conditions, and an approved alternative means of fire protection is provided.

(3) **DIMENSIONS.** (a) A fire lane shall have a minimum unobstructed vertical clearance of 13.5 feet.

(b) Buildings or facilities with any part more than 30 feet above the lowest level of fire apparatus access shall be provided with a fire lane capable of accommodating aerial fire apparatus. Overhead power or utility lines may not be located across or within a fire lane for aerial fire apparatus.

(c) Except as provided in pars. (d) and (e), a fire lane shall have a minimum unobstructed width of 20 feet.

(d) Where a fire hydrant is provided to supply fire apparatus on the fire lane, the minimum unobstructed width shall be 26 feet for a minimum distance of 20 feet on each side of the fire hydrant.

(e) Where any part of the building or facility is more than 30 feet above the lowest level of fire apparatus access, the minimum unobstructed width of the fire lane parallel to one side of the building or facility as required under sub. (2) (a) 2., shall be 26 feet.

(4) **TURNING RADIUS.** The inside turning radius of a fire lane shall be 28 feet or as determined by the fire code official.

(5) **DEAD ENDS.** A dead-end fire lane that is longer than 150 feet shall terminate in a turnaround area which consists of one of the following:

(a) A cul-de-sac with a minimum diameter of 70 feet.

(b) A 45 degree wye with a minimum length of 60 feet per side.

(c) A 90 degree tee with a minimum length of 60 feet per side.

(6) **SIGNAGE.** The fire code official may require the installation and maintenance of signs related to fire lanes.

(7) **GATES AND BARRICADES.** (a) The fire code official may require the installation, maintenance, securement and emergency operability of gates or barricades across a fire lane.

(b) Security gates may be installed across fire lanes subject to the approval of the fire code official.

(8) **SURFACE.** Fire lanes shall be designed, installed and maintained to support the imposed loads of fire apparatus and shall be surfaced to provide all-weather driving capabilities.

(9) **BRIDGES AND ELEVATED SURFACES.** Bridges or elevated surfaces that are part of a fire lane shall be designed for a live load sufficient to carry the imposed load of the fire apparatus.

(10) **GRADE.** The grade of the fire lane shall be approved by the fire code official based on the fire department apparatus and site topography.

(11) **TIMING.** Required fire lanes shall be provided prior to the placement of combustible materials at the building site, or the construction of any portion of a building or facility above the footing and foundation.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0702 Fire separation distance.** Substitute the following definition for the corresponding definition listed in IBC section 702: The distance measured from the building face to the closest interior lot line, to the centerline of a street alley or public way, to a permanent no-build easement line, or to an imaginary line between 2 buildings on the same property. The distance shall be measured at right angles from the lot line.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0703 Fire-resistance ratings.** Substitute the following wording for the requirements, but not the exception, in IBC section 703.2: The fire-resistance rating of building elements shall be determined in accordance with the test procedures set forth in ASTM E 119 or in accordance with IBC section 703.3. Materials and methods of construction used to protect joints and penetrations in fire-resistance-rated building elements shall not reduce the required fire-resistance rating.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0704 Connections between buildings.** This is a department exception to the requirements in IBC section 704.1: This section does not apply to connections between buildings, that are in compliance with IBC section 3104.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0705 Fire wall identification.** These are department rules in addition to the requirements in IBC section 705:

(1) **PURPOSE.** Pursuant to s. 101.135, Stats., the purpose of this section is to establish uniform standards for the identification of fire walls on the exterior of buildings.

(2) **MUNICIPAL ORDINANCE.** A city, village or town may by ordinance require owners to identify the location of a fire wall at the exterior wall of a building with a sign.

(3) **SIGN REQUIREMENTS.** (a) *General.* The sign shall consist of 3 circles arranged vertically on the exterior wall, marking the location of the fire wall and centered on the fire wall. The circles shall either be affixed directly to the surface of the building or may be placed on a background material that is affixed to the building.

(b) *Size of circle.* Each circle shall be the same size. The diameter of the circle shall be at least 1 1/2 inches, but no greater than 2 inches.

(c) *Spacing.* The circles shall be spaced an equal distance apart. The distance measured from the top of the uppermost circle to the bottom of the lowermost circle shall be no more than 12 inches.

(d) *Color.* The color of the circle shall be red, amber (orange-yellow) or white (clear) and shall be reflective. The color of the circle shall contrast with the color of the background.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0712 Fire test criteria.** Substitute the following wording for the requirements, but not the exception, in IBC section 712.3: Fire-resistant joint systems shall be tested in accordance with the requirements of UL 2079. Nonsymmetrical wall joint systems shall be tested with both faces exposed to the furnace, and the assigned fire-resistance rating shall be the shortest duration obtained from the two tests. When evidence is furnished to show that the wall was tested with the least fire-resistant side exposed to the furnace, the wall need not be subjected to tests from the opposite side.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0715 Smoke dampers in health care facilities.** This is an additional department exception to the requirements in IBC section 715.5.5: Smoke dampers are not required

in Group I-2 duct penetrations of smoke barriers in fully ducted HVAC systems.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0719 Minimum protection for floor and roof systems.** This is a department rule in addition to the requirements in IBC Table 719.1(3):

**IBC TABLE 719.1(3)**  
**MINIMUM PROTECTION FOR FLOOR AND ROOF SYSTEMS**  
(Partial Table)

FLOOR OR ROOF CONSTRUCTION	CEILING CONSTRUCTION	THICKNESS OF FLOOR OR ROOF SLAB (inches), FOR 1-HOUR RATING	MINIMUM THICKNESS OF CEILING (inches), FOR 1-HOUR RATING
Line 22. Steel joists, floor trusses and flat or pitched roof trusses spaced a maximum 24 inches on center with 1/2-inch wood structural panels with exterior glue applied at right angles to top of joist or top chord of trusses with No. 8 screws. The wood structural panel thickness shall not be less than nominal 1/2-inch nor less than required by IBC chapter 22.	Base layer 5/8-inch Type X gypsum board applied at right angles to steel framing 24 inches on center with 1-inch Type S drywall screws spaced 24 inches on center. Face layer 5/8-inch Type X gypsum board applied at right angles to steel framing attached through base layer with 1 5/8-inch Type S drywall screws 12 inches on center at end joints and intermediate joints and 1 1/2-inch Type G drywall screws 12 inches on center placed 2 inches back on either side of face layer end joints. Joints of the face layer are offset 24 inches from the joints of the base layer.	Varies	1 1/4

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0720 Additional protection.** Substitute the following wording for the requirements in IBC section 720.6.2.5 and IBC Table 720.6.2(5): IBC Table 720.6.2(5) indicates the time increments to be added to the fire resistance where glass fiber, rockwool, slag mineral wool, or cellulose insulation is incorporated in the assembly.

**IBC TABLE 720.6.2(5)**  
**TIME ASSIGNED FOR ADDITIONAL PROTECTION**

DESCRIPTION OF ADDITIONAL PROTECTION	FIRE RESISTANCE (minutes)
Add to the fire resistance rating of wood stud walls if the spaces between the studs are completely filled with glass fiber mineral wool batts weighing not less than 2 lb./cu ft (0.6 lb/sq ft of wall surface), or rockwool or slag mineral wool batts weighing not less than 3.3 lb/cu ft (1 lb/sq ft of wall surface), or cellulose insulation having a nominal density not less than 2.6 lb/cu ft.	15

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0901 Fire protection systems. (1) MODIFICATIONS.** Substitute the following informational note for the requirements in IBC section 901.3.

Note: See chs. Comm 14 and 61 for requirements to shut down, impair, remove or modify fire protection systems.

**(2) FIRE HOSE THREADS.** These are department informational notes to be used under IBC section 901.4:

Note: Section 213.15, Stats., regulates fire hose threads and fittings and reads as follows: "All fire hose fittings, apparatus fittings, 1.5 and 2.5 inches in diameter purchased or procured by a fire department or fire company shall be of the national standard hose thread as adopted by the national fire protection association. No fire department shall utilize hose and equipment not in conformance with the requirement that all threads shall be national standard hose thread as adopted by the national fire protection association. Any person offering for sale nonstandard hose couplings, fittings or apparatus fittings may be fined not less than \$100 nor more than \$500."

Note: NFPA 1963 contains the specifications for national standard hose thread.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0902 Definition.** Substitute the following definition and informational note for the corresponding definition listed in IBC section 902.1: "Automatic sprinkler system" or "Automatic fire sprinkler system" has the meaning given in s. 145.01 (2), Stats.

Note: Section 145.01 (2), Stats., reads as follows: "Automatic fire sprinkler system," for fire protection purposes, means 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, reser-

voir or pressure tank or connection beginning at the supply side of an approved gate valve 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."

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0903 Automatic fire sprinkler systems.**

**(1) ALTERNATIVE PROTECTION.** Substitute the following wording for the requirements in IBC section 903.1.1: Alternative automatic fire-extinguishing systems complying with IBC section 904 shall be permitted in lieu of automatic sprinkler protection where recognized by the applicable standard.

**(2) MULTIFAMILY DWELLINGS.** For multifamily dwellings only, substitute the following wording for the requirements, but not the exception, in IBC section 903.2.8: An automatic fire sprinkler system or 2-hour fire resistance shall be provided in every multifamily dwelling that contains floor areas or dwelling units exceeding any of the thresholds established in Table 62.0903. The floor areas specified in the thresholds do not include any of the following:

- (a) Areas that are outside a building, as in the following:
  1. Porches that are open to the outside atmosphere.
  2. Exterior stairs.
  3. Exterior platforms.
  4. Exterior landings.
  5. Exterior decks.
- (b) An attached garage that meets all of the following criteria:
  1. Has a floor area of 600 square feet or less.

2. Serves a single dwelling unit.
3. Is accessed directly from the dwelling unit.
4. Is separated from the remainder of the building by at least 1-hour rated fire-resistive construction.
 

Note: Housing units that receive federal funding may be required by federal regulations to have sprinkler protection regardless of building size.

Note: See Appendix A for a listing of municipalities that the department believes have preexisting stricter sprinkler ordinances, and a listing of thresholds those municipalities may apply which are more restrictive than in Table 62.0903.

TABLE 62.0903

Thresholds Above Which a Sprinkler System or 2-Hour Fire Resistance Is Required in a Multifamily Dwelling

Class of Construction	Total Floor Area Within Individual Dwelling Units	Number of Units	Total Floor Area of Nondwelling Unit Portions (Common use areas, such as corridors, stairways, basements, cellars, vestibules, community rooms, laundry rooms, pools, etc.)
Type IA	16,000 sq ft	20 units	16,000 sq ft
Type IB			12,000 sq ft
Type IIA			8,000 sq ft
Type IIB			5,600 sq ft
Type III			
Type IV			
Type VA			
Type VB	4,800 sq ft		

(3) UNIVERSITY DORMITORIES. This is a department informational note to be used under IBC section 903.2.8:

Note: Under s. 101.14 (4) (b) 3., Stats., an automatic sprinkler system must be installed at the time of construction of each floor of any University of Wisconsin System residence hall or dormitory that is constructed after April 26, 2000, regardless of the height of the building.

(4) EXEMPT LOCATIONS. Substitute the following wording for exempt location 2 in IBC section 903.3.1.1.1: Any room or space where sprinklers are considered undesirable because of the nature of the contents, where approved by the department.

(5) FIRE DEPARTMENT CONNECTION. Substitute the following wording for the requirements in IBC section 903.3.7: The fire department connection shall be installed in an accessible location acceptable to the fire chief.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0904 Alternative automatic fire-extinguishing systems.** These are department rules in addition to the requirements in IBC section 904:

(1) WATER MIST FIRE PROTECTION SYSTEMS. Where a water mist fire protection system is installed, it shall comply with NFPA 750.

(2) MANUAL-WET SPRINKLER SYSTEMS. (a) *Where allowed.* A manual-wet sprinkler system may not be installed in a building unless all of the following conditions are met:

1. There is no municipal water system available to serve the property.
2. There is no provision under this code that requires the building or a portion of the building to have an automatic fire sprinkler system.
3. The municipality where the building is to be located has an adopted ordinance that requires the installation of manual-wet sprinkler systems and requires these systems to meet the provisions of this subsection.

(b) *General requirements.* 1. A building protected with a manual-wet sprinkler system shall be considered un-sprinklered under all other code provisions.

2. Each manual-wet sprinkler system shall be provided with a fire department connection. The fire department connection shall be installed in an accessible location acceptable to the fire chief.

3. All aboveground system piping throughout the building shall be labeled as a "manual-wet sprinkler system." Labels shall be placed at all of the following locations:

- a. On the piping at intervals of not more than 25 feet and at each side where the piping passes through a wall, floor or roof.
- b. At the fire department connection.
- c. At all valves and hose outlets.

4. The manual-wet sprinkler system design and installation shall comply with the automatic fire sprinkler system requirements of NFPA 13 or NFPA 13R, as applicable, except that the system comprised of the pilot line, fire department connection and fire department apparatus is considered as the approved water supply for the system.

5. A manual-wet sprinkler system shall be supplied with water through the fire department connection using fire department apparatus.

6. The plumbing well, water service and pressure tank shall be of a size and capacity to supply the hydraulically most remote sprinkler with the required waterflow and pressure for a minimum of 10 minutes.

7. A pilot line shall be connected from the manual-wet sprinkler system to the plumbing water supply system at the well pressure tank. The pilot line shall be of a size that is adequate to supply the hydraulically most remote sprinkler in the system.

8. The connection of a manual-wet sprinkler system to a plumbing water supply system shall be protected against backflow conditions in accordance with ch. Comm 82.

9. The actuation of any sprinkler in the system shall operate the waterflow indicating device, which shall initiate a fire alarm within the building.

10. Upon actuation of the building fire alarm, a fire alarm signal shall be sent automatically to the fire department providing fire protection to the building.

(c) *Installer qualifications.* The installation or alteration of a manual-wet sprinkler system shall be performed by a licensed individual as specified for the installation of an automatic fire sprinkler system under subch. V of ch. Comm 5.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; am. (2) (b) 8. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.0907 Fire alarm and detection systems.**

(1) CONSTRUCTION DOCUMENTS. The requirements in IBC section 907.1.1 are not included as part of this code.

(2) SMOKE ALARMS. These are department informational notes to be used under IBC section 907.2.10 (intro.):

**Note:** Section 101.145 (2) and (3) (a), Stats., addresses installation of smoke detectors and reads as follows: Section 101.145 (2) "A smoke detector required under this section shall be approved by underwriters laboratory."

(3) (a) "The owner of a residential building shall install any smoke detector required under this section according to the directions and specifications of the manufacturer of the smoke detector."

**Note:** Section 101.145 (4), Stats., addresses retroactivity requirements for buildings constructed prior to the effective date of this section. This statute section states "The owner of a residential building the initial construction of which is commenced before, on or after May 23, 1978, shall install and maintain a functional smoke detector in the basement and at the head of any stairway on each floor level of the building and shall install a functional smoke detector either in each sleeping room of each unit or elsewhere in the unit within 6 feet of each sleeping area and not in a kitchen."

**Note:** Under section 101.145 (1) (b), Stats., "sleeping area" means the area of the [dwelling] unit in which the bedrooms or sleeping rooms are located. Bedrooms or sleeping rooms separated by another use area such as a kitchen or living room are separate sleeping areas but bedrooms or sleeping rooms separated by a bathroom are not separate sleeping areas.

(3) PROTECTIVE COVERS. Substitute the following wording for the requirements in IBC section 907.3.5: The building official is authorized to require the installation of listed manual fire alarm box protective covers to prevent malicious false alarms or provide the manual fire alarm box with protection from physical damage. The protective cover shall be transparent or red in color with a transparent face to permit visibility of the manual fire alarm box. Each cover shall include proper operating instructions.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.0909 Smoke control systems.** (1) INSPECTION AND TEST REQUIREMENTS. Substitute the following wording for the requirements in IBC section 909.3: In addition to the ordinary inspection and test requirements that buildings, structures and parts thereof are required to undergo, smoke control systems subject to the provisions of IBC section 909 shall undergo inspections and tests sufficient to verify the proper commissioning of the smoke control design in its final installed condition. The design submission accompanying the construction documents shall clearly detail procedures and methods to be used and the items subject to such inspections and tests. Such commissioning shall be in accordance with generally accepted engineering practice and, where possible, based on published standards for the particular testing involved.

(2) INSPECTIONS FOR SMOKE CONTROL. Substitute the following wording for the requirements in IBC section 909.18.8: Smoke control systems shall be tested by a qualified agency.

(3) SCOPE OF TESTING. Substitute the following wording for the requirements in IBC section 909.18.8.1: Inspections shall be conducted in accordance with the following:

(a) During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location.

(b) Prior to occupancy and after sufficient completion for the purposes of pressure-difference testing, flow measurements, and detection and control verification.

(4) QUALIFICATIONS. Substitute the following wording for the requirements in IBC section 909.18.8.2: Inspection agencies for smoke control shall have expertise in fire protection engineering, mechanical engineering and certification as air balancers.

(5) REPORT FILING. Substitute the following wording for the requirements in IBC section 909.18.8.3.1: A copy of the final report shall be maintained and made available to the building official upon request.

(6) SYSTEM ACCEPTANCE. The requirements in IBC section 909.19 are not included as part of this code.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1003 General means of egress.**

(1) EGRESS FOR OUTDOOR AREAS. Substitute the following word-

ing for the requirements, but not the exceptions, in IBC section 1003.2.2.10: Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by IBC chapter 10. The occupant load of such outdoor areas shall be based on the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

(2) EXTERIOR AREA FOR ASSISTED RESCUE. These are department rules in addition to the requirements in IBC section 1003.2.13.7.

(a) *Exterior exit stairway.* Exterior exit stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches between handrails.

(b) *Identification.* Exterior areas for assisted rescue shall comply with IBC section 1003.2.13.5.5.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. and recr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1005 Guard tower exiting.** This is an additional department exception to the requirements in IBC section 1005.2.2: Buildings of Group I-3 occupancy that are used as guard towers, provided they are no taller than two stories, have no more than 10 occupants, and have a travel distance of no more than 75 feet.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1006 Safe dispersal areas.** This is a department rule in addition to the requirements in IBC section 1006.2: On sites where a public way is more than 100 feet from the building, the exit discharge may lead to a safe dispersal area such as a parking lot or fire access lane. The safe dispersal area may not be less than 50 feet from the building served and shall be large enough to accommodate all occupants of the building, based on at least 3 square feet of area per occupant.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1101 Accessibility.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1104 Multilevel buildings and facilities.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1106 Groups R-2 and R-3.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1107 Accessible dwelling units.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1108 Unisex toilet and bathing rooms.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1109 Emergency escape and rescue.** **History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-109; r. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1100 Accessibility.** Substitute the following wording for the requirements in IBC chapter 11: Buildings and facilities shall be designed for accessibility in accordance with ss. Comm 62.1101 to 62.1110.

**History:** CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1101 General requirements.** (1) SCOPE. The provisions of ss. Comm 62.1101 to 62.1110 control the design and construction of facilities for accessibility to people with disabilities.

(2) DESIGN. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code, with ICC/ANSI A117.1 and with the changes, additions, or omissions to the ICC/ANSI A117.1 requirements specified in subs. (3) to (5).

**(3) DOORS AND DOORWAYS.** This is a department informational note to be used under ICC/ANSI A117.1 section 1003.5.

**Note:** In accordance with s. 101.132 (2) (a) 4., Stats., a renter of a dwelling unit in covered multifamily housing may request the landlord to install lever door handles on any doors inside the dwelling unit or install single-lever controls on any plumbing fixtures used by the renter. These requests shall be provided by the landlord at no additional cost to the renter.

**(4) OPERABLE CONTROLS.** This is a department rule in addition to the requirements in ICC/ANSI A117.1 section 1003.9: Circuit controls, when provided for use by tenants in occupancies with dwelling or sleeping units, shall comply with ICC/ANSI A117.1 sections 309.2 and 309.3.

**(5) BATHROOM REQUIREMENTS IN R-2 OCCUPANCIES.** For R-2 occupancies only, substitute the following wording for the requirements in ICC/ANSI A117.1 section 1003.11.3:

(a) *Scope.* At least one bathroom in each dwelling unit or sleeping unit in R-2 occupancies shall conform to this subsection. The accessible fixtures shall be in a single toilet/bathing area, such that travel between fixtures does not require travel through other parts of the dwelling unit.

(b) *General-bathing facilities.* 1. Where either a bathtub or shower compartment is provided, the fixture shall conform to par. (c) or (d).

2. Where both a bathtub and a shower compartment are provided in a single toilet/bathing area, at least one of the bathing fixtures shall conform to par. (c) or (d).

(c) *Bathtubs.* Bathtub controls and the minimum 30-inch by 48-inch clear floor space shall conform to one of the following:

1. Where the centerline of the controls is located between 9 inches and 18 inches from the apron of the bathtub, the clear floor space shall extend at least 9 inches beyond the controls, to facilitate a parallel approach. The centerline of the controls may not be located more than 18 inches from the apron of the bathtub.

2. Where the centerline of the controls is located not more than 9 inches from the apron of the bathtub, the clear floor space shall extend at least 5 inches beyond the controls, to facilitate a parallel approach.

(d) *Showers.* 1. 'Shower compartments.' Where a shower compartment is the only bathing facility, the compartment shall be at least 36 inches wide by 36 inches deep. For a transfer-type shower compartment complying with ICC/ANSI A117.1 section 608, reinforcing shall be provided for the later installation of a shower seat. Reinforcing for a shower seat is not required in a roll-in-type shower compartment complying with ICC/ANSI A117.1 section 608.

2. 'Shower controls and clear floor space.' Shower controls and the minimum 30-inch by 48-inch clear floor space shall conform to one of the following:

a. Where the centerline of the controls for a transfer-type shower compartment is located between 9 inches and 18 inches from the face of the shower, the clear floor space shall extend at least 9 inches beyond the controls, to facilitate a parallel approach. The centerline of the controls may not be located more than 18 inches from the face of the shower.

b. Where the centerline of the controls for a transfer-type shower compartment is located not more than 9 inches from the face of the shower, the clear floor space shall extend at least 5 inches beyond the controls, to facilitate a parallel approach.

c. Where a shower compartment without a curb is provided and the controls are reachable, the clear floor space is not required to extend beyond the controls.

(e) *Lavatories.* Lavatories shall comply with ICC/ANSI A117.1 sections 1003.11.3.2.1.1 through 1003.11.3.2.1.3.

(f) *Water closets.* The water closet shall comply with ICC/ANSI A117.1 section 1003.11.3.1.2.

**Note:** Under s. ICC/ANSI A117.1 section 1003.5.2.1, all bathrooms that are in a dwelling unit or sleeping unit which contains multiple bathrooms must have entrance doors conforming with that section.

**History:** CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1102 Definitions.** In this code:

(1) "Accessible" means a site, building, facility or portion thereof that complies with ss. Comm 62.1101 to 62.1110 and with ICC/ANSI A117.1.

(2) "Accessible route" means a continuous, unobstructed path that complies with ss. Comm 62.1101 to 62.1110 and with ICC/ANSI A117.1.

(3) "Accessible unit" means a dwelling unit or sleeping unit that complies with ss. Comm 62.1101 to 62.1110 and chapters 1 to 9 of ICC/ANSI A117.1.

(4) "Circulation path" means an exterior or interior way of passage from one place to another for pedestrians.

(5) "Detectable warning" means a standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.

(6) "Dwelling unit or sleeping unit, multistory" means a dwelling unit or sleeping unit with habitable space located on more than one story.

(7) "Dwelling unit or sleeping unit, Type A" means a dwelling unit or sleeping unit designed and constructed for accessibility in accordance with ICC/ANSI A117.1

(8) "Dwelling unit or sleeping unit, Type B" means a dwelling unit or sleeping unit designed and constructed for accessibility in accordance with ICC/ANSI A117.1, consistent with the design and construction requirements of the federal Fair Housing Act, 24 CFR, chapter 1.

(9) "Facility" means the entire building or any portion of a building, structure or area, including the site on which such building, structure or area is located, wherein specific services are provided or activities are performed.

(10) "Finished ground level" means the ground surface of the site after all construction, leveling, grading, and development has been completed.

(11) "Intended to be occupied as a residence" means a dwelling unit or sleeping unit that can or will be used all or part of the time as the occupant's place of abode.

(12) "Public entrance" means an entrance that is not a service entrance.

(13) "Public-use areas" means interior or exterior rooms or spaces that are made available to the general public.

(14) "Self-service storage facility" means real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

(15) "Service entrance" means an entrance intended primarily for delivery of goods and services.

(16) "Site" means a parcel of land bounded by a property line or a designated portion of a public right-of-way.

(17) "Sleeping unit" means a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of the dwelling unit are not sleeping units.

(18) "Wheelchair space" means space for a single wheelchair and its occupant.

(19) "Wheelchair space cluster" means locations of 2 or more adjacent wheelchair spaces along with companion seating in assembly areas.

**History:** CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1103 Scoping requirements.** (1) WHERE ACCESSIBILITY IS REQUIRED. Except as specified in sub. (2), buildings and structures, temporary or permanent, including their associated sites and facilities, shall be accessible to people with disabilities.

(2) GENERAL EXCEPTIONS. Sites, buildings, facilities and elements shall be exempt from ss. Comm 62.1101 to 62.1110 to the extent specified in all of the following:

(a) *Specific requirements.* Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by ss. Comm 62.1104 to 62.1109.

(b) *Existing buildings.* Existing buildings shall comply with IBC section 3408 and s. Comm 62.3408.

(c) *Work areas.* Individual employee work stations are not required to be accessible but shall be located on an accessible route.

(d) *Detached dwellings.* Detached one- and two-family dwellings and accessory structures, and their associated sites and facilities are not required to be accessible as specified in ss. Comm 62.1101 to 62.1110.

(e) *Utility buildings.* Occupancies in Group U are exempt from the requirements of ss. Comm 62.1101 to 62.1110 other than any of the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.

2. Private garages or carports that contain required accessible parking.

(f) *Construction sites.* Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage, or construction trailers are not required to be accessible.

(g) *Raised areas.* Raised areas used primarily for purposes of security, life safety, or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers, or life guard stands are not required to be accessible or to be served by an accessible route.

(h) *Limited access spaces.* Nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, freight elevators, very narrow passageways, or tunnels are not required to be accessible.

(i) *Equipment spaces.* Spaces frequented only by personnel for maintenance, repair, or monitoring of equipment are not required to be accessible. Such spaces include, but are not limited to, elevator pits, elevator penthouses, mechanical, electrical, or communications equipment rooms, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults, and highway and tunnel utility facilities.

(j) *Single occupant structures.* Single occupant structures accessed only by passageways below grade or elevated above grade including, but not limited to, toll booths that are accessed only by underground tunnels, are not required to be accessible.

(k) *Residential Group R-1.* Buildings of group R-1 containing not more than five sleeping units for rent or hire that are also occupied as the residence of the proprietor, are not required to be accessible.

(L) *Day care facilities.* Where a day care facility (Groups A-3, E, I-4 and R-3) is part of a dwelling unit, only the portion of the structure utilized for the day care facility is required to be accessible.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1104 Accessible route. (1) SITE ARRIVAL POINTS.** Accessible routes within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.

(2) **WITHIN A SITE.** (a) *General.* Except as specified in par. (b), at least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

(b) *Exception.* An accessible route is not required between accessible facilities that have, as the only means of access between them, a vehicular way not providing for pedestrian access.

(3) **CONNECTED SPACES.** (a) *General.* Except as specified in par. (b), when a building, or portion of a building, is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances, connecting

accessible pedestrian walkways and the public way. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.

(b) *Exception.* A single accessible route is permitted to pass through a kitchen or storage room in an accessible dwelling unit.

(4) **MULTILEVEL BUILDINGS AND FACILITIES.** (a) *General.* Except as specified in par. (b), at least one accessible route shall connect each accessible level, including mezzanines, in multi-level buildings and facilities.

(b) *Exceptions.* 1. An accessible route is not required to floors that are above and below accessible levels and that have an aggregate area of not more than 3,000 square feet. This exception shall not apply to any of the following:

a. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces.

b. Levels containing offices of health care providers (Group B or Group I).

c. Passenger transportation facilities and airports (Group A-3 or Group B).

d. Government-owned or operated facilities.

2. In Groups A, I, R and S occupancies, levels that do not contain accessible elements or other spaces required by ss. Comm 62.1107 and 62.1108 are not required to be served by an accessible route from an accessible level.

3. An accessible route is not required to levels located above or below the accessible level in government-owned or operated buildings or facilities which are less than 3 stories and which are not open to the general public, if the floor level above or below the accessible level has a capacity of no more than 5 persons and is less than 500 square feet in area. The floor level above or below the accessible level that is less than 500 square feet shall have a sign stating a maximum capacity of 5 persons, and the sign shall be placed in a conspicuous location at the main entrance to the floor level.

Note: Examples include drawbridge towers and boat traffic towers, lock and dam control stations, press boxes, and train dispatching towers.

(5) **LOCATION.** (a) *General.* Except as specified in par. (b), accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior.

(b) *Exception.* Accessible routes from parking garages contained within and serving Type B dwelling units are not required to be interior.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1105 Accessible entrances. (1) REQUIRED.** (a) *General.* Except as specified in par. (b), at least 50% but not less than one entrance to each building and structure, and each separate tenant space within the building or structure, shall comply with the accessible route provisions of ss. Comm 62.1101 to 62.1110.

(b) *Exceptions.* 1. Entrances to spaces not required to be accessible as provided for in s. Comm 62.1107 or 62.1108.

2. Loading and service entrances that are not the only entrance to a building or to a tenant space.

(2) **MULTIPLE ACCESSIBLE ENTRANCES.** Where a building or facility has entrances that normally serve accessible parking facilities, transportation facilities, passenger loading zones, taxi stands, public streets and sidewalks, tunnels or elevated walkways, or accessible interior vertical access, then at least one of the entrances serving each such function shall comply with the accessible route provisions of ss. Comm 62.1101 to 62.1110.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1106 Parking and passenger loading facilities. (1) REQUIRED.** Where parking is provided, accessible parking spaces complying with ICC/ANSI A117.1 shall be pro-

vided in compliance with Table Comm 62.1106 except as required by subs. (2) and (3).

(2) **GROUPS R-2 AND R-3.** Two percent, but not less than one, of each type of parking space provided for occupancies in Groups R-2 and R-3, which are required to have Type A or Type B dwelling or sleeping units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.

(3) **REHABILITATION FACILITIES AND OUTPATIENT PHYSICAL THERAPY FACILITIES.** Twenty percent of patient and visitor parking spaces provided at rehabilitation facilities and outpatient physical therapy facilities shall be accessible.

(4) **VAN SPACES.** For every 8 or fraction of 8 accessible parking spaces, at least one shall be a van-accessible parking space.

**Table Comm 62.1106**  
**Accessible Parking Spaces**

Total Parking Spaces Provided	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2% of total
More than 1,000	20 plus one for each 100 over 1,000

(5) **LOCATION.** (a) *General.* Except as specified in par. (b), accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.

(b) *Exception.* In multilevel parking structures, van-accessible parking spaces are permitted on one level.

(6) **PASSENGER LOADING ZONES.** Passenger loading zones shall be designed and constructed in accordance with ICC/ANSI A117.1.

(a) *Medical facilities.* A passenger loading zone shall be provided at an accessible entrance to licensed medical and long-term care facilities where people receive physical or medical treatment or care and where the period of stay exceeds 24 hours.

(b) *Valet parking.* A passenger loading zone shall be provided at valet parking services.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1107 Dwelling units and sleeping units.**

(1) **GENERAL.** In addition to the other requirements of ss. Comm 62.1101 to 62.1110, occupancies having dwelling units or sleeping units shall be provided with accessible features in accordance with subs. (2) to (7).

(2) **DESIGN.** Dwelling units and sleeping units which are required to be accessible units shall comply with this code and the applicable portions of chapters 1 to 9 of ICC/ANSI A117.1. Type A and Type B units shall comply with the applicable portions of chapter 10 of ICC/ANSI A117.1. Units required to be Type A

units are permitted to be designed and constructed as accessible units. Units required to be Type B units are permitted to be designed and constructed as accessible units or as Type A units.

(3) **ACCESSIBLE SPACES.** (a) *General.* Except as specified in par. (b), rooms and spaces available to the general public or available for use by residents and serving accessible units, Type A units or Type B units shall be accessible. Accessible spaces shall include toilet and bathing rooms, kitchen, living and dining areas and any exterior spaces, including patios, terraces and balconies.

(b) *Exception.* Recreational facilities shall comply with s. Comm 62.1109 (14).

(4) **ACCESSIBLE ROUTE.** (a) *General.* Except as specified in par. (b), at least one accessible route shall connect accessible building or facility entrances with the primary entrance of each accessible unit, Type A unit and Type B unit within the building or facility and with those exterior and interior spaces and facilities that serve the units.

(b) *Exceptions.* 1. If the slope of the finished ground level between accessible facilities and buildings exceeds one unit vertical in 12 units horizontal (1:12), or where physical barriers prevent the installation of an accessible route, a vehicular route with parking that complies with s. Comm 62.1106 at each public or common use facility or building is permitted in place of the accessible route.

2. Exterior decks, patios, or balconies that are part of Type B units and have impervious surfaces, and that are not more than 4 inches below the finished floor level of the adjacent interior space of the unit.

(5) **GROUP I.** Occupancies in Group I shall be provided with accessible features in accordance with all of the following:

(a) *Group I-1.* Group I-1 occupancies shall be provided with accessible features in accordance with all of the following:

1. 'Accessible units.' At least 4%, but not less than one, of the dwelling units and sleeping units shall be accessible units.

2. 'Type B units.' a. Except as specified in subd. 2. b., in structures with 3 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(b) *Group I-2 nursing homes.* Nursing homes of Group I-2 shall be provided with accessible features in accordance with all of the following:

1. 'Accessible units.' At least 50%, but not less than one, of the dwelling units and sleeping units shall be accessible units.

2. 'Type B units.' a. Except as specified in subd. 2. b., in structures with 3 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(c) *Group I-2 hospitals.* In general purpose hospitals, psychiatric facilities, detoxification facilities and residential care or assisted living facilities of Group I-2, shall be provided with accessible features in accordance with all of the following:

1. 'Accessible units.' At least 10%, but not less than one, of the dwelling units and sleeping units shall be accessible units.

2. 'Type B units.' a. Except as specified in subd. 2. b., in structures with three or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(d) *Group I-2 rehabilitation facilities.* In hospitals and rehabilitation facilities of Group I-2 which specialize in treating conditions that affect mobility, or units within either which specialize

in treating conditions that affect mobility, 100% of the dwelling units and sleeping units shall be accessible units.

(e) *Group I-3.* In occupancies in Group I-3, at least 5%, but not less than one, of the dwelling units and sleeping units shall be accessible units.

(6) **GROUP R.** Occupancies in Group R shall be provided with accessible features in accordance with all of the following:

(a) *Group R-1.* Group R-1 occupancies shall be provided with accessible features in accordance with all of the following:

1. 'Accessible units.' In occupancies in Group R-1, accessible dwelling units and sleeping units shall be provided in accordance with Table Comm 62.1107. All facilities on a site shall be considered to determine the total number of accessible units. Accessible units shall be dispersed among the various classes of units. Roll-in showers provided in accessible units shall include a permanently mounted folding shower seat.

**Table Comm 62.1107**  
**Accessible Dwelling and Sleeping Units**

Total Number of Units Provided	Minimum Required Number of Accessible Units Associated with Roll-in Showers	Total Number of Required Accessible Units
1 to 25	0	1
26 to 50	0	2
51 to 75	1	4
76 to 100	1	5
101 to 150	2	7
151 to 200	2	8
201 to 300	3	10
301 to 400	4	12
401 to 500	4	13
501 to 1,000	1% of total	3% of total
Over 1,001	10 plus 1 for each 100 over 1,000	30 plus 2 for each 100 over 1,000

2. 'Type B units.' a. Except as specified in subd. 2. b., in structures with three or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(b) *Group R-2.* Type A and Type B units shall be provided in occupancies in Group R-2 in accordance with all of the following:

1. 'Type A units.' a. Except as specified in subd. 1. b. and c., in occupancies in Group R-2 containing more than 20 dwelling units or sleeping units, at least 2%, but not less than one, of the units shall be a Type A unit. All units on a site shall be considered to determine the total number of units and the required number of Type A units. Type A units shall be dispersed among the various classes of units.

b. The number of Type A units is permitted to be reduced in accordance with sub. (7).

c. Existing structures on a site shall not contribute to the total number of units on a site.

2. 'Type B units.' a. Except as specified in subd. 2. b., where there are 3 or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

Note: Type B dwelling units specified in s. Comm 62.1107 have the same meaning as "covered multifamily housing" as defined in s. 101.132 (1) (d), Stats. Section

101.132 (1) (d), Stats., reads as follows: " 'Covered multifamily housing' means any of the following:

"1. Housing that is first ready for occupancy on or after October 1, 1993, consisting of 3 or more dwelling units if the housing has one or more elevators.

"2. Grade-level dwelling units, in housing without elevators, that are first ready for occupancy on or after October 1, 1993, consisting of 3 or more dwelling units."

(c) *Group R-3.* 1. Except as specified in subd. 2., in occupancies in Group R-3 where there are 3 or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

2. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(d) *Group R-4.* Group R-4 occupancies shall be provided with accessible features in accordance with all of the following:

1. 'Accessible units.' At least one of the dwelling or sleeping units shall be an accessible unit.

2. 'Type B dwelling units.' a. Except as specified in subd. 2. b., in structures with 3 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a Type B unit.

b. The number of Type B units is permitted to be reduced in accordance with sub. (7).

(7) **GENERAL EXCEPTIONS.** Where specifically permitted by subs. (5) and (6), the required number of Type A and Type B units is permitted to be reduced in accordance with all of the following:

(a) *Buildings without elevator service.* Where no elevator service is provided in a building, only the dwelling and sleeping units that are located on stories indicated in subd. 1. and 2. are required to be Type A and Type B units. The number of Type A units shall be determined in accordance with sub. (6) (b).

1. 'One story with Type B units required.' At least one story containing dwelling units or sleeping units intended to be occupied as a residence shall be provided with accessible entrances as specified in s. Comm 62.1105 (1), from the exterior of the building, and all units intended to be occupied as a residence on that story shall be Type B units.

2. 'Additional stories with Type B units.' On all other stories that have a building entrance in proximity to arrival points intended to serve units on that story, as specified in subd. 2. a. and b., all dwelling units and sleeping units intended to be occupied as a residence served by that entrance on that story shall be Type B units. Where no such arrival points are within 50 feet of the entrance, the closest arrival points shall be used unless that arrival point serves the story required by subd. 1.

a. Where the slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less.

b. Where the slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less.

(b) *Multistory units.* A multistory dwelling or sleeping unit which is not provided with elevator service is not required to be a Type B unit. Where a multistory unit is provided with external elevator service to only one floor, the floor provided with elevator service shall be the primary entry to the unit and shall comply with the requirements for a Type B unit, and a toilet facility shall be provided on that floor.

(c) *Elevator service to the lowest story with units.* Where elevator service in the building provides an accessible route only to the lowest story containing dwelling or sleeping units intended to be occupied as a residence, only the units on that story which are intended to be occupied as a residence are required to be Type B units.

(d) *Site impracticality.* 1. 'Variance procedures.' Pursuant to ss. 101.132 (2) (b) 4. and (c) 2., Stats., the owner may request a reduction in accessible dwelling units due to site impracticality specified in subd. 2. through the petition for variance procedures specified in ch. Comm 61.

2. 'General.' On a site with multiple non-elevator buildings, the number of units required by sub. (7) (a) to be Type B units is permitted to be reduced to a percentage which is equal to the percentage of the entire site having grades, prior to development, which are less than 10%, provided that all of the following conditions are met:

a. Not less than 50% of the units required by par. (a) on the site are Type B units.

b. Units required by par. (a), where the slope between the building entrance serving the units on that story and a pedestrian or vehicular arrival point is no greater than 8.33%, are Type B units.

c. Units required by par. (a), where an elevated walkway is planned between a building entrance serving the units on that story and a pedestrian or vehicular arrival point and the slope between them is 10% or less are Type B units.

d. Units served by an elevator in accordance with par. (c) are Type B units.

(e) *Base flood elevation.* 1. 'Variance procedures.' Pursuant to s. 101.132 (2) (b) 4. and (c) 2., Stats., the owner may request a reduction in accessible dwelling units due to unusual characteristics of the site specified in subd. 2. through the petition for variance procedures specified in ch. Comm 61.

2. 'General.' The required number of Type A and Type B units shall not apply to a site where the lowest floor or the lowest structural building members of non-elevator buildings are required to be at or above the base flood elevation resulting in all of the conditions specified in subd. 2. a. and b. Where no such arrival points are within 50 feet of the primary entrances, the closest arrival point shall be used.

a. A difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet exceeding 30 inches.

b. A slope exceeding 10% between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1108 Special occupancies. (1) GENERAL.** In addition to the other requirements of ss. Comm 62.1101 to 62.1110, the requirements of subs. (2) to (3) shall apply to specific occupancies.

(2) **ASSEMBLY AREA SEATING.** Assembly areas with fixed seating shall comply with pars. (a) to (d). Dining areas shall comply with par. (e).

(a) *Services.* Services and facilities provided in areas not required to be accessible shall be provided on an accessible level and shall be accessible.

(b) *Wheelchair spaces.* In theaters, bleachers, grandstands and other fixed seating assembly areas, accessible wheelchair spaces shall be provided in accordance with Table Comm 62.1108-1. At least one seat for a companion shall be provided beside each wheelchair space.

**Table Comm 62.1108-1**  
**Accessible Wheelchair Spaces**

Capacity of Seating in Assembly Areas	Minimum Required Number of Wheelchair Spaces
4 to 25	1
26 to 50	2
51 to 100	4
101 to 300	5
301 to 500	6
Over 500	6, plus 1 additional space for each total seating capacity increase of 100

1. 'Wheelchair space clusters.' Except as specified in subd. 2., accessible wheelchair spaces shall be grouped in wheelchair space clusters in accordance with Table Comm 62.1108-2.

2. 'Exception.' In fixed seating assembly areas where sightlines require more than one step for a rise in elevation between rows, the minimum required number of wheelchair space clusters in that area shall be one-half of that required by Table Comm 62.1108-2, but not less than one.

**Table Comm 62-1108-2**  
**Wheelchair Space Clusters**

Capacity of Seating in Assembly Areas	Minimum Required Number of Wheelchair Space Clusters
Up to 300	1
301 to 600	2
601 to 900	3
901 to 1,500	4
1,501 to 2,100	5
2,101 to 3,000	6
Over 3,000	6, plus 1 additional cluster for each 1,000 seats or portion thereof

(c) *Dispersion of wheelchair space clusters.* Dispersion of wheelchair space clusters shall be based on the availability of accessible routes to various seating areas including seating at various levels in multilevel facilities.

1. 'Multilevel assembly seating areas.' a. Except as specified in subd. 1. b. and c., in multilevel assembly seating areas, wheelchair space clusters shall be provided on the main floor level and on one of each two additional floor or mezzanine levels.

b. In multilevel assembly spaces utilized for worship services, where the second floor or mezzanine level contains 25% or less of the total seating capacity, wheelchair space clusters shall be permitted to all be located on the main level.

c. In multilevel assembly seating where the second floor or mezzanine level provides 25% or less of the total seating capacity and 300 or fewer seats, wheelchair space clusters shall be permitted to all be located on the main level.

2. 'Separation between clusters.' a. Except as specified in subd. 2. b., wheelchair space clusters shall be separated by a minimum of five intervening rows or by a minimum of ten intervening seats. Wheelchair spaces within any one wheelchair space cluster shall not be separated by an intervening row, nor by more than two intervening seats, nor by more than a 7-inch vertical level change.

b. A vertical level change exceeding 7-inches is permitted in a wheelchair space cluster where necessary to maintain sightlines.

(d) *Assistive listening systems.* 1. 'Audible communications.' Stadiums, theaters, auditoriums, lecture halls and similar fixed seating assembly areas where audible communications are inte-

gral to the use of the space shall have an assistive listening system if the area is equipped with an audio amplification system or the area has a capacity of 50 or more persons.

2. 'Receivers.' Receivers shall be provided for assistive listening systems in accordance with Table Comm 62.1108-3. Twenty-five percent of receivers, but not less than 2, shall be hearing aid compatible.

**Table Comm 62.1108-3**  
**Receiver for Assistive Listening Systems**

Capacity of Seating in Assembly Areas	Minimum Required Number of Receivers
Less than 50	2
50 to 500	2, plus 4 for each total seating capacity increase of 100 above 51
501 to 1,000	20, plus 3 for each total seating capacity increase of 100 above 501
1,001 to 2,000	35, plus 2 for each total seating capacity increase of 100 above 1,001
Over 2,000	55, plus 1 for each total seating capacity increase of 100 above 2,000

(e) *Dining areas.* 1. 'General.' a. Except as specified in subd. 1. b., in dining areas, the total floor area allotted for seating and tables shall be accessible.

b. In buildings without elevators, an accessible route to a mezzanine seating area is not required, provided that the mezzanine contains less than 25% of the total area and the same services are provided in the accessible area.

2. 'Fixed or built-in seating or tables.' Where fixed or built-in seating or tables are provided in dining areas, at least 5%, but not less than one such seat or table, shall be accessible and be distributed throughout the facility.

3. 'Dining counters.' In establishments serving food or drink for consumption where the only seating is at counters exceeding 34-inches in height, a 60-inch minimum length portion of the counter shall be accessible.

(3) **SELF-SERVICE STORAGE FACILITIES.** (a) *General.* Self-service storage facilities shall provide accessible individual self-storage spaces in accordance with Table Comm 62.1108-4.

**Table Comm 62.1108-4**  
**Accessible Self-service Storage Facilities**

Total Spaces in Facility	Minimum Number of Required Accessible Spaces
1 to 200	5%, but not less than 1
Over 200	10, plus 2% of total number of units over 200

(b) *Dispersion.* Accessible individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number of required accessible spaces, the number of accessible spaces shall not be required to exceed that required by Table Comm 62.1108-4. Accessible spaces are permitted to be dispersed in a single building of a multibuilding facility.

*History:* CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1109 Other features and facilities.**  
(1) **GENERAL.** (a) Except as specified in par. (b), accessible building features and facilities shall be provided in accordance with subs. (2) to (14).

(b) Type A and Type B dwelling and sleeping units shall comply with ICC/ANSI A117.1.

(2) **TOILET AND BATHING FACILITIES.** (a) *General.* Except as specified in par. (b), toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the inaccessible floor. At least one of each type fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible.

(b) *Exceptions.* 1. In toilet rooms or bathing facilities accessed only through a private office, not for common or public use, and intended for use by a single occupant, any of the following alternatives are allowed:

a. Doors are permitted to swing into the clear floor space provided the door swing can be reversed to meet the requirements in ICC/ANSI A117.1.

b. The height requirements for the water closet in ICC/ANSI A117.1 are not applicable.

c. Grab bars are not required to be installed in a toilet room, provided that the reinforcement has been installed in the walls and located so as to permit the installation of such grab bars.

d. The requirement for height, knee and toe clearance shall not apply to a lavatory.

2. This section is not applicable to toilet and bathing facilities that serve dwelling units or sleeping units that are not required to be accessible by s. Comm 62.1107.

3. Where multiple single-user toilet rooms or bathing facilities are clustered at a single location and contain fixtures in excess of the minimum required number of plumbing fixtures, at least 5%, but not less than one room for each use at each cluster, shall be accessible.

4. Toilet room fixtures that are in excess of those required and that are designated for use by children in day care and primary school occupancies.

(c) *Unisex toilet and bathing rooms.* 1. 'Where permitted and required.' a. In assembly and mercantile occupancies, an accessible unisex toilet room may be provided where an aggregate of six or more male and female water closets are required. Where a unisex toilet room is provided, it shall count for no more than 15 persons. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be permitted to use the unisex toilet room option. Except as specified in subd. 1. b., in recreational facilities where separate-sex bathing rooms are provided, an accessible unisex bathing room shall be provided. Fixtures located within unisex toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

b. Where each separate-sex bathing room has only one shower or bathtub fixture, a unisex bathing room is not required.

c. Unisex toilet and bathing rooms shall comply with this section and ICC/ANSI A117.1.

2. 'Unisex toilet rooms.' a. Except as specified in subd. 2. b., unisex toilet rooms shall include only one water closet and only one lavatory. A unisex bathing room in accordance with subd. 3. shall be considered a unisex toilet room.

b. A separate-sex toilet room containing not more than 2 water closets without urinals, or containing only one water closet and one urinal shall be considered a unisex toilet room.

3. 'Unisex bathing rooms.' Unisex bathing rooms shall include only one shower or bathtub fixture. Unisex bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate-sex bathing rooms, accessible storage facilities shall be provided for unisex bathing rooms.

4. 'Location.' Unisex toilet rooms, when provided, and bathing rooms shall be located on an accessible route. Unisex toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible route from any sepa-

rate-sex toilet room to a unisex toilet room shall not exceed 500 feet.

5. 'Prohibited location.' In passenger transportation facilities and airports, the accessible route from separate-sex toilet rooms to a unisex toilet room shall not pass through security checkpoints.

6. 'Clear floor space.' Where doors swing into a unisex toilet or bathing room, a clear floor space not less than 30-inches by 48-inches shall be provided, within the room, beyond the area of the door swing.

7. 'Privacy.' Doors to unisex toilet and bathing rooms shall be securable from within the room.

(d) *Water closet compartment.* Where water closet compartments are provided in a toilet room or bathing facility, at least one wheelchair-accessible compartment shall be provided. Where the combined total water closet compartments and urinals provided in a toilet room or bathing facility is six or more, at least one ambulatory-accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment. Wheelchair-accessible and ambulatory-accessible compartments shall comply with ICC/ANSI A117.1.

(3) **SINKS.** (a) *General.* Except as specified in par. (b), where sinks are provided in accessible spaces, at least 5%, but not less than one shall comply with ICC/ANSI A117.1.

(b) *Exceptions.* 1. Mop or service sinks are not required to be accessible.

2. Sinks designated for use by children in day care and primary school occupancies.

(4) **KITCHENS, KITCHENETTES AND WET BARS.** Where kitchen, kitchenettes and wet bars are provided in accessible spaces or rooms, they shall be accessible in accordance with ICC/ANSI A117.1.

(5) **DRINKING FOUNTAINS.** On floors where drinking fountains are provided, at least 50%, but not less than one fountain, shall be accessible.

(6) **ELEVATORS.** Passenger elevators on an accessible route shall be accessible and comply with s. Comm 62.3001 and ch. Comm 18.

(7) **LIFTS.** (a) *General.* Except as specified in par. (b), platform lifts shall not be part of a required accessible route in new construction.

(b) *Exceptions.* Platform lifts are permitted as part of an accessible route in any of the following applications:

1. To a performing area in occupancies in Group A.
2. To wheelchair spaces required by s. Comm 62.1108 (2) (b).
3. To spaces that are not open to the general public with an occupant load of not more than five.
4. Within a dwelling or sleeping unit.

5. To wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way is open to the outdoors.

(8) **STORAGE.** (a) *General.* Where fixed or built-in storage elements such as cabinets, shelves, medicine cabinets, closets and drawers are provided in required accessible spaces, at least one of each type shall contain storage space complying with ICC/ANSI A117.1

(b) *Lockers.* Where lockers are provided in accessible spaces, at least 5%, but not less than one, of each type shall be accessible.

(c) *Shelving and display units.* Self-service shelves and display units in mercantile occupancies and shelving in stack areas of libraries shall be located on an accessible route. Such shelving and display units shall not be required to comply with reach-range provisions.

(d) *Coat hooks and folding shelves.* Where coat hooks or folding shelves are provided in inaccessible toilet rooms, toilet compartments, or in dressing, fitting or locker rooms, at least one of each type shall be provided in accessible toilet rooms, toilet compartments, and dressing, fitting and locker rooms.

(9) **DETECTABLE WARNINGS.** (a) *General.* Except as specified in par. (b), passenger transit platform edges bordering a drop-off and not protected by platform screens or guards shall have a detectable warning.

(b) *Exception.* Detectable warnings are not required at bus stops.

(10) **ASSEMBLY AREA SEATING.** Assembly areas with fixed seating in every occupancy shall comply with s. Comm 62.1108 (2) for accessible seating and assistive listening devices.

(11) **SEATING AT TABLES, COUNTERS AND WORK SURFACES.** (a) *General.* Where seating at fixed or built-in tables, counters or work surfaces is provided in accessible spaces, at least 5% of the seating, but not less than one, shall be accessible.

(b) *Dispersion.* Accessible fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the space or facility containing such elements.

(12) **CUSTOMER SERVICE FACILITIES.** Customer service facilities shall provide for accessible features in accordance with pars. (a) to (e).

(a) *Dressing, fitting and locker rooms.* Where dressing rooms, fitting rooms, or locker rooms are provided, at least 5%, but not less than one, of each type of use in each cluster provided shall be accessible.

(b) *Check-out aisles.* 1. Except as specified in subd. 2., where check-out aisles are provided, accessible check-out aisles shall be provided in accordance with Table Comm 62.1109. Where check-out aisles serve different functions, at least one accessible check-out aisle shall be provided for each function. Where check-out aisles are dispersed throughout the building or facility, accessible check-out aisles shall also be dispersed. Traffic control devices, security devices and turnstiles located in accessible check-out aisles or lanes shall be accessible.

2. Where the area of the selling space is less than 5,000 square feet, only one check-out aisle is required to be accessible.

**Table Comm 62.1109**  
**Accessible Check-out Aisles**

Total Check-out Aisles of Each Function	Minimum Number of Accessible Check-out Aisles Each Function
1 to 4	1
5 to 8	2
9 to 15	3
Over 15	3, plus 20% of additional aisles

(c) *Point of sales and service counters.* Where counters are provided for sales or distribution of goods or services, at least one of each type provided shall be accessible. Where such counters are dispersed throughout the building or facility, the accessible counters shall also be dispersed.

(d) *Food service lines.* Food service lines shall be accessible. Where self-service shelves are provided, at least 50%, but not less than one, of each type provided shall be accessible.

(e) *Queue and waiting lines.* Queue and waiting lines serving accessible counters or check-out aisles shall be accessible.

(13) **CONTROLS, OPERATING MECHANISMS AND HARDWARE.** (a) *General.* Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation, and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.

(b) *Operable windows.* 1. Except as specified in subd. 2., where operable windows are provided in rooms that are required to be accessible in accordance with s. Comm 62.1107 (5), and (6) (a) and (b), at least one window in each room shall be accessible and each required operable window shall be accessible.

2. Accessible windows are not required in bathrooms or kitchens.

**(14) RECREATIONAL FACILITIES.** Recreational facilities shall be provided with accessible features in accordance with pars. (a) to (c).

(a) *Facilities serving a single building.* In Group R-2 and R-3 occupancies where recreational facilities are provided serving a single building containing Type A or Type B units, 25%, but not less than one, of each type of recreational facility shall be accessible. Every recreational facility of each type on a site shall be considered to determine the total number of each type which are required to be accessible.

(b) *Facilities serving multiple buildings.* In Group R-2 and R-3 occupancies on a single site where multiple buildings containing Type A or Type B units are served by recreational facilities, 25%, but not less than one, of each type of recreational facility serving each building shall be accessible. The total number of each type of recreational facility which is required to be accessible shall be determined by considering every recreational facility of each type serving each building on the site.

(c) *Other occupancies.* All recreational facilities not described in pars. (a) and (b) shall be accessible.

**(15) STAIRWAYS.** Stairways located along accessible routes connecting floor levels that are not connected by an elevator shall be designed and constructed to comply with ICC/ANSI A117.1 and IBC chapter 10.

History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1110 Signage. (1) SIGNS.** (a) *General.* Except as specified in par. (b), required accessible elements shall be identified by the International Symbol of Accessibility at all of the following locations:

1. Accessible passenger loading zones.
2. Accessible areas of refuge required by IBC section 1003.2.13.5.
3. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.
4. Accessible entrances where not all entrances are accessible.
5. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.
6. Unisex toilet and bathing rooms.
7. Accessible dressing, fitting, and locker rooms where not all such rooms are accessible.

(b) *Exception.* 1. Accessible parking spaces required in s. Comm 62.1106 for the general public shall be identified with a sign complying with the accessible parking sign requirements specified in s. Trans 200.07.

2. Accessible parking facilities identified for use only by employees of any building or facility or by tenants in Group R-2 occupancies may be identified with signs other than the s. Trans 200.07 signs.

**(2) DIRECTIONAL SIGNAGE.** Directional signage indicating the route to the nearest like accessible element within the building or facility shall be provided at all of the locations specified in pars. (a) to (e). These directional signs shall include the International Symbol of Accessibility.

- (a) Inaccessible building entrances.
- (b) Inaccessible public toilet and bathing facilities.
- (c) Elevators not serving an accessible route.
- (d) At each separate-sex toilet and bathing room indicating the location of the nearest unisex toilet or bathing room where provided in accordance with sub. (1).
- (e) At exits and elevators serving a required accessible space, but not providing an approved accessible means of egress, signage shall be provided in accordance with IBC section 1003.2.13.6.

**(3) OTHER SIGNS.** Signage providing directional information, information about functional spaces, or signage indicating special accessibility provisions shall be provided as follows:

(a) In assembly areas required to comply with s. Comm 62.1108 (2) (d), a sign notifying the general public of the availability of assistive listening systems shall be provided at ticket offices or similar locations.

(b) At each door to an exit stairway, signage shall be provided in accordance with IBC section 1003.2.10.3.

(c) At areas of refuge, signage shall be provided in accordance with IBC sections 1003.2.13.5.3 to 1003.2.13.5.5.

(d) At areas for assisted rescue, signage shall be provided in accordance with s. Comm 62.1003 (2) (b).

Note: Refer to s. 101.123, Stats., for requirements for designating smoking areas.  
History: CR 01-109; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1203 Interior environment.** Substitute the following wording for the requirements and exception in IBC section 1203.1: Interior spaces intended for human occupancy shall conform to the IMC.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1205 Court drainage.** Substitute the following wording and informational note for the requirements in IBC section 1205.3.3: The bottom of every court shall be properly graded and drained.

Note: See ch. Comm 82 for requirements for storm water piping.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1209 Toilet rooms.** These are department rules in addition to the requirements in IBC section 1209.5:

**(1) PRIVACY AND ACCESS.** Every toilet room shall be enclosed and separated from other areas of the building in a manner that will ensure privacy of the users of the toilet rooms. Restriction of access to toilet rooms, such as by use of key locks or other similar devices, is prohibited, except as provided in sub. (2).

**(2) EXCEPTIONS.** (a) Toilet rooms for a service or filling station that are accessed from the exterior may be key locked.

(b) A self-service filling station that has a key- or card-operated fuel dispensing device which can be used while the station is unattended by an employee is not required to have toilet rooms available during the unattended periods.

(c) Single-occupant toilet rooms may have privacy locks.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1403 Exterior walls.** These are department rules in addition to the requirements in IBC section 1403.3:

**(1) AIR BARRIERS.** (a) Except as specified in sub. (2), a durable air retarder shall be provided when a building component or assembly separates interior conditioned space from an exterior wall system.

(b) The air retarder shall be located on the interior side of the wall insulation.

**(2) EXCEPTIONS.** An air retarder is not required in the following locations:

(a) Where other approved means to avoid condensation and frost within the wall assembly are provided.

(b) In plain or reinforced concrete exterior walls that are designed and constructed in accordance with IBC chapter 19.

Note: Although air retarders are to reduce transmission of water vapor by convection (air movement), and vapor retarders are to reduce transmission of water vapor by diffusion, these functions may be combined in a single membrane. In practice, considerably more moisture is transported by convection than by diffusion.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1407 Aluminum composite materials. (1) APPROVAL.** Substitute the following wording for the requirements in IBC section 1407.5: Results of approved tests or an engineering analysis shall be made available to the code official upon request to verify compliance with the requirements of IBC chapter 16 for wind loads.

(2) **FIRE-RESISTANCE RATING.** Substitute the following wording for the requirements in IBC section 1407.8: Where ACM systems are used on exterior walls required to have a fire-resistance rating in accordance with IBC section 704, evidence shall be made available to the code official upon request that the required fire-resistance rating is maintained.

(3) **FULL-SCALE TESTS.** Substitute the following wording for the requirements in IBC section 1407.9.4: Results of full-scale fire tests, which reflect an end-use configuration and demonstrate that the ACM system in its final form does not propagate flame over the surface or through the core when exposed on the exterior face to a fire source, shall be made available to the code official upon request, for approval. Such testing shall be performed on the ACM system with the ACM in the maximum thickness intended for use.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1505 Roof covering classification.** The requirements in Footnote a in IBC Table 1505.1. are not included as part of this code.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1506 Roof covering materials.** Substitute the following wording for the requirements in IBC section 1506.3: Roof covering materials shall conform to the applicable standards listed in IBC chapter 15.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1603 Construction documents. (1) LIVE LOADS POSTED.** Substitute the following wording for the requirements in IBC section 1603.3: Where the live loads for which each floor or portion thereof of a commercial or industrial building is or has been designed to exceed 100 pounds per square foot, such design live loads shall be conspicuously posted by the owner in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

(2) **OCCUPANCY PERMITS.** The requirements in IBC section 1603.4 are not included as part of this code.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1604 In-situ load tests.** Substitute the following wording for the requirements in IBC section 1604.6: The building official is authorized to require an engineering analysis or a load test, or both, of any construction whenever there is reason to question the safety of the construction for the intended occupancy.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1607 Truck and bus garages.** Substitute the following wording for the requirements in IBC section 1607.6: Minimum live loads for garages having trucks or buses shall be as specified in IBC Table 1607.6, but shall not be less than 50 pounds per square foot. Actual loads shall be used where they are greater than the loads specified in the table.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

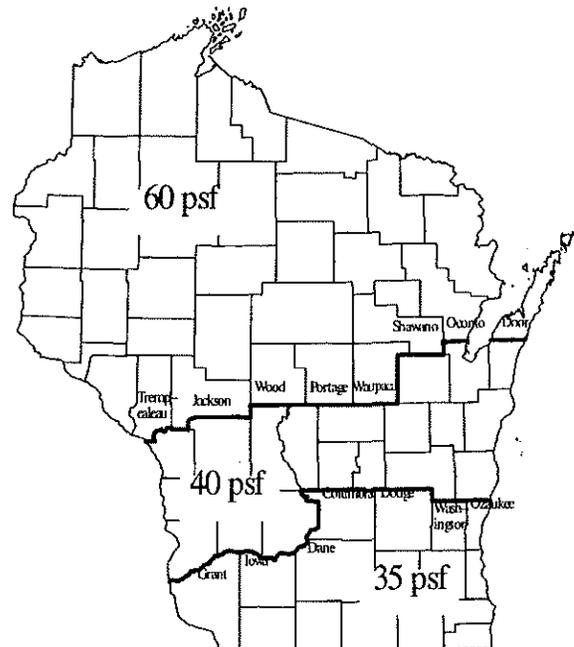
**Comm 62.1608 Snow loads. (1) GROUND SNOW LOAD.** This is a department alternative to the requirements in IBC section 1608.2:

(a) A ground snow load of 35 pounds per square foot may be assumed for the south zone in Figure 62.16-1.

(b) A ground snow load of 40 pounds per square foot may be assumed for the middle zone in Figure 62.16-1.

(c) A ground snow load of 60 pounds per square foot may be assumed for the north zone in Figure 62.16-1.

Figure 62.16-1  
Ground Snow Load Zones



(2) **SNOW EXPOSURE FACTOR.** This is a department alternative to the requirements in IBC section 1608.3.1: A snow exposure factor of 1.0 may be used for any flat roof.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1609 Determination of wind loads. (1) ALTERNATIVE DESIGN.** This is a department alternative to the requirements in IBC section 1609.1.1: For buildings that meet all of the following conditions, wind loads may be determined by applying only Table 6-2 in ASCE 7-98:

- The total building volume is less than 50,000 cubic feet.
- The building height is less than 30 feet.
- The wind exposure is Category C.
- Roof overhangs are designed to resist an uplift load of at least 30 pounds per square foot.

(2) **WIND LOAD FOR LOW-RISE BUILDINGS.** (a) Substitute the following wording for the requirements in footnote d in IBC Table 1609.6.2.1(1): "Max. Horizontal Wall Loads" are only for the design of wall elements which also support roof framing. As part of the MWFRS, these elements shall be designed for the interaction of vertical and horizontal loads or have independent mechanisms for each load. For interaction design of walls as MWFRS, the vertical roof loads shall be the "Vertical Loads" from Table 1609.6.2.1(1), and the horizontal loads shall be the "Max. Horizontal Wall Loads." The zone loads shall be applied as shown in Figure 1609.6(1) and as follows: 1E to the Windward Wall End Zone, 4E to the Leeward Wall End Zone, 1 to the Windward Wall Interior Zone, and 4 to the Leeward Wall Interior Zone.

(b) This is a department footnote for the vertical loads in the end zone of a windward roof, in IBC Table 1609.6.2.1(1): Footnote e. Note that there are two load conditions between 20° and 30°. Negative pressure from 20° to 30° shall be interpolated using a pressure value of 0 for 30°. Positive pressures between 25° and 30° shall be interpolated using a pressure value of 0 for 25°.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; renum. to be (1), cr. (2), Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.1610 Soil lateral loads.** Substitute the following Table for IBC Table 1610.1

**Table 62.1610  
Soil Lateral Load**

Description of Backfill Material <sup>a</sup>	Unified Soil Classification	Active Condition <sup>b</sup> Design Lateral Soil Load psf Per Foot of Depth	At-rest Condition <sup>c</sup> Design Lateral Soil Load psf Per Foot of Depth
Well-graded clean gravels; gravel & sand mixes	GW	30	50
Poorly graded clean gravels; gravel & sand mixes	GP	30	50
Silty gravel, poorly graded gravel & sand mixes	GM	40	60
Clayey gravel, poorly graded gravel & clay mixes	GC	45	65
Well-graded clean sand; gravel & sand mixes	SW	30	50
Poorly graded clean sand; sand & gravel mixes	SP	30	50
Silty sands, poorly graded sand & silt mixtures	SM	45	65
Sand-silt-clay mix with plastic fines	SM-SC	45	65
Clayey sand, poorly graded sand & clay mixes	SC	60	100
Inorganic silts and clayey silts	ML	45	100
Mixture of inorganic silt and clay	ML-CL	60	100
Inorganic clays of medium plasticity	CL	60	100
Organic silt and silty clay, low plasticity	OL	d	d
Inorganic clayey silt, elastic silt	MH	d	d
Inorganic clays of high plasticity	CH	d	d
Organic clays and organic silty clay	OC	d	d

<sup>a</sup> The definition and classification of soil materials shall be in accordance with ASTM D 2487.

<sup>b</sup> Where wall is expected to deflect a minimum of 0.001 times the retained soil height. Design lateral soil loads are for moist conditions for the specified soil at typical specified compacted densities. Actual field conditions shall govern. The lateral pressure of improperly drained, submerged, or saturated soils shall include the buoyant unit soil weight times appropriate  $K_a$ , plus the hydrostatic pressure.  $K_a$  is the coefficient of active earth pressure.

<sup>c</sup> Where wall is expected to deflect less than 0.001 times the retained soil height. Design lateral soil loads are for moist conditions for the specified soil at typical specified compacted densities. Actual field conditions shall govern. The lateral pressure of improperly drained, submerged, or saturated soils shall include the buoyant unit soil weight times appropriate  $K_o$ , plus the hydrostatic pressure.  $K_o$  is the coefficient of earth pressure at rest.

<sup>d</sup> Unsuitable as backfill material.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1612 Flood loads.** The requirements in IBC section 1612 are not included as part of this code.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1614 Earthquake loads – general.** Substitute the following wording for the requirements, but not the exceptions, in IBC section 1614.1:

(1) Every structure, and portion thereof, shall as a minimum, be designed and constructed to resist the effects of earthquake motions and assigned a Seismic Design Category as set forth in IBC section 1616.3. Structures determined to be in Seismic Design Category A, and the following structures, need only comply with the requirements in IBC section 1616.4.

(a) Structures north of the 4% g contour line in IBC Figure 1615(2).

(b) Structures south of the 4% g contour line in IBC Figure 1615(2) that have a site class of A to C in IBC Table 1615.1.1.

(c) Structures south of the 4% g contour line in IBC Figure 1615(2) which are classified as Category IV in IBC Table 1604.5 and which have a site class of D, E or F in IBC Table 1615.1.1.

(2) Structures south of the 4% g contour line in IBC Figure 1615(2) which are classified as Category I, II or III in IBC Table 1604.5 and which have a site class of D, E or F in IBC Table 1615.1.1 shall comply with the applicable design requirements in IBC sections 1616 through 1623.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1615 Earthquake loads – site ground motion.** These are department alternatives to the contour lines shown in IBC Figures 1615(1) and (2):

(1) The contour line in IBC Figure 1615(1) that extends through southern Rock, Walworth, and Kenosha Counties may be ignored.

(2) The 4% g contour line in IBC Figure 1615(2) may be applied as occurring in the location shown in Figure 62.16-2.

**Figure 62.16-2**  
**Alternate 4% g Contour Location**



**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1621 Component certification.** The requirements in IBC section 1621.3.5 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1700 Structural tests and special inspections.** The requirements in IBC chapter 17, except for the requirements in IBC section 1715, are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1802 Foundation and soil investigation.**  
**(1) GENERAL.** Substitute the following wording for the requirements in IBC section 1802.1: Foundation and soils investigations shall be conducted in conformance with IBC sections 1802.2 through 1802.6.

**(2) WHERE REQUIRED.** Substitute the following wording for the requirements, but not the exception, in IBC section 1802.2: The owner or applicant shall make a foundation and soils investigation available to the building official, upon request, where required in IBC sections 1802.2.1 through 1802.2.7.

**(3) QUESTIONABLE SOIL.** Substitute the following wording for the requirements in IBC section 1802.2.1: Where the safe-sustaining power of the soil is in doubt, or where a load-bearing value superior to that specified in this code is claimed, an investigation complying with the provisions of IBC sections 1802.4 through 1802.6 shall be made.

**(4) EXPANSIVE SOILS.** Substitute the following wording for the requirements in IBC section 1802.2.2: In areas likely to have expansive soil, soil tests shall be conducted to determine where such soils do exist.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1805 Alternate setback and clearance.** Substitute the following wording for the requirements in IBC section 1805.3.5: Alternate setbacks and clearances are permitted, subject to the approval of the building official.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1807 Pier and pile foundations. (1) DEFINITION OF NEUTRAL PLANE.** This is a department definition in addition to the definitions in IBC section 1807.1: NEUTRAL PLANE. A pile's neutral plane is the level at which drag load, accumulated

from the top down, added to the long-term static service load, equals the upward acting shaft resistance accumulated from the bottom up, added to the pile's toe resistance.

**(2) DOWNDRAG.** This is a department rule in addition to the requirements in IBC section 1807.2.1: Investigations and reports for pier or pile foundations shall include analysis of whether downdrag is anticipated. Where downdrag is anticipated, the report shall include a determination of the position of the pile's neutral plane, an estimate of the soil settlement at the neutral plane, and a determination of the maximum load at the neutral plane.

**(3) DETERMINATION OF ALLOWABLE LOADS.** Substitute the following wording for the requirements in IBC section 1807.2.8.1:

(a) The allowable axial and lateral loads on piers or piles shall be determined by an approved formula, load tests or static analysis.

(b) The factor of safety to be used for pier or pile design shall depend on the extent of field testing performed to verify capacity.

(c) If the ultimate capacity is assessed solely by static analysis, a minimum factor of safety of 3.0 shall be applied to the ultimate capacity to determine allowable load capacity.

(d) If only static analysis and dynamic field testing are performed, a minimum factor of safety of 2.5 shall be applied to the ultimate capacity to determine load capacity.

(e) If one or more static load tests are performed, in addition to the analysis and tests described above, a minimum factor of safety of 2.0 shall be applied to the ultimate allowable capacity.

(f) A minimum factor of safety of 2.0 shall be used for occupiable structures provided that all of the conditions in pars. (a) to (e) are met. A minimum factor of safety of 1.5 may be used for non-occupiable structures, provided that the deep foundations are required only to control settlement, and it can be demonstrated that deep foundations are not required to prevent a bearing capacity failure.

**(4) LOAD TESTS.** This is a department alternative to the requirements in IBC section 1807.2.8.3: The ultimate capacity of the pile shall be defined as the load at which the average pile head deflection is defined by the following equation:

$$\delta = (Pl/AE) + 0.15'' + (B/120)$$

Where:

$\delta$  = average pile head deflection, inches

P = applied load, pounds

l = pile length, inches

A = transformed pile area of pile (to steel)

E = modulus of elasticity (of steel)

B = outside diameter (or width) of pile, inches

The calculation shall be predicated on an assumed end-bearing condition.

**(5) PILES IN SUBSIDING AREAS.** Substitute the following wording for the requirements in IBC section 1807.2.11:

(a) Where piles are driven through subsiding fills or other subsiding strata and derive support from underlying firmer materials, consideration shall be given to the downward drag load that may be imposed on the piles by the subsiding upper strata.

(b) Where the influence of subsiding fills is considered as imposing loads on the pile, the allowable stresses specified in this chapter are permitted to be increased where satisfactory substantiating data are submitted.

(c) The position of the pile's neutral plane shall be determined, and the settlement of the soil at the level of the neutral plane shall be estimated. The maximum load in the pile, which occurs at the neutral plane, shall be determined.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1808 Driven pile foundations.** Substitute the following wording for the requirements in IBC section

1808.1.3: Any sudden decrease in driving resistance of an end-supported timber pile shall be investigated with regard to the possibility of damage. If the sudden decrease in driving resistance cannot be correlated to load-bearing data, the pile shall be removed for inspection or rejected, or shall be assigned a reduced capacity commensurate with the loss of end-bearing in lieu of removing or rejecting the pile.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1809 Concrete pile foundations.**

(1) DIMENSIONS FOR DRILLED OR AUGERED UNCASSED PILES. Substitute the following wording for the exception in IBC section 1809.3.2: The length of the pile is permitted to exceed 30 times the diameter, provided that the design and installation of the pile foundation is under the direct supervision of a registered design professional knowledgeable in the field of soil mechanics and pile foundations.

(2) DIMENSIONS FOR DRIVEN UNCASSED PILES. Substitute the following wording for the exception in IBC section 1809.4.2: The length of the pile is permitted to exceed 30 times the diameter, provided that the design and installation of the pile foundation is under the direct supervision of a registered design professional knowledgeable in the field of soil mechanics and pile foundations.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1914 Shotcrete clearance.** The exception in IBC section 1914.4.2 is not included as part of this code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.1916 Column approvals.** Substitute the following wording for the requirements in IBC section 1916.6.: Details of column connections and splices shall be shop-fabricated by approved methods and testing. Shop-fabricated concrete-filled pipe columns shall be inspected by a representative of the manufacturer at the plant.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2101 Masonry construction materials.**

(1) CONSTRUCTION DOCUMENTS. The requirements in IBC section 2101.3 are not included as part of this code.

(2) FIREPLACE DRAWINGS. The requirements in IBC section 2101.3.1 are not included as part of this code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2103 Cast stone masonry units.** These are department rules in addition to the requirements in IBC section 2103.3:

(1) Cast stone masonry units covered under this category are homogeneous or faced, dry cast concrete products other than conventional concrete masonry units (brick or block), but of similar size.

(2) Cast stone masonry units shall be made with portland cement, water and suitable mineral aggregates, with or without admixtures, and reinforced if required.

(3) Cast stone masonry units shall have a minimum compressive strength of 6500 psi and a maximum water absorption of 6% when tested as 2- x 2-inch cylinders or cubes.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2105 Masonry quality.** The requirements in IBC section 2105.1 are not included as part of this code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2108 Quality assurance provision.** The requirements in IBC section 2108.2 are not included as part of this code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2109 Empirical design of masonry.**

(1) BEARING ON MASONRY. This is a department rule in addition to the requirements in IBC section 2109.1: Lintels shall be considered structural members and shall be designed in accordance with the applicable provisions of IBC chapter 16.

(2) OPENINGS. This is a department rule in addition to the requirements in IBC section 2109.4.1: Unless evidence is provided to show that openings do not cause lateral stability and stress requirements to be exceeded, the amount of openings in a masonry wall shall not exceed the limits set forth in Table 62.2109-1.

Table 62.2109-1

Maximum Ratio of Laterally Unsupported Height or Length to Thickness for Exterior Walls With Openings†

Type of Masonry	Percent of Openings at Any Horizontal Plane of Wall			
	20	40	60	Over 60
Single wythe walls of solid or grouted walls of solid units	20	16	12	Submit design
All other masonry	18	14	10	calculations

†The percentage of openings shall be calculated for each 100 lineal feet of wall or portion thereof at any horizontal plane of wall.

(3) JOINTING. These are department rules in addition to the requirements in IBC section 2109:

(a) *Expansion and shrinkage.* Joints commensurate with lateral stability requirements shall be installed in all exterior

masonry to allow for expected growth of clay products and shrinkage of concrete products.

(b) *Vertical jointing.* Vertical movement joints shall be provided at a spacing in compliance with Table 62.2109-2.

**Table 62.2109-2**  
**Maximum Spacing Of Exterior Masonry Movement Joints**  
**Between Unrestrained Ends† (Feet)**

Loading Conditions	Type of Material	Openings (Percent of Total Wall Area)			
		0 to 20		More than 20	
		Joint to Joint	Joint to Corner	Joint to Joint	Joint to Corner
Load-bearing	Clay units	140	70	100	50
	Concrete units	60	30	40	20
Nonload-bearing walls	Clay units	100	50	60	40
	Concrete units	50	25	30	20

†Jointing required is a minimum and is not intended to prevent minor cracking. The distances given for maximum spacing of joints are for a single wall plane. For composite walls, the maximum spacing of joints shall be governed by the masonry material type used in the exterior wythe.

**Note:** To accomplish the intended purpose, joints should be located at critical locations, such as changes in building heights, changes in framing systems, columns built into exterior walls, major wall openings, and changes in materials.

(c) *Horizontal jointing.* Where supports such as shelf angles or plates are required to carry the weight of masonry above the foundation level, a pressure-relieving joint shall be provided between the structural support and any masonry that occurs below this level. The joint width shall be such as to prevent any load being transmitted from the support to any element directly below. All mortar and rigid materials shall be kept out of this joint. This type of joint shall be provided at all such supports in a concrete frame structure where clay masonry is exposed to the weather.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2208 Welding of structural steel.** Substitute the following wording and informational note for the requirements in IBC section 2208.1: The details of design, workmanship and technique for welding, inspection of welding, and qualifications of welding operators shall conform to the requirements of the specifications listed in IBC sections 2204, 2205, 2206 and 2207.

**Note:** The rules pertaining to registration of structural welders are specified in ch. Comm 5.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2303 Truss design drawings.** The requirements in IBC section 2303.4.1 are not included as part of this code.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2304 Girder ends.** This is a department rule in addition to the requirements in IBC section 2304.11.2.4: A moisture barrier shall be provided between an untreated or nondurable wood girder and an exterior masonry or concrete bearing surface.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2503 Gypsum board and plaster.** The requirements in IBC section 2503.1 are not included as part of this code.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.2701 Electrical code.** This is a department informational note to be used under IBC section 2701.1:

**Note:** As defined in s. Comm 62.0202 (1) (c), "ICC Electrical Code" means ch. Comm 16.

**History:** CR 01-139; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.2900 Additional criteria for toilets.** These are department rules in addition to the requirements in IBC chapter 29:

(1) **MAINTENANCE.** Every toilet room and every part thereof shall be kept clean and in good repair.

(2) **SERVICE SINK.** In every building where a service sink is required by IBC Table 2902.1, the service sink shall be located in

a service closet or room that is provided with the supplies necessary for the sanitary upkeep of the toilet rooms.

(3) **PERMANENT AND PORTABLE OUTDOOR TOILETS.** (a) *General.* Where local conditions or situations make it impractical to install a private onsite wastewater treatment system, permanent or portable outdoor toilets, or other sanitation systems or devices as described in ch. Comm 91, may be used, except as specified in par. (b).

**Note:** See ch. Comm 83 for detailed requirements for private onsite wastewater treatment systems.

(b) *Exception.* For places of employment for more than 10 persons, schools larger than 2 rooms, and apartment houses, water-flush toilets shall be provided, unless outdoor toilets or other sanitation systems or devices are permitted in writing by the department.

(c) *Permanent outdoor toilets.* Permanent outdoor toilets, consisting of composting toilet systems, incinerating toilets, or privies shall comply with ch. Comm 91, s. Comm 62.1209, and this section.

1. A permanent outdoor toilet shall be provided with a suitable approach, such as a concrete, gravel, or cinder walk.

2. All windows, ventilators, and other openings for permanent outdoor toilets shall be screened to prevent the entrance of flies, and all doors shall be self-closing.

(d) *Portable outdoor toilets.* 1. No portable outdoor toilet may be erected or maintained within 50 feet of any well; within 10 feet of the line of any street or public thoroughfare, unless vehicular traffic has been detoured while the portable toilet is in use; within 5 feet of the property line between premises; or within 25 feet of a door, window, or other outdoor opening of any building.

2. A portable outdoor toilet shall be stabilized to prevent it from tipping over.

3. A portable outdoor toilet shall be located with an approach such that access is unobstructed and free of brush, debris, and standing water.

**Note:** Chapter Comm 91 contains requirements for storage chambers of portable toilets.

**Note:** Chapters NR 113 and 114 contain requirements for servicing portable toilets.

(4) **ENCLOSURE OF FIXTURES.** (a) Water closets and urinals within a toilet room shall be arranged to ensure privacy. Except as provided in par. (b), each water closet shall occupy a separate compartment, with walls or partitions and a door enclosing the fixtures to ensure privacy. Urinals shall be placed against walls at least 6 feet 8 inches high and arranged individually with or without partitions.

(b) 1. Water closet compartments may be omitted in a single-occupant toilet room having a door with a privacy lock.

2. Toilet rooms located in day-care and child-care facilities and containing two or more water closets may have one water closet without an enclosing compartment.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.2901 Plumbing code.** This is a department informational note to be used under IBC section 2901.1:

Note: As defined in s. Comm 62.0202 (1) (h) and (i), "IPC and International Plumbing Code" and "IPSC and International Private Sewage Code" mean chs. Comm 81 to 87.

History: CR 01-139: cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.2902 Plumbing fixtures. (1) MINIMUM NUMBER OF FIXTURES.** (a) *Exception.* This is a department exception to the requirements in IBC section 2902.1: Where more than one water closet is required for males, urinals may be substituted for up to 50% of the required number of water closets.

(b) *Additional fixtures.* These are department informational notes to be used under IBC sections 2902.1 and 2902.2:

Note: Additional plumbing fixtures may be required for employees by the U.S. department of labor, occupational safety and health act (OSHA) regulations.

Note: Additional plumbing fixtures may be required by the department of health and family services for restaurants, mobile home parks, camping grounds, camping resorts, recreational camps and educational camps.

Note: Chapter Comm 90 also has requirements for minimum numbers of sanitary fixtures for a public swimming pool, as based on the pool area. For some buildings, the minimum number of sanitary fixtures determined in that manner may be larger than the minimum number determined in accordance with this section. Compliance with this section does not relieve an owner from complying with ch. Comm 90.

(2) **LAVATORIES FOR TOILET ROOMS.** This is a department rule in addition to the requirements in IBC section 2902.1: At least one lavatory shall be provided in each toilet room or in a gender-designated lounge adjacent to the toilet room. If a multiple-use lavatory is provided, 24 lineal inches of wash sink, or 20 inches measured along the edge of a circular basin will be considered equivalent to one lavatory.

(3) **SIGNAGE FOR TOILET ROOMS.** This is a department rule in addition to the requirements in IBC section 2902.2: Toilet rooms shall be designated by legible signs.

(4) **PUBLIC FACILITIES.** This is a department alternative to the requirements in IBC section 2902.6: Toilet rooms may be omitted in a small retail or mercantile building where all of the following requirements are met:

- (a) No more than 25 occupants are accommodated.
- (b) Other restrooms are conveniently located and available to the patrons and employees during all hours of operation.
- (c) The omission is approved in writing by the local unit of government.
- (d) A copy of the written approval from the local unit of government is provided to the department or its authorized representative upon request.

(5) **LOCATION OF RESTAURANT TOILET ROOMS.** This is a department informational note to be used under IBC section 2902.6:

Note: Additional location requirements for restaurant toilet rooms may be applied by the department of health and family services.

(6) **MERCANTILE TOILET ROOMS.** This is a department rule in addition to the requirements in IBC section 2902.6: Toilet rooms for customers in business and mercantile occupancies shall be directly accessible to the customers, rather than accessible through employee work areas.

(7) **PAY FACILITIES.** Substitute the following wording for the requirements in IBC section 2902.6.2: All toilet facilities shall be free of charge.

Note: Section 146.085, Stats., prohibits charging a fee for the use of toilet facilities and imposes a fine of \$10 to \$50 for violations.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3001 Elevators. (1) SCOPE.** Substitute the following wording for the requirements in IBC section 3001.1: This chapter governs the design, construction, installation, alteration

and repair of elevators, dumbwaiters, escalators, moving walks and their components.

(2) **REFERENCED STANDARDS.** Substitute the following wording for the requirements in IBC section 3001.2: Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators, dumbwaiters, escalators, moving walks and their components shall comply with ch. Comm 18.

(3) **CHANGE IN USE.** Substitute the following wording for the requirements in IBC section 3001.4: A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with ch. Comm 18.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3002 Elevator car to accommodate ambulance stretcher.** Substitute the following wording for the requirements in IBC section 3002.4: At least one elevator shall be provided for fire department emergency access to all floors in all buildings four stories in height or more, and, regardless of the number of stories, in all outpatient clinics specified in IBC section 304.1 and in all nursing homes and hospitals as specified in IBC section 308.3. Such elevator car shall be of such a size and arrangement to accommodate a 24-inch by 76-inch ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services, which is the star of life. The symbol shall not be less than 3 inches high and shall be placed inside on both sides of the hoistway door-frame.

History: CR 01-111: cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3004 Hoistways. (1) VENTING.** This is a department rule in addition to the requirements in IBC section 3004.3: A ventilation opening in a hoistway wall, where provided, shall have guards securely anchored to the supporting structure inside the hoistway. The guards shall consist of a wire-mesh screen of at least 0.0915-inch diameter steel wire with openings that will reject a ball one-inch in diameter, or expanded metal screen of equivalent strength and open area.

(2) **PLUMBING SYSTEMS.** Substitute the following wording for the requirements in IBC section 3004.5: (a) *General.* Except as specified in par. (b), plumbing and mechanical systems shall not be located in an elevator shaft.

(b) *Elevator pits.* Drains or sumps complying with ss. Comm 82.33 and 82.36 shall be provided in elevator pits. Connection of these drains and sumps to a sanitary system is prohibited.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-111: r. and recr. (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3006 Machine rooms. (1) ACCESS.** This is a department informational note to be used under IBC section 3006.1:

Note: See ch. Comm 18 for additional machine room access requirements.

(2) **PRESSURIZATION.** This is a department exception to the requirements in IBC section 3006.3: An elevator machine room which serves a pressurized elevator hoistway and which is not directly connected to the pressurized elevator shaft is not required to be pressurized.

(3) **PLUMBING SYSTEMS.** Substitute the following wording for the requirements in IBC section 3006.6: Plumbing systems not used in connection with the operation of the elevator may not be located in elevator equipment rooms.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-111: renum. (1) and (2) to be (2) and (3) and cr. (1) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3100 Special construction.** These are department rules in addition to the requirements in IBC chapter 31:

(1) **ASSEMBLY SEATING FACILITIES.** Every bleacher, grandstand, or other assembly seating facility that is intended primarily

to support persons for the purpose of spectator seating shall be inspected at least annually. Any loose connections and any defective or broken members shall be repaired before the facility is used. All repairs and maintenance shall conform with this code.

**(2) PUBLIC MAUSOLEUMS.** Public mausoleum structures shall be designed, constructed and maintained in accordance with this code. Mausoleums shall be classified as a Group S-1 storage occupancy and shall be constructed of reinforced concrete or other materials of similar durability.

**Note:** Section 157.12 (2) (d), Stats., reads as follows: "A mausoleum shall be constructed to last as long as possible, taking into consideration the technology and economics applicable to mausoleum construction at the time of construction."

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am., cr. (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3102 Blower equipment.** Substitute the following wording for exception 2 in IBC section 3102.8.1.2: Blowers shall be provided with inlet screens, belt guards and other protective devices as required to provide protection from injury.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3103 Temporary structures.** This is a department rule in addition to the requirements in IBC section 3103: Under IBC sections 3103.1.1 and 3103.2, the requirements for permits and construction documents for temporary structures are at the option of the local code official.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3104 Pedestrian walkways and tunnels.**  
**(1) SEPARATE STRUCTURES.** Substitute the following wording for the requirements and exception in IBC section 3104.2: Buildings that are connected in accordance with IBC section 3104 shall be considered to be separate structures.

**(2) CONTENTS.** The requirements in IBC section 3104.4 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3109 Swimming pool enclosures.** Substitute the following informational note for the requirements in IBC section 3109.

**Note:** See ch. Comm 90 for requirements for swimming pool enclosures.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3200 Encroachments into the public right-of-way.** The requirements in IBC chapter 32 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3300 Safeguards during construction.** Except for the requirements in IBC sections 3302.1 and 3303.5, the requirements in IBC chapter 33 are not included as part of this code.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: renum. (1) to be Comm 62.3300 and renum. (2) to be Comm 62.3307 Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3307 Protection of adjoining property.** This is a department informational note to be used under IBC chapter 33:

**Note:** Sections 101.111 (1) to (6), Stats., read as follows:

**(1) DEFINITION.** In this section 'excavator' means any owner of an interest in land making or causing to be made an excavation.

**(2) CAVE-IN-PREVENTION.** Any excavator shall protect the excavation site in such a manner so as to prevent the soil of adjoining property from caving in or settling.

**(3) LIABILITY FOR UNDERPINNING AND FOUNDATION EXTENSIONS.**  
**(a)** If the excavation is made to a depth of 12 feet or less below grade, the excavator may not be held liable for the expense of any necessary underpinning or extension of the foundations of buildings on adjoining properties.

**(b)** If the excavation is made to a depth in excess of 12 feet below grade, the excavator shall be liable for the expense of any necessary underpinning or extension of the foundations of any adjoining buildings below the depth of 12 feet below grade. The owners of adjoining buildings shall be liable for the expense of any necessary underpinning or extension of the foundations of their buildings to the depth of 12 feet below grade.

**(4) NOTICE.** Unless waived by adjoining owners, at least 30 days prior to commencing the excavation the excavator shall notify, in writing, all owners of adjoining buildings of his or her intention to excavate. The notice shall state that adjoining buildings may require permanent protection. The owners of adjoining property shall have access to the excavation site for the purpose of protecting their buildings.

**(5) EMPLOYEES NOT LIABLE.** No worker who is an employee of an excavator may be held liable for his or her employer's failure to comply with this section.

**(6) FAILURE TO COMPLY; INJUNCTION.** If any excavator fails to comply with this section, any aggrieved person may commence an action to obtain an order under ch. 813 directing such excavator to comply with this section and restraining the excavator from further violation thereof. If the aggrieved person prevails in the action, he or she shall be reimbursed for all his or her costs and disbursements together with such actual attorney fees as may be approved by the court."

**History:** CR 01-139: renum. from Comm 62.3300 (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3400 Existing structures. (1) EXCLUSIONS.** The requirements in IBC sections 3401 to 3405, 3407 and 3409 are not included as part of this code.

**(2) COMMUNITY-BASED RESIDENTIAL FACILITIES SERVING 20 OR FEWER UNRELATED RESIDENTS.** This is a department rule in addition to the requirements in IBC chapter 34: Where an existing building or portion thereof is converted to a community-based residential facility serving 20 or fewer residents who are not related to the operator or administrator, the building or portion thereof shall be classified as Group R-4. The building or portion thereof shall comply with the provisions of this code that are applicable to a Group R-4 occupancy.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 62.3406 Historic buildings.** Substitute the following wording for the requirements in IBC section 3406.1: The construction, repair, alteration, addition, restoration, movement, and change of occupancy of historic buildings shall comply with ch. Comm 70.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3408 Accessibility for existing buildings. (1) SCOPE.** Substitute the following wording for the requirements and exception in IBC section 3408.1:

**(a) General.** Except as specified in par. (b), the requirements in IBC sections 3408.2 to 3408.7.14 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

**(b) Exception.** When dwelling units are remodeled in housing with 3 or more dwelling units, the dwelling units shall comply with sub. (2). The term "remodeled" has the meaning given in s. 101.132 (1) (h), Stats., and the term "housing" has the meaning given in s. 106.50 (1m) (L), Stats.

**Note:** Under section 101.132 (1) (h), Stats., "remodel" means to substantially improve, alter, extend or otherwise change the structure of a building or change the location of exits, but does not include maintenance, redecoration, reroofing or alteration of mechanical or electrical systems.

**Note:** Under section 106.50 (1) (L), Stats., "housing" means any improved property, or any portion thereof, including a mobile home as defined in s. 66.0435 (1) (d) or condominium, that is used or occupied, or is intended, arranged or designed to be used or occupied, as a home or residence. "Housing" includes any vacant land that is offered for sale or rent for the construction or location thereon of any building, structure or portion thereof that is used or occupied, or is intended, arranged or designed to be used or occupied, as a home or residence.

**(2) CHANGE OF OCCUPANCY.** Substitute the following wording for the requirements in IBC section 3408.3:

**(a) General.** Except as specified in par. (b), existing buildings, or portions thereof, that undergo a change of group or occupancy shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with s. Comm 62.1110.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

(b) *Exception.* Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the items specified in par. (a) shall conform to the requirements to the maximum extent technically feasible. Change of group or occupancy that incorporates any alterations or additions shall comply with par. (a), subs. (3) and (4), and IBC sections 3408.4, 3408.5, 3408.6 and 3408.7.

(3) **ALTERATIONS.** Substitute the following wording for the requirements in IBC section 3408.5: (a) *General.* A building, facility or element that is altered shall comply with the applicable provisions in ss. Comm 62.1100 to 62.1110 and ICC/ANSI A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

(b) *Exceptions.* 1. The altered element or space is not required to be on an accessible route, unless required by IBC section 3408.6.

2. Accessible means of egress required by IBC chapter 10 are not required to be provided in existing buildings or facilities.

(4) **ACCESSIBILITY REQUIREMENTS FOR REMODELED HOUSING.** These are department rules in addition to the requirements in IBC section 3408.5:

(a) *Remodeled housing.* When housing with 3 or more dwelling units is remodeled, the remodeling percentages specified in s. 101.132 (2) (b), Stats., shall be applied, and the remodeling shall comply with the applicable portions of ch. Comm 62.

*Note:* Section 101.132 (2) (b), Stats., reads as follows: "1. If more than 50% of the interior square footage of any housing with 3 or more dwelling units is to be remodeled, the entire housing shall conform to the standards in par. (a), regardless of when the housing was first intended for occupancy.

2. If 25% to 50% of the interior square footage of any housing with 3 or more dwelling units is to be remodeled, that part of the housing that is to be remodeled shall conform to the standards in par. (a), regardless of when the housing was first intended for occupancy.

3. If less than 25% of the interior square footage of any housing with 3 or more dwelling units is to be remodeled, the remodeling is not subject to the standards in par. (a) unless the alteration involves work on doors, entrances, exits or toilet rooms, in which case the doors, entrances, exits or toilet rooms shall conform to the standards in par. (a) regardless of when the housing was first intended for occupancy."

(b) *Remodeled buildings with multiple occupancies.* 1. Except as specified in subd. 2., if a building that has multiple occupancies including housing with 3 or more dwelling units is remodeled, an accessible route shall be provided to the remodeled dwelling units.

2. An accessible route to the remodeled area is not required, if the cost to provide the accessible route exceeds 20% of the cost of the alteration, as specified in IBC section 3408.6.

(5) **PLATFORM LIFTS.** Platform lifts complying with ICC/ANSI A117.1 and ch. Comm 18 shall be permitted as a component of an accessible route.

(6) **TOILET AND BATHING FACILITIES.** Substitute the following wording for the requirements in IBC section 3408.8.4: Where toilet rooms are provided at least one accessible toilet room complying with s. Comm 62.1109 (2) (c) shall be provided.

(7) **TECHNICALLY INFEASIBLE.** This is a department definition in addition to the requirements in IBC section 3408: "Technically infeasible" means an alteration of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a loadbearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features that are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; correction in (1) (b) made under s. 13.93 (2m) (b) 7., Stats.; CR 01-109: renum. (2) and (3) to be (4) and (5), cr. (2), (3), (6) and (7), am. (4) (a) and (5), Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3500 Referenced standards.** (1) Substitute the following NFPA standards for the corresponding standards listed in IBC chapter 35: NFPA 13-1999, 13R-1999, 30-2000, 33-2000, 34-2000, and 72-1999.

(2) This is a department rule in addition to the requirements in IBC chapter 35: The following NFPA standards are hereby incorporated by reference into this code: NFPA 30A-2000, Code for Motor Fuel Dispensing Facilities and Repair Garages, and 750-1996, Standard on Water Mist Fire Protection Systems.

*Note:* NFPA standards may be purchased from the National Fire Protection Association, One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

Copies of the standards adopted under this section are on file in the offices of the department, the secretary of state and the revisor of statutes.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 62.3600 Appendices.** (1) **EXCLUSIONS.** The provisions in IBC Appendices A, B, and D to J are not included as part of this code.

(2) **APPENDIX C.** The provisions in IBC Appendix C apply to Group U agricultural buildings, as described in IBC section C101.1, that are not exempt from this code as outlined in ss. Comm 61.01 and 61.02 (2) and (3).

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

## Chapter Comm 63

### ENERGY CONSERVATION

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##### Part 6 — Nondepletable Energy Source

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Note: Chapter Comm 63 as it existed on June 30, 2002 was repealed and a new chapter Comm 63 was created, Register December 2001 No. 552, effective July 1, 2002.

#### Subchapter I — Purpose, Scope, Application and Compliance

**Comm 63.0001 Purpose.** The purpose of this chapter is to regulate the design of building envelopes for adequate thermal resistance and low air leakage and the design and selection of mechanical, electrical, service water-heating and illumination systems and equipment which will enable effective use of energy in new building construction.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0002 Scope. (1) GENERAL.** The scope of this chapter is as specified in s. Comm 61.02, except as exempted in sub. (2).

**(2) EXEMPT BUILDINGS AND STRUCTURES.** The following buildings or portions of buildings shall be exempt from this chapter.

(a) Buildings, or portions thereof, without space heating or cooling, service water heating, or illumination are exempt from the requirements of this chapter that apply to those systems.

(b) Buildings and structures, or portions thereof separated by building envelope assemblies from the remainder of the building, that have a peak design rate of energy usage less than 3.4 Btu/h-ft<sup>2</sup> of floor area for all purposes are exempt.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0003 Application. (1) GENERAL.** This chapter shall be applied as specified in s. Comm 61.03 and as modified in subs. (2) to (5).

**(2) ADDITIONS.** (a) *Building Envelope.* Additions to existing buildings or structures may be made without the existing building or structure having to comply with the building envelope requirements of this chapter, but the addition envelope shall comply with this chapter.

(b) *HVAC systems.* Where an existing HVAC system serves both an existing building and a proposed addition, any portion of the HVAC system or equipment that is altered shall comply with this chapter.

(c) *Lighting systems.* Lighting systems installed in a new addition or in conjunction with an increase of floor area, such as the addition of a mezzanine, shall comply with this chapter.

**(3) ALTERATIONS.** (a) *Building envelope.* Alterations to the building envelope shall comply with one of the following:

1. The alteration shall not increase the rate of heat loss through the portion of the building envelope containing the alteration.

2. The alteration shall not increase the annual energy use from heat gain or loss through the entire building envelope.

3. The building envelope shall be brought into compliance with the requirements of this chapter.

(b) *HVAC systems.* Rooftop fan systems that replace existing fan systems shall be provided with economizers that comply with this chapter's requirements for new construction.

(c) *Lighting systems.* 1. When alterations to an existing lighting system increase the connected interior lighting load of the building or replace more than 50% of the lighting fixtures, the interior lighting system shall comply with ss. Comm 63.1044 to 63.1049.

2. When alterations to an existing lighting system increase the connected exterior lighting load or replace more than 50% of the lighting fixtures, the entire exterior lighting system shall comply with ss. Comm 63.1041 to 63.1043.

3. a. Except as specified in subpar. b., alterations to controls shall comply with ss. Comm 63.1050 and 63.1051.

b. Shut-off lighting controls in s. Comm 63.1050 (4) are not required in contiguous altered spaces of less than 5,000 square feet unless shut-off controls were required by the building code at the time of the original lighting design or if an exception to s. Comm 63.1050 (4) (b) is no longer applicable.

(4) **CHANGE IN OCCUPANCY.** (a) Any change in the occupancy classification of a building or structure that would increase the required minimum inside temperature as specified in Table 64.0403 shall comply with the requirements of this chapter.

(b) Any change in a building or structure that would result in an increase in demand for either fossil fuel or electrical energy supply shall comply with this chapter.

(5) **MIXED RESIDENTIAL AND COMMERCIAL OCCUPANCY.** (a) *General.* Except as specified in par. (b), when a building houses both a residential and a commercial occupancy, each portion of the building shall conform to the requirements for the occupancy, residential or commercial, housed therein. Where minor accessory uses do not occupy more than 10 percent of the area of any floor of a building, the major use shall determine whether the building is a residential or commercial building.

(b) *Exception.* All buildings with a height of four or more stories above grade shall be considered a commercial building for purposes of this chapter.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0004 Compliance.** (1) **GENERAL.** All buildings shall comply with the International Energy Conservation Code (IECC), with the changes, additions or omissions specified in subch. II, and with the compliance approaches specified in sub. (2) for residential building and sub. (3) for commercial buildings.

(2) **RESIDENTIAL BUILDINGS.** (a) Except as specified in par. (b), for residential buildings one of the following approaches for compliance shall be used:

1. A systems approach for the entire building and its energy-using subsystems, which uses renewable sources as specified in IECC chapter 4.

2. An approach based on performance of individual components of the building envelope as specified in IECC chapter 5.

3. An approach based on performance of the total building envelope specified in IECC chapter 5.

4. An approach based on acceptable practice for each envelope component specified in IECC chapter 5.

5. An approach by prescriptive specification for individual components of the building envelope specified in IECC chapter 5.

6. An approach based on simplified, prescriptive specification specified in IECC chapter 6 when the glazing areas do not exceed 25 percent of the gross areas of exterior walls.

(b) This chapter does not apply to type A-1 residential buildings as defined in IECC section 202 as one and two family dwellings.

(3) **COMMERCIAL BUILDINGS.** For commercial buildings one of the following approaches for compliance shall be used:

(a) A prescriptive, system, or energy cost budget approach specified in subch. III.

(b) A prescriptive or performance option specified in IECC chapter 8.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

## Subchapter II — Changes, Additions or Omissions to the International Energy Conservation Code (IECC)

**Comm 63.0100 Changes, additions or omissions to IECC.** Changes, additions or omissions to the IECC are specified in this subchapter and are rules of the department and are not requirements of the IECC.

*Note:* This subchapter is numbered to correspond to the numbering used within the model code; i.e. s. Comm 63.0101 refers to section IECC 101. With a few exceptions, subchapter III of this chapter is numbered to correspond to the numbering in the previous energy requirements of Comm 63; i.e., s. Comm 63.1005 was previously Comm 63.05.

*Note:* Copies of the International Energy Conservation Code are on file in the offices of the department, the secretary of state and the revisor of statutes.

*Note:* Copies of the International Energy Conservation Code can be obtained from organizations as specified in s. Comm 61.05.

*Note:* Copies of department forms are available from the Safety and Buildings Division, P.O. Box 7162, Madison, WI 53707-7162; telephone (608) 266-3151 or TTY (608) 264-8777; or on the Commerce webpage at: [www.commerce.state.wi.us](http://www.commerce.state.wi.us)

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0101 Scope and general requirements.** Substitute the following wording for the requirements in IECC section 101: Requirements relating to purpose, scope and application are contained in subch. I.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0102 Materials, systems and equipment.** These are department rules in addition to the requirements in IECC section 102:

(1) **PROHIBITION OF HEATED SIDEWALKS.** The installation or use of heated sidewalks is prohibited as specified in s. 101.124, Stats.

*Note:* Section 101.124, Stats., reads as follows: "Heated Sidewalks Prohibited. In this section "exterior pedestrian traffic surface" means any sidewalk, ramp, stair, stoop, step, entrance way, plaza or pedestrian bridge not fully enclosed within a building and "heated" means heated by electricity or energy derived from the combustion of fossil fuels, but not including the use of waste thermal energy. "Exterior pedestrian traffic surface" does not include any means of ingress or egress by the physically disabled required under s. 101.13 (2). No person may construct a heated exterior pedestrian traffic surface. The department or any city, village, town or county is prohibited from approving any plan under s. 101.12 which includes such heated surface. The department shall order any existing heated exterior pedestrian traffic surface in operation to be shut off. This section does not apply to any inpatient health care facility as defined in s. 50.135 (1), or community-based residential facility, as defined in s. 50.01 (1g)."

(2) **MATERIAL PROPERTIES.** Thermal properties, performance of building envelope sections and components and heat transfer properties shall be determined in accordance with s. Comm 63.1018.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0103 Alternate materials-method of construction, design or insulating systems.** The requirements in IECC section 103 are not included as part of this code.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0104 Construction documents.** Substitute the following wording for the requirements in IECC section 104: Construction documents and other supporting documents shall be submitted in accordance with ch. Comm 61.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0105 Inspections.** Substitute the following wording for the requirements in IECC section 105: Inspections shall be performed in accordance with ch. Comm 61.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0107 Conflicting requirements.** Substitute the following wording for the requirements in IECC section 107.2: The process for dealing with conflicting rules shall be as specified in ch. Comm 61.

*History:* CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0202 General definitions.** (1) This is a department definition in addition to the definitions in IECC section 202: "Circulating system" means service water heating system without a heat trap, or systems with circulating pump.

(2) Substitute the following wording for the definition specified in IECC section 202: "Approved" has the meaning given in s. Comm 62.0202 (2) (a).

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0302 Exterior design parameters.**

(1) WEATHER ADJUSTMENTS. Substitute the following wording for the requirements in IECC Table 302.1 footnote a: The outdoor design temperature shall be selected from the columns of 97-1/2 percent values for winter and 2-1/2 percent values for summer from tables in the ASHRAE *Handbook of Fundamentals*. Adjustments shall be permitted to reflect local climates, which differ from the tabulated temperatures, or local weather experience as determined by other weather resources.

(2) DEGREE-DAYS. Substitute the following wording for the requirements in IECC Table 302.1, footnote b: The degree days heating (base 65° F) and cooling (base 65° F) shall be selected from National Oceanic and Atmospheric Administration "Annual Degree Days to Selected Bases Derived from the 1961-1990 Normals," the ASHRAE *Handbook of Fundamentals*, data available from adjacent military installations, or other sources of local weather data.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0402 System analysis.** Substitute the following wording for the requirements in IECC section 402.4.7: The same calculation tool shall be used to estimate the annual energy usage for space heating and cooling of the Standard design and the Proposed design. The calculation tool shall be approved by the department.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0502 Building envelope.** (1) GENERAL. Substitute the following wording for the requirements and the exceptions in IECC section 502.1.1:

(a) *Moisture control.* Except as specified in sub. (2), the design shall not create conditions of accelerated deterioration from moisture condensation. Vapor retarders shall be provided on all warm-in winter sides of frame walls, floors and ceilings. The vapor retarder shall have a maximum permeance rating of 1.0 perm when tested in accordance with Procedure A of the ASTM E96. The vapor retarder shall be installed on the warm-in winter side of the thermal insulation.

(b) *Exceptions.* Where other approved means to avoid condensation in unventilated framed wall, floor, roof and ceiling cavities are provided.

(2) FLOORS OVER UNHEATED SPACES. Substitute the following wording for the requirements in IECC section 502.2.3.3: The floor section over an unheated space shall be selected from IECC Appendix Table 502.2.3.3 for the overall thermal transmittance factor ( $U_o$ ) not exceeding the value specified for floors over unheated spaces in IECC Table 502.2. For floors over outdoor air, such as overhangs,  $U_o$ -factors for heating shall meet the same requirement as shown for floors over unheated spaces in IECC Table 502.2.

(3) FLOORS. Substitute the following wording for the requirements in IECC section 502.2.4.8: Floor R-values shall apply to floors over unconditioned spaces and floors over outside air.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0503 Building mechanical systems and equipment.** (1) LOAD CALCULATIONS. Substitute the following wording for the requirements in IECC section 503.3.1: Heating load calculations shall be determined in accordance with s. Comm 63.1023.

(2) DISTRIBUTION, SYSTEM, CONSTRUCTION AND INSULATION. (a) *Hydronic piping insulation.* Substitute the following wording for the requirements and the exceptions in IECC section 503.3.3.1: All system piping shall be thermally insulated in accordance with s. Comm 63.1029 (1) and (2).

(b) *Duct and plenum insulation.* Substitute the following wording for the requirements and the exceptions in IECC section 503.3.3.3. Duct and plenum insulation shall be provided in accordance with s. Comm 63.0803 (2) (f).

(c) *Low-pressure duct systems.* Substitute the following wording for the requirements in IECC section 503.3.3.4.2: Low-pressure duct systems shall comply with all of the following:

1. Sections of supply and return ducts not located entirely within the conditioned space, and the unconditioned side of enclosed stud bays or joist cavities or spaces that are used to transport air shall be sealed.

2. Sealing shall be accomplished using welds, gaskets, mastics, mastic-plus-embedded-fabric systems or tapes installed in accordance with the manufacturer's instructions.

3. Insulation that provides a continuous air barrier may be used in lieu of sealing metal ducts.

4. Tapes and mastics used with rigid fibrous glass ducts shall be listed and labeled as complying with UL 181A.

5. Tapes and mastics used with flexible air ducts shall be listed and labeled as complying with UL 181B.

6. Tapes with rubber-based adhesives may not be used.

Note: Standard duct tape has a rubber-based adhesive and does not comply with the requirements under this section.

(d) *Sealing required.* Substitute the following wording for the requirements in IECC section 503.3.3.4.3: High- and medium-pressure ducts shall be sealed in accordance with s. Comm 63.1029 (4).

(e) *Mechanical ventilation.* Substitute the following wording for the requirements in IECC section 503.3.3.5: Each mechanical ventilation system (supply or exhaust, or both) shall be equipped with a readily accessible switch or other means for shutoff, or volume reduction and shutoff, when ventilation is not required. Automatic or gravity dampers that close when the system is not operating shall be provided for all outdoor air exhausts. Motorized dampers that close when the system is not operating shall be provided on all outdoor air intakes.

(f) *Balancing.* Substitute the following wording for the requirements in IECC section 503.3.3.7: Balancing and documentation of the HVAC system shall conform to the IMC.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; renum. (2) (c) to (e) to be (2) (d) to (f), cr. (2) (c), r. and recr. (2) (d) Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.0504 Service water heating.** (1) COMBINATION SERVICE WATER-HEATING AND SPACE HEATING BOILERS. The requirements in IECC section 504.2.2, Exception 1, are not included as part of this code.

(2) PIPE INSULATION. Substitute the following wording for the requirements and the exception in IECC section 504.5: Pipe insulation shall be provided in accordance with s. Comm 63.1029 (1) and (2).

(3) SWIMMING POOLS. The requirements in IECC section 504.3, and IECC sections 504.3.1 to 504.3.3 are not included as part of this code.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0505 Lighting power budget.** Substitute the following wording for the requirements and the exception in IECC section 505.2: Lighting systems shall comply with ss. Comm 63.1040 to 63.1053.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0602 Building envelope.** (1) THERMAL PERFORMANCE CRITERIA, FLOORS OVER OUTSIDE AIR. Substitute the fol-

lowing wording for the requirements in IECC section 602.1.4: The required R-value in Tables 602.1 shall apply to all floors.

(2) **CAULKING, SEALANTS AND GASKETING.** This is a department rule in addition to the requirements in IECC section 602.1.10: When installed in the building envelope, recessed lighting fixtures shall comply with IECC section 502.1.3.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; r. (2), renum. (3) to be (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.0701 General scope and application.** Substitute the following wording for the requirements in IECC section 701.1: Commercial buildings shall meet the requirements of subch. III or they shall comply with the requirements specified in IECC chapter 8.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0802 Building envelope requirements.**

(1) **GENERAL.** These are department rules in addition to the requirements in IECC section 802.1: Glazed structures or glazed portions of buildings used for the production of plant life or for maintaining plant life as the primary purpose of the structure are exempt from the building envelope requirements. When the glazed areas are attached to a building with a different class of construction, these glazed areas shall be separated from the remainder of the building with construction material complying with the building envelope requirements.

(2) **MOISTURE CONTROL.** Substitute the following wording for the requirements and exceptions in IECC section 802.1.2:

(a) *Moisture control.* Except as specified in par. (b), vapor retarders shall be provided on all warm-in winter sides of frame walls, floors and ceilings. The vapor retarder shall have a maximum permeance rating of 1.0 perm when tested in accordance with Procedure A of the ASTM E 96, Standard Test Methods for Water Vapor Transmission of Materials.

(b) *Other approved means.* Where other approved means to avoid condensation in unventilated framed wall, floor, roof and ceiling cavities are provided.

(3) **ROOF ASSEMBLY.** This is a department rule in addition to the requirements in IECC section 802.2.4: The thermal transmittance value for ceilings next to unconditioned spaces shall comply with s. Comm 63.1015 (5).

(4) **SEALING OF THE BUILDING ENVELOPE.** This is a department rule in addition to the requirements in IECC section 802.3.2: When installed in the building envelope, recessed lighting fixtures shall comply with IECC section 502.1.3.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; r. (3), renum. (4) and (5) to be (3) and (4) Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.0803 Building mechanical systems.**

(1) **GENERAL.** This is a department rule in addition to the requirements in IECC section 803.1: Electrical motors shall comply with s. Comm 63.1032.

(2) **SIMPLE HVAC SYSTEMS AND EQUIPMENT.** (a) *Equipment and system sizing.* Substitute the following wording for the requirements in IECC section 803.2.1.1: Heating and cooling equipment and systems shall be sized to provide the minimum space and system loads calculated in accordance with IECC section 803.2.1.

(b) *Temperature controls.* Substitute the following wording for the requirements in IECC section 803.2.3.1: Each heating and cooling system shall have at least one temperature control device that complies with IECC sections 803.3.3.1.1, 803.3.3.2 and 803.3.3.3.

(c) *Humidity controls.* This is a department rule in addition to the requirements in IECC section 803.2.3.2: If a system is equipped with a means for adding moisture to maintain specific humidity levels in a zone, a humidistat shall be provided.

(d) *Cooling with outdoor air.* Substitute the following wording for the requirements in IECC section 803.2.6: Each fan system

shall have economizer controls complying with s. Comm 63.1031.

(e) *Shutoff dampers.* Substitute the following wording for the requirements and the exceptions in IECC section 803.2.7:

1. 'Outdoor air supply and exhaust ducts.' Except as specified in subd. 2., automatic or gravity dampers that close when the system is not operating shall be provided for all outdoor air exhausts and motorized dampers that close when the system is not operating shall be provided on all outdoor air intakes.

2. 'Exceptions.' Outdoor air supply and exhaust ducts restricted by health and life safety requirements are exempt.

(f) *Duct and plenum insulation.* Substitute the following wording for the requirements and the exceptions in IECC section 803.2.8: 1. 'Supply and return air ducts and plenums.' Except as specified in subd. 2., all supply ducts and return air ducts and plenums shall be insulated with a minimum of R-4 insulation when located in unconditioned spaces and with a minimum of R-7.5 insulation when located outside the building envelope. When located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by a minimum of R-7.5 insulation. All supply ducts located in plenums within the building envelope shall be insulated to R-4.

2. 'Exceptions.' a. When located within equipment.

b. When the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F.

3. 'Joints, longitudinal and transverse seams, and connections.' Joints, longitudinal and transverse seams, and connections in ductwork shall be sealed in accordance with s. Comm 63.1029 (4).

(3) **COMPLEX HVAC SYSTEMS AND EQUIPMENT.** (a) *Equipment and system sizing.* Substitute the following wording for the requirements in IECC section 803.3.1.1: Heating and cooling equipment and system capacity shall be sized to provide the minimum space and system loads calculated in accordance with IECC section 803.2.1.

(b) *Shutoff damper controls.* Substitute the following wording for the requirements and the exception in IECC section 803.3.3.4:

1. Except as specified in subd. 2., automatic or gravity dampers that close when the system is not operating shall be provided for all outdoor air exhausts and motorized dampers that close when the system is not operating shall be provided on all outdoor air intakes.

2. Outdoor air supply and exhaust ducts restricted by health and life safety requirements are exempt.

(c) *Economizers.* Substitute the following wording for the requirements and the exception in IECC section 803.3.3.5: Each fan system shall have economizer controls complying with s. Comm 63.1031.

(d) *Piping insulation.* Substitute the following wording for the requirements and the exceptions in IECC section 803.3.7: All piping serving as part of a heating or cooling system shall be thermally insulated in accordance with s. Comm 63.1029 (1) and (2).

(e) *HVAC system completion.* Substitute the following wording for the requirements in IECC sections 803.3.8, 803.3.8.1, 803.3.8.2, and 803.3.8.3: Balancing and documentation of HVAC systems shall conform to the IMC.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; r. and recr. (2) (f) 3. Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.0804 Service water heating.** (1) **TEMPERATURE CONTROLS.** The requirements in IECC section 804.3 are not included as part of this code.

(2) **HEAT TRAPS.** Substitute the following wording for the requirements in IECC section 804.4: Plumbing piping systems, including those without an integral heat trap shall comply with s. Comm 63.1029 (1) and (2).

(3) **PLUMBING PIPE INSULATION.** Substitute the following wording for the requirements in IECC section 804.5: All system piping shall be thermally insulated in accordance with s. Comm 63.1029 (1) and (2).

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0805 Lighting systems.** Substitute the following wording for the requirements in IECC section 805: Lighting systems shall comply with ss. Comm 63.1040 to 63.1053.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0900 Referenced standards.** This is a department rule in addition to the requirements in IECC chapter 9: The following standards are hereby incorporated by reference into this code:

(1) ASHRAE Standard 90.1-89, Energy Efficient Design of New Buildings, Except Low Rise Residential Buildings.

(2) ASTM C177-85, Test method for steady-state heat flux measurements and thermal transmission properties by means of the guarded-hot-plate apparatus.

(3) ASTM C335-84, Test method for steady state heat transfer properties of horizontal pipe insulation.

(4) National Concrete Masonry Association (NCMA) Evaluation Procedures of Integrally-Insulated Concrete Masonry Walls, January 1, 1999.

Note: ASHRAE standards may be purchased from the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329.

ASTM standards may be purchased from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

NCMA Evaluation Procedures may be obtained from the National Concrete Masonry Association, 2302 Horse Pen Road, Herndon, VA 20171-3499.

Copies of the standards adopted under this section are on file in the offices of the department, the secretary of state and the revisor of statutes.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.0901 Appendix.** History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; r. Register June 2002 No. 558, eff. 7-1-02.

## Subchapter III — Building Design for Commercial Buildings

### Part 1 — Application

**Comm 63.1001 Application.** This subchapter shall be applied to all commercial buildings unless the building complies with IECC chapter 8.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

### Part 2 — Definitions

**Comm 63.1005 Definitions.** In this subchapter:

(1) "Ambient Lighting" is lighting designed to provide a substantially uniform level of illumination throughout an area, exclusive of any provision for special visual tasks or decorative effect. When designed for lower-than-task illuminance used in conjunction with other specific task lighting systems, it is also called "general" lighting.

(2) "Automatic" means self-acting, operating by its own mechanism when actuated by some impersonal influence, such as, a change in current strength, pressure, temperature, or mechanical configuration.

(3) "Automatic time switch control devices" means control devices that are capable of automatically turning loads off and on based on time schedules.

(4) "Building envelope" means the elements of a building that enclose conditioned spaces through which thermal energy may be transferred to or from the exterior or to or from unconditioned spaces.

(5) "Comfort cooling" or "comfort heating" means treating air to control one or more of the following: temperature, relative

humidity, or distribution to meet the comfort requirements of the human occupants of the conditioned space.

(6) "Conditioned floor area" or "CFA" means the floor area in square feet of enclosed conditioned space on all floors of a building, as measured at the floor level of the exterior surfaces of exterior walls enclosing the conditioned space.

(7) "Commercial building" means a building as defined in IECC section 202.

(8) "Conditioned space" means a cooled space, heated space, or indirectly conditioned space.

(9) "Cooled space" means an enclosed space within a building that is conditioned by a cooling system with a sensible capacity that either exceeds 5 Btu/hr sq ft or is capable of maintaining a space dry-bulb temperature of 90°F or less at design conditions.

(10) "Daylighting control" means a device that automatically regulates the power input to electric lighting near the fenestration to maintain the desired workplace illumination, thus taking advantage of direct or indirect sunlight.

(11) "Daylit area" means the space on the floor that is the larger of par. (a) or (b) as follows:

(a) 1. For areas daylit by vertical glazing, the daylit area has the length of 15 feet, or the distance on the floor, perpendicular to the glazing, to the nearest 60-inch or higher opaque partition, whichever is less; and a width of the window plus either 2 feet on each side, the distance to an opaque partition, or one-half the distance to the closest skylight or vertical glazing, whichever is least.

2. For areas daylit by horizontal glazing, the daylit area is the footprint of the skylight plus, in each of the lateral and longitudinal dimensions of the skylight, the lesser of the floor-to-ceiling height, the distance to the nearest 60-inch or higher opaque partition, or one-half the horizontal distance to the edge of the closest skylight or vertical glazing.

(b) The daylit area calculated using a method acceptable to the department.

(12) "Deadband" means the range of values within which an input variable can be varied without initiating any noticeable change in the output variable.

(13) "Degree day" means a unit based upon temperature difference and time, used in estimating annual heating or cooling energy consumption. One degree day accrues for each degree of difference between the daily mean temperature and a reference temperature.

(14) "Display lighting" means lighting confined to the area of a display that provides a higher level of illuminance than the level of surrounding ambient illuminance.

(15) "Economizer, air" means a ducting arrangement and automatic control system that allows a cooling supply fan to supply outside air to reduce or eliminate the need for mechanical refrigeration during mild or cold weather.

(16) "Economizer, water" means a system by which the supply air of a cooling system is cooled directly or indirectly or both by evaporation of water or other appropriate fluid in order to reduce or eliminate the need for mechanical refrigeration during some time periods.

(17) "Effective aperture" or "EA" means for windows, the visible light transmittance times the window wall ratio per wall; and for sky lights, the well efficiency times the visible light transmittance times the sky light area times 0.85 divided by the gross exterior roof area.

(18) "Efficacy" means the ratio of light from a lamp to the electrical power consumed, including ballast losses, expressed in lumens per watt.

(19) "Emissivity" means the ratio of the rate of radiant heat energy emitted by a body at a given temperature to the rate of radiant heat energy emitted by a standard called a blackbody, at the same temperature in the same surroundings.

(20) "Exterior envelope" has the same meaning as "building envelope."

(21) "Exterior roof or ceiling" means an exterior partition, or partition separating a conditioned space from an enclosed unconditioned space, that has a slope less than 60° from horizontal, that has conditioned space below, and that is not an exterior door or skylight.

(22) "Exterior roof or ceiling area" means the area of the exterior surface of an exterior roof or ceiling.

(23) "Exterior wall" means an exterior partition that is not an exterior floor or soffit, exterior door, exterior roof or ceiling, window, or skylight.

(24) "Exterior wall area" means the area of the opaque exterior surface of exterior walls.

(25) "Fenestration" means any light-transmitting section in a building wall or roof. The fenestration includes glazing material, which may be glass or plastic, framing such as mullions, muntins, and dividers, external shading devices, internal shading devices, and integral or between glass shading devices.

(26) "Fenestration area" means the total area of fenestration measured using the rough opening and including the glazing material, sash, and frame.

(27) "General lighting" means lighting designed to provide a substantially uniform level of illumination throughout an area, exclusive of any provision for special visual tasks or decorative effect. When designed for lower-than-task illuminance used in conjunction with other specific task lighting systems, it is also called "ambient" lighting.

(28) "Gross exterior wall area" means the gross area of exterior walls separating a conditioned space from the outdoors or from unconditioned spaces as measured on the exterior above grade. It consists of the opaque wall, excluding vents and grills, including between floor spandrels, peripheral edges of flooring, window areas including sash, and door areas.

(29) "Gross floor area" means the sum of the floor areas of the conditioned spaces within the building including basements, mezzanine and intermediate-floored tiers, and penthouses of headroom height 7.5 ft or greater. It is measured from the exterior faces of exterior walls or from the centerline of walls separating buildings, excluding covered walkways, open roofed-over areas, porches and similar spaces, pipe trenches, exterior terraces or steps, chimneys, roof overhangs, and similar features.

(30) "Gross floor area over outside or unconditioned spaces" means the gross area of a floor assembly separating a conditioned space from the outdoors or from unconditioned spaces as measured from the exterior faces of exterior walls or from the centerline of walls separating buildings. The floor assembly shall be considered to include all floor components through which heat may flow between indoor and outdoor or unconditioned environments.

(31) "Gross lighted area" or "GLA" means the sum of the total lighted areas of a building measured from the inside of the perimeter walls for each floor of the building.

(32) "Gross roof area" means the gross area of a roof or ceiling assembly separating a conditioned space from the outdoors or from unconditioned spaces, measured from the exterior faces of exterior walls or from the centerline of walls separating buildings. The roof assembly shall be considered to include all roof or ceiling components through which heat may flow between indoor and outdoor environments including skylights but excluding service openings.

(33) "Gross exterior roof area" means the sum of the skylight area and the exterior roof/ceiling area.

(34) "Heat capacity" or "HC" means the amount of heat necessary to raise the temperature of a given mass one degree. Numerically, it is the mass multiplied by the specific heat.

(35) "Heated space" means an enclosed space within a building that is conditioned by a heating system with an output capacity either exceeding 10 Btu/h-ft<sup>2</sup> or capable of maintaining a space dry-bulb temperature of 50°F or more at design conditions.

(36) "Heating, ventilating, and air conditioning system" or "HVAC system" means the equipment, distribution network, and terminals that provide either collectively or individually the process of heating, ventilating, or air conditioning to a building.

(37) "Indirectly conditioned space" means an enclosed space including, but not limited to, unconditioned volume in atria, that is not directly conditioned space; and either has an area-weighted heat transfer coefficient to directly conditioned space exceeding that to the outdoors or to unconditioned space, or is a space through which air from directly conditioned spaces is transferred at a rate exceeding three air changes per hour.

(38) "Informational sign" means a sign used to give building or room identification direction or a warning for safety purposes in a building, but does not include advertising signs for product or merchandise displays.

(39) "Listed space area" or "LS" means any interior space with an identified area of activities for which a lighting power budget is calculated and listed in the lighting power allowance determination.

(40) "Lumen maintenance control device" means a device capable of automatically adjusting the light output of a lighting system throughout a continuous range to provide a preset level of illumination.

(41) "Luminaire" means a complete lighting unit consisting of at least one lamp and the parts designed to distribute the light, to position and protect the lamp, to connect the lamp to the power supply and ballasting, when applicable. Luminaires are commonly referred to as "lighting fixtures" or "instruments."

(42) "Manual" means capable of being operated by personal intervention.

(43) "Mass wall" means a wall assembly with a heat capacity (HC) greater than or equal to 5 Btu/ft<sup>2</sup> °F.

(44) "Mass wall insulation position" means:

(a) Exterior insulation position: a wall having all or nearly all of its mass exposed to the room air with the insulation on the exterior of that mass.

(b) Integral insulation position: a wall having mass exposed to both room and outside air with substantially equal amounts of mass on the inside and outside of the insulation layer.

(c) Interior insulation position: a wall not meeting either par. (a) or (b), particularly a wall having most of its mass external to an insulation layer.

(45) "Medical and clinical care" means the promotion of the condition of being sound in body or mind through medical, dental or psychological examination and treatment.

(46) "Multiscene dimming system" means a lighting control device that has the capability of setting light levels throughout a continuous range, and that has pre-established settings within the range.

(47) "Occupant-sensing device" means a device that automatically controls the lights based on occupancy.

(48) "Opaque areas" means all exposed areas of a building envelope which enclose conditioned space except fenestration areas and building service openings such as vents and grilles.

(49) "Ornamental chandeliers" means ceiling-mounted, close-to-ceiling, or suspended decorative luminaires that use glass, crystal, ornamental metals, or other decorative material and that typically are used in hotels, motels, restaurants, or churches as a significant element in the interior architecture.

(50) "Precision commercial or industrial work" means an art, craft, or manufacturing operation requiring a certain degree of refinement.

(51) "Private driveways, walkways, and parking lots" means exterior transit areas that are associated with a commercial or residential building and intended for use solely by the employees or tenants and not by the general public.

(52) "Public driveways, walkways, and parking lots" means exterior transit areas that are intended for use by the general public.

(53) "Recooling" means lowering the temperature of air that has been previously heated by a heating system.

(54) "Recovered energy" means energy utilized from an energy-using system which would otherwise be wasted or not contribute to a desired end use.

(55) "Reduced flicker operation" means the operation of a light, in which the light has a visual flicker less than 30% for frequency and modulation.

(56) "Reheating" means raising the temperature of air that has been previously cooled either by refrigeration or an economizer system.

Note: Introducing outdoor air necessary to meet ventilation requirements or to assure adequate indoor air quality is not considered to be cooling.

(57) "Reset" means adjustment of the controller set point to a higher or lower value automatically or manually.

(58) "Residential building" means a building as defined in IECC section 202.

(59) "Sconce" means a wall mounted decorative light fixture.

(60) "Shading coefficient" or "SCx" means the ratio of solar heat gain through a fenestration, with or without integral shading devices, to that occurring through unshaded 1/8-in. thick clear double strength glass.

(61) "Shell building" means a building for which the envelope is designed, constructed, or both prior to knowing the occupancy type.

Note: See also speculative building.

(62) "Speculative building" means a building for which the envelope is designed, constructed, or both prior to the design of the lighting, HVAC systems, or both. A speculative building differs from a shell building in that the intended occupancy is known for the speculative building.

Note: See also shell building.

(63) "Support area" means an area for functions that are different from but necessary to accomplish the main activity or purpose of other listed space areas.

(64) "Tandem wired" means pairs of luminaires operating with one lamp in each luminaire powered from a single two-lamp ballast contained in the other luminaires.

(65) "Task oriented lighting" means lighting that is designed specifically to illuminate a task location, and that is generally confined to the task location.

(66) "Thermal break" means an element of low thermal conductivity placed in an assembly to reduce the flow of heat between highly conductive materials.

(67) "Thermal conductance" or "C" means the constant time rate of heat flow through a unit area of a body induced by a unit

temperature difference between the surfaces, expressed in Btu/h-ft<sup>2</sup>·°F or equivalent units. It is the reciprocal of thermal resistance.

(68) "Thermal resistance" or "R" means the reciprocal of thermal conductance, 1/C expressed in h-ft<sup>2</sup>·°F/Btu or equivalent units. The total thermal resistance of an assembly is 1/U<sub>o</sub>.

(69) "Thermal transmittance" or "U" means the overall coefficient of heat transfer from fluid to fluid. It is the time rate of heat flow per unit area under steady conditions from the fluid on the warm side of the barrier to the fluid on the cold side, per unit temperature difference between the 2 fluids, expressed in Btu/h-ft<sup>2</sup>·°F or equivalent units.

(70) "Thermal transmittance, overall" or "U<sub>o</sub>" means the gross overall (area weighted average) coefficient of heat transfer from air to air or fluid to fluid for a gross area of the building envelope, expressed in Btu/h-ft<sup>2</sup>·°F or equivalent units. The U<sub>o</sub> value applies to the combined effect of the time rate of heat flows through the various parallel paths such as windows, doors, and opaque construction areas comprising the gross area of one or more building envelope components such as walls, floors, and roof or ceiling.

(71) "Thermostat" means an automatic control device responsive to temperature.

(72) "Unconditioned space" means a space within a building that is not a conditioned space.

Note: See conditioned space.

(73) "Unlisted space" means the difference in area between the gross lighted area and the sum of all listed space areas.

(74) "Variable air volume HVAC system" or "VAV HVAC system" means HVAC systems that control the dry-bulb temperature within a space by varying the volume of air supply to the space.

(75) "Visible light transmittance" or "VLT" means the ratio, expressed as a decimal, of visible light that is transmitted through a glazing material to the light that strikes the material.

(76) "Wall heat capacity" or "HC" means the sum of products of the mass of each individual material in the wall per unit area of wall surface times its individual specific heat, Btu/(ft<sup>2</sup>·°F).

(77) "Well efficiency" means the ratio of the amount of visible light leaving a skylight well to the amount of visible light entering the skylight well and is calculated as follows:

(a) for rectangular wells:

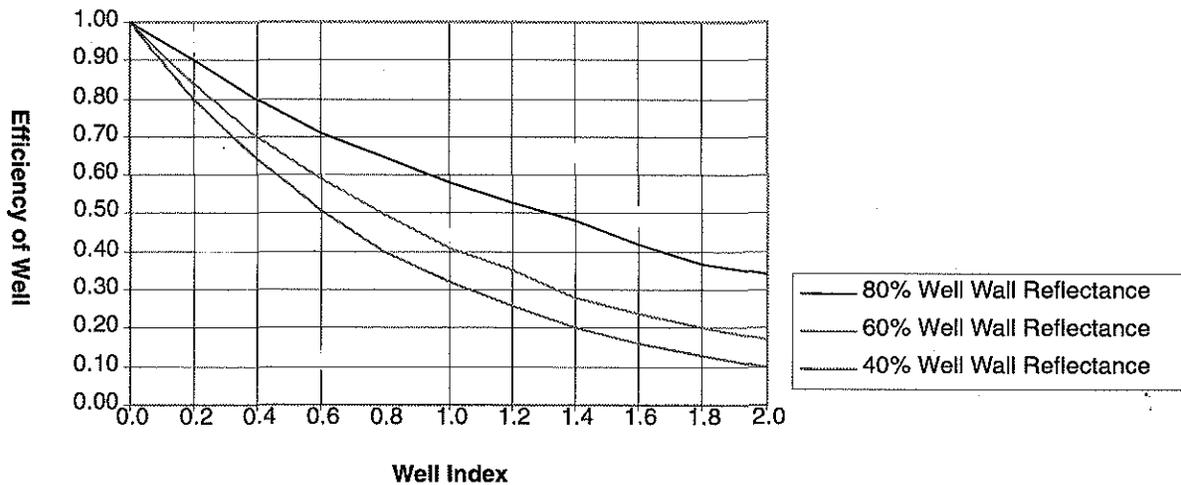
$$\frac{\text{Well height (well length + well width)}}{2 \times \text{well length} \times \text{well width}} = \text{the well index}$$

(b) for irregular shaped wells:

$$\frac{\text{Well height} \times \text{well perimeter}}{4 \times \text{well area}} = \text{the well index}$$

(c) The length, width, perimeter, and area expressed in pars. (a) and (b) are measured at the bottom of the well. The well index and the weighted average well wall reflectance are used in Figure 63.1005 to determine the well efficiency.

Figure 63.1005 Well Efficiency



Note: Reprinted from the IES Lighting Handbook, 1984, courtesy of the Illuminating Engineering Society of North America.

(78) "Window" means glazing that is not a skylight.

(79) "Window area" means the area of the surface of a window, plus the area of the frame, sash, and mullions.

(80) "Window wall ratio" means the ratio of the window area, including glazed areas of doors, to the gross exterior wall area.

(81) "Zone" means a space or group of spaces within a building with any combination of heating, cooling, or lighting requirements sufficiently similar so that desired conditions can be maintained throughout by a single controlling device.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

### Part 3 — Building Envelope

**Comm 63.1010 Exempt buildings.** This part applies to buildings or separately enclosed identifiable areas that have a mechanical space heating or air conditioning system.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1011 Air leakage and moisture migration.**

(1) GENERAL. The requirements of this section apply to those building components that separate interior building conditioned space from the outdoors or from unconditioned spaces or crawl spaces. Compliance with the criteria for air leakage through building components shall be determined by tests conducted in accordance with specified standards.

(2) AIR LEAKAGE FOR FACTORY MANUFACTURED WINDOWS, DOORS AND CURTAIN WALL ASSEMBLIES. Factory manufactured windows, doors and curtain wall assemblies shall comply with IECC section 802.3.1.

(3) AIR LEAKAGE REQUIREMENTS FOR EXTERIOR ENVELOPE. Openings and penetrations in the building envelope shall be sealed or gasketed in accordance with s. Comm 63.0802 (3).

(4) MOISTURE CONDENSATION. The design of buildings shall not create conditions of accelerated deterioration from moisture condensation and shall comply with s. Comm 63.0802 (2).

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; am. (3) Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.1012 Daylight credits for skylights.**

(1) COMMERCIAL BUILDINGS. Credits for skylights may be used in commercial buildings if the IECC section 802 requirements and any modifications or additions specified in subch. II are met.

(2) RESIDENTIAL BUILDINGS. Day light credits may be used in residential buildings if the IECC section 502 requirements are met.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1014 Building envelope thermal performance.** (1) GENERAL. Except as provided in sub. (2), building envelopes shall comply with either the component standards of s. Comm 63.1015 or the system standards of s. Comm 63.1016. The calculation procedures of s. Comm 63.1019 shall be used to show compliance.

(2) EXCEPTIONS. (a) Buildings and areas of buildings that are used as factories and automatic car washes shall comply with s. Comm 63.1017.

(b) Buildings and areas of buildings that are used as warehouses that have documentation provided to verify that the HVAC system to be installed does not use energy primarily to provide human comfort shall comply with s. Comm 63.1017.

Note: See s. Comm 63.1010 for exempt buildings and spaces.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1015 Component standards option.**

(1) GENERAL. This section describes the component standards for building envelope thermal performance. Because component requirements consider the effect of solar gain as well as conductive heat transfer, the requirements for each component shall be met independently under this option. The wall and roof trade-off exception in sub. (4) may be used with this option. The system analysis design method specified in IECC section 806 shall be used to demonstrate the acceptability of trade-offs between component energy-conserving features. Separate occupancies in the same building shall meet the requirements of this section independently.

(2) DETERMINATION OF APPROPRIATE ACP TABLE. The appropriate alternate component package or ACP table shall be determined based on building location using Figures 63.1015-1 and 63.1015-4.

(3) MAXIMUM ALLOWABLE WINDOW WALL RATIO. In this subsection, the percentage of windows, including glazed areas of doors, relative to the gross exterior wall area of the building shall be less than or equal to the maximum allowable window wall ratio chosen from the appropriate ACP table for the glazing type of the building. The window wall ratio is the total area of window assem-

blies, including glazed areas of doors, divided by the total gross exterior wall area, considering all elevations of the building. The maximum allowable window wall ratio shall be determined using the following steps:

(a) Select the shading coefficient (SC<sub>x</sub>) range that is no less than the fenestration SC<sub>x</sub> including permanently installed internal, integral and external shading devices, but excluding the effect of external shading projections. Note that this includes curtains, shades, or blinds that are permanently installed. For a shell or speculative building for which the envelope is designed or constructed prior to the design of the lighting, HVAC systems, or both, only those shading devices that are part of the design when it is being evaluated for compliance shall be considered when determining compliance.

**Note:** Refer to ASHRAE Handbook, Fundamentals Volume, Chapter 27 for more information on shading coefficients. Shading coefficients for fenestration may be obtained from the manufacturer or from IECC Table 102.5.2 (3) when the conversion factor for solar heat gain coefficient (SHGC) to SC<sub>x</sub> given in IECC section 102.5.2 is applied. See also s. Comm 63.1019 (5).

(b) Select appropriate fenestration type. This is determined by the thermal transmittance value ( $U_{of}$ ) of the fenestration assembly. The  $U_{of}$  of all assemblies must fall within the range, or lower, to determine the maximum window wall ratio, or an area-weighted average thermal transmittance value may be used.

**(4) WALL AND ROOF TRADE-OFF.** Trade-offs between the above grade exterior wall opaque areas and the gross roof area shall be allowed if either of the following conditions are met:

(a) 1. Except as specified in subd. 2., the thermal transmittance, overall value ( $U_o$ ) for any above grade exterior opaque wall area or gross roof area may be increased or decreased, provided that the total annual energy use due to heat gain and loss for the building envelope is less than or equal to the total annual energy use due to heat gain and loss resulting from the use of the values in the appropriate ACP table given in Figures 63.1015-1 to 63.1015-4. Calculation of the total annual energy use of the building designs shall be done in accordance with IECC section 806.

2. The latest version of the ComCheck-EZ computer program or other programs subject to the approval of the department may be used to determine required thermal transmittance values in lieu of the ACP tables.

**Note:** ComCheck-EZ is a computer program that may be used only for determining building envelope compliance. The ComCheck-EZ computer program may be downloaded at: [http://www.eren.doe.gov/buildings/codes\\_standards/buildings/com\\_download.html](http://www.eren.doe.gov/buildings/codes_standards/buildings/com_download.html). The federal Department of Energy has issued a computer package called ComCheck-Plus, which establishes trade-offs between the building envelope,

lighting, and HVAC equipment; however, this program has not been approved for use in Wisconsin since Wisconsin's lighting allowances are not the same as those included in the program.

(b) A submittal to the department for review and approval, incorporating recognized engineering practices, that the annual energy use due to heat gain and loss for the building envelope shall be less than or equal to that established in par (a).

**(5) THERMAL TRANSMITTANCE VALUES FOR ROOFS, WALLS AND CEILINGS NEXT TO UNCONDITIONED SPACES, AND FLOORS OVER UNCONDITIONED SPACES.** (a) The  $U$ -values for the building roofs, walls and ceilings next to unconditioned spaces, and floors over unconditioned spaces shall be less than or equal to those listed in the appropriate ACP table given in Figures 63.1015-1 to 63.1019-4.

(b) Skylights for which daylight credit cannot be taken in accordance with s. Comm 63.1012 shall be included in the calculation of the overall thermal transmittance value of the roof assembly ( $U_{or}$ ).

(c) Unconditioned below-grade spaces that have floor or ceiling assemblies insulated as specified on the appropriate ACP table do not require below-grade wall insulation.

**(6) THERMAL RESISTANCE VALUE FOR SLAB-ON-GRADE FLOORS.** (a) Unheated slab-on-grade floors shall have insulation around the perimeter of the floor with the thermal resistance ( $R_v$ ) of the insulation as listed in the appropriate ACP table given in Figures 63.1019-1 to 63.1019-4.

(b) For heated slabs-on-grade, the required minimum  $R$ -value shall be the  $R$ -value for the unheated slab-on-grade plus 2.0.

(c) The slab insulation specified shall extend either in a vertical plane downward from the top of the slab for the minimum distance given in the appropriate ACP table or downward to the bottom of the slab then in a horizontal plane beneath the slab or outward from the building for the minimum distance given in the ACP table. Vertical insulation shall not be required to extend below the foundation footing.

(d) The  $R$ -value and dimensions required for slabs refer only to the building insulation materials. Insulative continuity shall be maintained in the design of slab edge insulation systems. Continuity shall be maintained from the wall insulation through the intersection of the slab, wall and footing to the body of the slab edge insulation.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

Figure 63.1015-1  
Degree Day Regions for Use with AC Tables



**Figure 63.1015-2**  
**Alternate Component Package**  
**ACP Table A**

<b>Part A1: Maximum Window Area / Gross Exterior Wall Area</b>						
Exterior Wall $U_o$	Shading Coefficient Range $SC_x$	$U_{of}$ Range				
		0.60 to 0.56	0.55 to 0.51	0.50 to 0.46	0.45 to 0.41	$\leq 0.40$
$\leq 0.06$	0.80 – 0.71	0.20	0.21	0.23	0.25	0.27
	0.70 – 0.61	0.20	0.22	0.24	0.26	0.28
	0.60 – 0.51	0.21	0.22	0.25	0.27	0.30
	0.50 – 0.41	0.21	0.23	0.25	0.28	0.31
	$\leq 0.40$	0.21	0.23	0.26	0.29	0.33
0.061 to 0.070	0.80 – 0.71	0.18	0.20	0.21	0.23	0.25
	0.70 – 0.61	0.18	0.20	0.22	0.24	0.27
	0.60 – 0.51	0.19	0.21	0.23	0.25	0.28
	0.50 – 0.41	0.19	0.21	0.23	0.26	0.30
	$\leq 0.40$	0.19	0.21	0.24	0.27	0.31
0.071 to 0.080	0.80 – 0.71	0.16	0.18	0.20	0.22	0.24
	0.70 – 0.61	0.17	0.18	0.20	0.23	0.25
	0.60 – 0.51	0.17	0.19	0.21	0.23	0.26
	0.50 – 0.41	0.17	0.19	0.21	0.24	0.27
	$\leq 0.40$	0.18	0.19	0.22	0.25	0.28
0.081 to 0.090	0.80 – 0.71	0.15	0.16	0.18	0.20	0.22
	0.70 – 0.61	0.15	0.17	0.18	0.21	0.23
	0.60 – 0.51	0.15	0.17	0.19	0.21	0.24
	0.50 – 0.41	0.16	0.17	0.19	0.22	0.25
	$\leq 0.40$	0.16	0.17	0.20	0.22	0.26

<b>Part A2: Other Criteria</b>
Roof Max $U_o = 0.040$
Wall and Ceiling Adjacent to Unconditioned Space Max $U_o = 0.10$
Floor Over Unconditioned Space Max $U_o = 0.040$
Wall Below Grade Min R-Value = 13

<b>Part A3: Unheated Slab-On-Grade Minimum R-Value</b>			
Insulation Orientation	Length of Insulation		
	24"	36"	48"
Horizontal	R=18	R=15	R=11
Vertical	R=8	R=6	R=4

**Figure 63.1015-3  
Alternate Component Package  
ACP Table B**

<b>Part B1: Maximum Window Area / Gross Exterior Wall Area</b>						
Exterior Wall $U_o$	Shading Coefficient Range $SC_x$	$U_o$ Range				
		0.60 to 0.56	0.55 to 0.51	0.50 to 0.46	0.45 to 0.41	$\leq 0.40$
$\leq 0.06$	0.80 – 0.71	0.20	0.21	0.22	0.23	0.24
	0.70 – 0.61	0.21	0.22	0.24	0.25	0.27
	0.60 – 0.51	0.22	0.24	0.25	0.27	0.29
	0.50 – 0.41	0.24	0.25	0.27	0.30	0.32
	$\leq 0.40$	0.25	0.27	0.29	0.32	0.35
0.061 to 0.070	0.80 – 0.71	0.19	0.20	0.21	0.22	0.23
	0.70 – 0.61	0.20	0.21	0.22	0.24	0.25
	0.60 – 0.51	0.21	0.23	0.24	0.26	0.28
	0.50 – 0.41	0.22	0.24	0.26	0.28	0.31
	$\leq 0.04$	0.24	0.26	0.28	0.31	0.34
0.071 to 0.080	0.80 – 0.71	0.18	0.19	0.20	0.21	0.23
	0.70 – 0.61	0.19	0.20	0.21	0.23	0.24
	0.60 – 0.51	0.20	0.21	0.23	0.25	0.27
	0.50 – 0.41	0.21	0.23	0.25	0.27	0.29
	$\leq 0.40$	0.22	0.24	0.27	0.29	0.32
0.081 to 0.090	0.80 – 0.71	0.17	0.18	0.19	0.20	0.21
	0.70 – 0.61	0.18	0.19	0.20	0.21	0.23
	0.60 – 0.51	0.19	0.20	0.21	0.23	0.25
	0.50 – 0.41	0.20	0.21	0.23	0.25	0.28
	$\leq 0.40$	0.21	0.23	0.25	0.27	0.30

<b>Part B2: Other Criteria</b>
Roof Max $U_o = 0.045$
Wall and Ceiling Adjacent to Unconditioned Space Max $U_o = 0.11$
Floor Over Unconditioned Space Max $U_o = 0.040$
Wall Below Grade Min R-Value = 12

<b>Part B3: Unheated Slab-On-Grade Minimum R-Value</b>			
Insulation	Length of Insulation		
Orientation	24"	36"	48"
Horizontal	R=18	R=15	R=11
Vertical	R=8	R=6	R=4

**Figure 63.1015-4  
Alternate Component Package  
ACP Table C**

<b>Part C1: Maximum Window Area / Gross Exterior Wall Area</b>						
Exterior Wall  $U_o$	Shading Coefficient  Range $SC_x$	$U_{of}$ Range				
		0.60  to 0.56	0.55  to 0.51	0.50  to 0.46	0.45  to 0.41	$\leq$ 0.40
$\leq 0.06$	0.80 – 0.71	0.20	0.21	0.22	0.22	0.23
	0.70 – 0.61	0.22	0.23	0.24	0.25	0.26
	0.60 – 0.51	0.23	0.25	0.26	0.27	0.29
	0.50 – 0.41	0.25	0.27	0.29	0.30	0.32
	$\leq 0.40$	0.27	0.29	0.32	0.34	0.37
0.061 to 0.070	0.80 – 0.71	0.19	0.20	0.21	0.22	0.23
	0.70 – 0.61	0.21	0.22	0.23	0.24	0.25
	0.60 – 0.51	0.22	0.24	0.25	0.26	0.28
	0.50 – 0.41	0.24	0.26	0.27	0.29	0.31
	$\leq 0.40$	0.26	0.28	0.30	0.33	0.35
0.071 to 0.080	0.80 – 0.71	0.18	0.19	0.20	0.21	0.22
	0.70 – 0.61	0.20	0.21	0.22	0.23	0.24
	0.60 – 0.51	0.21	0.23	0.25	0.26	0.27
	0.50 – 0.41	0.23	0.25	0.26	0.28	0.30
	$\leq 0.40$	0.25	0.27	0.29	0.31	0.34
0.081 to 0.090	0.80 – 0.71	0.17	0.18	0.19	0.20	0.21
	0.70 – 0.61	0.19	0.20	0.21	0.22	0.23
	0.60 – 0.51	0.20	0.22	0.23	0.24	0.26
	0.50 – 0.41	0.22	0.23	0.25	0.27	0.29
	$\leq 0.40$	0.24	0.26	0.28	0.30	0.33

<b>Part C2: Other Criteria</b>
Roof Max $U_o = 0.049$
Wall and Ceiling Adjacent to Unconditioned Space Max $U_o = 0.11$
Floor Over Unconditioned Space Max $U_o = 0.040$
Wall Below Grade Min R-Value = 11

<b>Part C3: Unheated Slab-On-Grade Minimum R-Value</b>			
Insulation	Length of Insulation		
Orientation	24"	36"	48"
Horizontal	R=18	R=15	R=11
Vertical	R=8	R=6	R=4

**Comm 63.1016 System standards option.** To comply with the system standards for building envelope thermal performance, the building shall comply with section 8.6 of ASHRAE standard 90.1 or with the system analysis design specified in IECC section 806 applied to the thermal envelope alone. Building site climate data shall be determined using Wisconsin division of state energy statistics or other source acceptable to the department.

**Note:** Section 8.6 of ASHRAE 90.1 Standard requires use of the latest version of the ENVSTD computer program, which is the computer program included in the ASHRAE 90.1 Standard to evaluate an envelope trade-off.

**Note:** ComCheck-EZ is a computer program that may be used only for determining building envelope compliance. The ComCheck-EZ computer program may be downloaded at: [http://www.eren.doe.gov/buildings/codes\\_standards/buildings/com\\_download.html](http://www.eren.doe.gov/buildings/codes_standards/buildings/com_download.html). The federal Department of Energy has issued a computer package called ComCheck-Plus, which establishes trade-offs between the building envelope, lighting, and HVAC equipment; however, this program has not been approved for use in Wisconsin since Wisconsin's lighting allowances are not the same as those included in the program.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1017 Design criteria. (1) THERMAL PERFORMANCE.** (a) Except as provided in par. (b), the thermal performance values for the exterior envelope of buildings or areas of buildings that are warehouses that meet the criteria of s. Comm 63.1014 (2) (b), or that are factories shall not exceed the values in Table 63.1017-1. The calculation procedures of s. Comm 63.1019 shall be used to show compliance.

**Table 63.1017-1  
Thermal Performance Values**

Number of Stories	Thermal Performance Values*
1-2	12
3-4	13
5-7	16
8-12	18
13-20	20
Over 20	21

\* Expressed in Btu/hour/square foot of above-grade exterior envelope. See s. Comm 63.1023 (2) and (3) for design conditions.

(b) The thermal performance values specified in par. (a) may be increased or decreased provided the U-value for other components is decreased or increased so the total heat gain or loss for the entire building envelope and floor area does not exceed the total heat gain or loss resulting from conformance to the values specified in this section.

**(2) FLOORS OVER UNCONDITIONED SPACES.** The overall heat transmission coefficient (U-value) for floors of heated or mechanically cooled spaces over unconditioned spaces shall not exceed 0.08 Btu/h-ft<sup>2</sup>-°F.

**(3) SLAB-ON-GRADE PERIMETER INSULATION.** For slab-on-grade floors with or without a grade beam, a foundation bearing wall or a foundation frost wall, the thermal resistance of the insulation around the perimeter of the floor shall not be less than the values shown in Table 63.1017-2. The insulation shall extend 48 inches in the vertical or horizontal direction or combination thereof with a total dimension of 48 inches. Slab-on grade perimeter insulation shall be moisture resistant.

**Table 63.1017-2  
Perimeter Insulation Requirements<sup>1</sup>**

Slab-on-grade Perimeter Insulation		Zone 1	Zone 2	Zone 3	Zone 4
R = °F-ft <sup>2</sup> -Hour	Unheated Slabs	6.7	6.2	5.9	5.2
Btu	Heated Slabs <sup>2</sup>	9.3	9.0	8.6	8.2

<sup>1</sup> See Fig. 63.1023 for zone definitions.

<sup>2</sup> Heated slabs have piping, duct work or other heat distribution system components embedded in or under them.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1018 Material properties. (1) ASHRAE FUNDAMENTAL DATA.** Except as specified in sub. (2), when available, information on thermal properties, performance of building envelope sections, and components and heat transfer shall be obtained from ASHRAE *Handbook of Fundamentals*.

**(2) EXCEPTIONS. (a) Laboratory or field test measurements.** When the information is not available from ASHRAE *Handbook of Fundamentals*, the data may be obtained from laboratory or field-test measurements. If laboratory or field test measurements are used for envelope heat transmission, they shall be obtained using one of the following test methods:

1. ASTM C177, Test method by guarded hot plate apparatus.
2. ASTM C518, Test method by means of the heat flow meter apparatus.
3. ASTM C236, Standard test method by means of a guarded hot box.
4. ASTM C976, Standard test method by means of a calibrated hot box.
5. ASTM C335, Test method of horizontal pipe insulation.

**(b) Foam plastic insulation.** For foam plastic insulations that use a gas other than air as the insulating medium, laboratory or field tests shall be conducted on representative samples that have been aged for the equivalent of 5 years or until the R-Value has stabilized. The tests shall be conducted by an independent third party and shall be submitted for department product review and approval in accordance with ch. Comm 61.

**(c) Masonry or concrete units.** 1. Integrally insulated concrete masonry systems within the scope of the National Concrete Masonry Association (NCMA) shall be evaluated for the thermal performance of the masonry or concrete units in accordance with one of the following:

- a. Use the NCMA Evaluation Procedures for the Integrally-Insulated Concrete Masonry Walls.
- b. Use of default values as approved by the department may be used. No extrapolations or interpolations are allowed.

2. All other concrete or masonry units not within the scope of the NCMA Evaluation Procedures shall comply with one of the following methods for determining the thermal performance of the assembly or system:

- a. Use default values as approved by the department. No extrapolations or interpolations are allowed.

b. Verify thermal performance through a laboratory or field test measurements specified in par. (a).

c. Use the department material approval process as specified in ch. Comm 61 to determine the U-factor.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1019 Required calculation procedures.**

(1) GENERAL. The following procedures shall be used to calculate the thermal performance of above- and below-grade envelope sections of any building that is heated or mechanically cooled.

(2) OVERALL THERMAL TRANSMITTANCE (U<sub>o</sub>). The overall thermal transmittance of the building envelope assembly shall be calculated in accordance with the following equation:

$$U_o = \sum U_i A_i / A_o = (U_1 A_1 + U_2 A_2 + \dots + U_n A_n) / A_o$$

where:

U<sub>o</sub> = The area-weighted average thermal transmittance of the gross area of an envelope assembly; that is the exterior wall assembly including fenestration and doors, the roof and ceiling assembly, and the floor assembly, Btu/h-ft<sup>2</sup>-°F.

A<sub>o</sub> = The gross area of the envelope assembly, ft<sup>2</sup>.

U<sub>i</sub> = The thermal transmittance of each individual path of the envelope assembly, for example, the opaque portion of the wall assembly, Btu/h-ft<sup>2</sup>-°F. U<sub>i</sub> also equals 1/R<sub>i</sub> where R<sub>i</sub> is the total resistance to heat flow of an individual path through an envelope assembly.

A<sub>i</sub> = The area of each individual element of the envelope assembly, ft<sup>2</sup>.

(3) THERMAL TRANSMITTANCE (U<sub>i</sub>) OF AN INDIVIDUAL PATH THROUGH AN ENVELOPE ASSEMBLY. The thermal transmittance of each envelope shall be determined with consideration of all major series and parallel heat flow paths through the elements of the

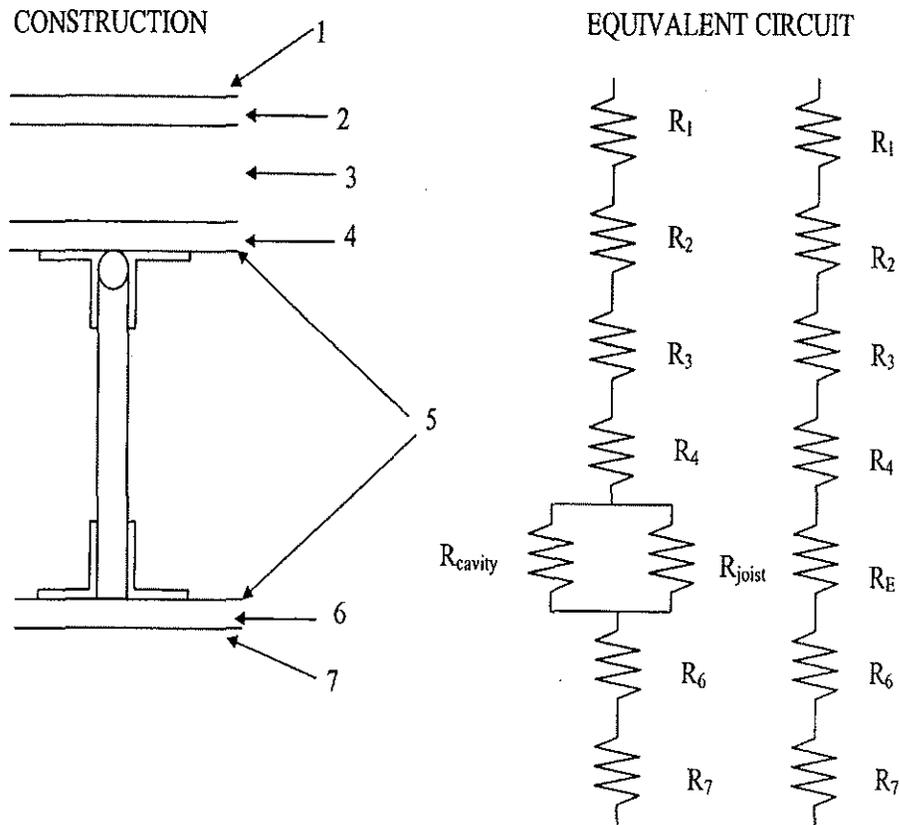
assembly and film coefficients. Compression of insulation shall be considered in determining the thermal resistance.

(a) Thermal transmittance of opaque elements. The thermal transmittance of opaque elements of assemblies shall be determined using a series path procedure with correction for the presence of parallel paths within an element of the envelope assembly such as wall cavities with parallel paths through insulation and studs. An acceptable procedure shall be used, as specified in Figure 63.1019-1. Figure 63.1019-2 illustrates a typical roof assembly.

**Figure 63.1019-1  
Calculation Procedures for Evaluating Major Series and Parallel Heat Flow Paths**

Acceptable Procedures for Determining U <sub>i</sub> for Opaque Elements		
Sheathing	Framing	
	Metal	Nonmetal
Metal on One or Both Sides	Tests – s. Comm 63.1019 (3)(a) 1.a. Thermal Bridges – s. Comm 63.1019 (3)(a) 1.c.	Tests – s. Comm 63.1019 (3)(a) 1.a. Series or Parallel Path – s. Comm 63.1019 (3)(a) 2.
Nonmetal on Both Sides	Tests – s. Comm 63.1019 (3)(a) 1.a. Parallel Path Correction Factor – s. Comm 63.1019 (3)(a) 1.b. Zone Method – s. Comm 63.1019 (3)(a) 1.d.	Tests – s. Comm 63.1019 (3)(a) 1.a. Series or Parallel Path – s. Comm 63.1019 (3)(a) 2.

**Figure 63.1019-2**  
**Calculation Procedure for Thermal Resistance of a Typical Roof Assembly**



$$\text{Where } 1/R_e = \frac{(1 - \% \text{ joist})}{R_{\text{cavity}}} + \frac{\% \text{ Joist}}{R_{\text{joist}}} \text{ or } R_e = R_{\text{cavity}} \times F_c$$

$R_e$  is the equivalent resistance of the element contacting the parallel path.  $F_c$  is the parallel path correction factor.

1. For envelope assemblies containing metal framing, the  $U_i$  shall be determined by using one of the following methods:

a. Using results from laboratory or field-test measurements where one of the procedures specified in s. Comm 63.1018 is used.

b. Using the thermal resistance of those roof and wall assemblies listed in Tables 63.1019-1 and 63.1019-2 shall be corrected using the following parallel path correction factor procedure:

Considering the total resistance of the series path:

$$U_i = 1/R_t$$

$$R_t = R_i + R_e$$

where:

$R_t$  = The total resistance of the envelope assembly.

$R_i$  = The resistance of the series elements (for  $i = 1$  to  $n$ ) excluding the parallel path element(s)

$R_e$  = The equivalent resistance of the element containing the parallel path, the value of  $R_e$  is:

$$R_e = R\text{-value of insulation} \times F_c$$

The Parallel Path Correction Factors ( $F_c$ ) may be obtained from tests conducted using procedures listed in s. Comm 63.1018. Parallel Path Correction Factors for some envelope assemblies are listed in Tables 63.1019-1 and 63.1019-2.

c. For elements with internal metallic structures bonded on one or both sides to a metal skin or covering, the calculation procedure specified in the ASHRAE *Handbook of Fundamentals*, or specified in ASHRAE standard 90.1, or other procedure acceptable to the department shall be used to include the effects of thermal bridges in metal construction.

d. For elements other than those covered above, the zone method described in the ASHRAE *Handbook of Fundamentals* shall be used for calculation.

**Table 63.1019-1**  
**Roofs**  
**Parallel Path Correction Factors<sup>a</sup>**

Bridged R-Value	0	5	10	15	20	25	30	35	40	45	50	55
Correction Factor	1.0	0.96	0.92	0.88	0.85	0.81	0.79	0.76	0.73	0.71	0.69	0.67

<sup>a</sup> Table values are based upon metal trusses with 4-foot spacing that penetrate the insulation, and 0.66-inch diameter cross members every 1 foot.

**Table 63.1019-2**  
**Wall Sections with Metal Studs**  
**Parallel Path Correction Factors**

Size of Members	Gauge of Stud <sup>a</sup>	Spacing of Framing, in.	Cavity Insulation R-Value	Correction Factor	Effective Framing/Cavity R-Values
2 x 4	18-16	16 o.c.	R-11	0.50	R-5.5
			R-13	0.46	R-6.0
			R-15	0.43	R-6.4
2 x 4	18-16	24 o.c.	R-11	0.60	R-6.6
			R-13	0.55	R-7.2
			R-15	0.52	R-7.8
2 x 6	18-16	16 o.c.	R-19	0.37	R-7.1
			R-21	0.35	R-7.4
2 x 6	18-16	24 o.c.	R-19	0.45	R-8.6
			R-21	0.43	R-9.0
2 x 8	18-16	16 o.c.	R-25	0.31	R-7.8
2 x 8	18-16	24 o.c.	R-25	0.38	R-9.6

<sup>a</sup> These factors can be applied to metal studs of this gauge or thinner.

2. For assemblies containing nonmetal framing, the  $U_j$  shall be determined from one of the laboratory or field test measurements specified in s. Comm 63.1018 or from the ASHRAE series-parallel method. Formulas in the ASHRAE *Handbook of Fundamentals*, shall be used for these calculations.

3. The opaque portions of doors shall be considered to be a part of the opaque wall assembly in the calculation of the average thermal transmittance. The thermal transmittance of the entire opaque door assembly including the frame shall be included in the calculation.

(b) *Thermal transmittance of fenestration.* Values of  $U_{of}$  shall be determined using one of the following methods:

1. The National Fenestration Rating Council (NFRC) 100 Procedure for Determining Fenestration Product U-Factors. The thermal performance values shall be certified through the NFRC Fenestration Thermal Performance Rating Certification and Labeling Program as described in the NFRC Product Certification Program LAP 1, PCP 1, and CAP 1.

2. The values for the appropriate product type given in IECC Table 102.5.2 (1) may be used.

Note: In order to use the component standards option of s. Comm 63.1015, the U-value of fenestration must be 0.60 or less.

(4) **GROSS AREA OF ENVELOPE COMPONENTS.** (a) *Roof assembly.* The gross area of a roof assembly consists of the total surface of the roof assembly exposed to outside air or unconditioned spaces. The roof assembly shall be considered to include all roof or ceiling components through which heat may flow between indoor and outdoor environments including skylight surfaces but excluding service openings. For thermal transmittance purposes when return air ceiling plenums are employed, the roof or ceiling assembly shall not include the resistance of the ceiling or the plenum space as part of the total resistance of the assembly.

(b) *Floor assembly.* The gross area of a floor assembly over outside or unconditioned spaces consists of the total surface of the floor assembly exposed to outside air or unconditioned space. The floor assembly shall include all floor components through which heat may flow between indoor and outdoor or unconditioned space environments.

(c) *Exterior walls.* The gross area of exterior walls enclosing a heated or cooled space is measured on the exterior and consists of the opaque wall including between floor spandrels, peripheral edges of flooring, window areas including sash, and door areas, but excluding vents, grilles, and pipes.

(5) **SHADING COEFFICIENTS.** The shading coefficient ( $SC_x$ ) for fenestration shall be obtained from the ASHRAE *Handbook of Fundamentals* or from manufacturer's test data or from IECC section 102.5.2.  $SC_x$  is the shading coefficient of the fenestration including permanently installed internal and external shading

devices but excluding the effect of external shading projections, which is calculated separately. The shading coefficient used for louvered shade screens shall be determined using a profile angle of 30° as found in the ASHRAE *Handbook of Fundamentals*.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

#### Part 4 — Equipment and Systems

##### Comm 63.1020 Minimum equipment efficiencies.

(1) Space heating or cooling equipment that is not covered by 10 CFR Part 430, Energy Conservation Program for Consumer Products, shall have a minimum efficiency at the specified rating conditions not less than the values given in ASHRAE 90.1, section 10.4.1.

(2) Equipment ratings shall be certified under a nationally recognized certification program or rating procedure or by data furnished by the equipment manufacturer to show compliance with the minimum efficiency requirements.

Note: The following certification programs are accepted by the department: Gas Appliance and Manufacturers Association (GAMA) and Air-Conditioning and Refrigeration Institute (ARI).

(3) Compliance with minimum efficiency requirements specified for HVAC equipment shall include compliance with part-load requirements where indicated as well as standards for full-load requirements. The part-load efficiency shall be determined as specified in ASHRAE 90.1.

(4) Space heating or cooling equipment used to provide additional functions, such as water heating for plumbing, as part of a combination or integrated system shall comply with minimum performance requirements for the appropriate space heating or cooling equipment category.

(5) Equipment providing water heating for plumbing that is used to provide additional functions, such as space heating, as part of a combination or integrated system shall comply with minimum performance requirements for water heating equipment as specified in s. Comm 84.20 (5) (n).

(6) Combination space and plumbing water heating equipment shall comply with IECC section 504.2.2 and s. Comm 63.0504 (1).

Note: See ch. Comm 64 for additional requirements for combined systems.

(7) Equipment that is not used for comfort cooling or comfort heating is exempt from the energy efficiency requirements of this chapter.

Note: Omission of minimum performance requirements for certain classes of HVAC equipment does not preclude use of that equipment.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1021 Field-assembled equipment and components.** When components, such as indoor or outdoor coils, from more than one manufacturer are used as parts of air-conditioning or heating equipment, component efficiencies shall

be specified based on data provided by the component manufacturers.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1022 Heat pump equipment controls.**

Controls for heat pumps equipped with supplementary heaters that are installed in residential buildings shall comply with IECC section 503.3.2.3, and controls for equipment installed in commercial buildings shall comply with IECC sections 803.3.3.1.1.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1023 Load calculations for sizing.**

(1) CALCULATION PROCEDURES. Heating and cooling system design loads for the purpose of sizing systems and equipment shall

be determined in accordance with the procedures described in the ASHRAE *Handbook of Fundamentals*, or a similar computation procedure approved by the department. For those design parameters addressed in subs. (2) to (6), the values specified shall be used.

Note: This section does not require the installation of cooling equipment.

(2) INDOOR DESIGN CONDITIONS. The winter indoor design temperature is specified in Table 64.0403. When air conditioning is provided in accordance with ch. Comm 64, the summer indoor design temperature is 78°F or lower.

(3) OUTDOOR DESIGN CONDITIONS. Winter maximum and summer minimum for outdoor design temperatures shall be taken from Figure 63.1023.

Note: Systems may be designed for colder winter temperatures or for warmer summer temperatures.

**Figure 63.1023  
Outdoor Design Conditions**



Zone	Winter	Summer	
	Design Temp. (°F)	Dry Bulb (°F)	Wet Bulb (°F)
1	-25	86	75*
2	-20	87	75
3	-15	87	75
4	-10	89	77

\*Exception: For Douglas, Bayfield, Ashland and Iron Counties, use 70°F summer wet bulb design temperature.

(4) **VENTILATION.** Outdoor air ventilation loads shall be based on ventilation rates specified in ch. Comm 64.

(5) **ENVELOPE.** Envelope heating and cooling loads shall be based on envelope characteristics such as thermal conductance, shading coefficient, and air leakage consistent with the values used to demonstrate compliance with this subchapter, Part 3, building envelope.

(6) **LIGHTING.** Lighting loads shall be based on actual design lighting levels or power budgets consistent with subch. III, Part 5. Lighting loads may not be included for the purpose of calculating design heating loads.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1024 System and equipment sizing.** HVAC systems and equipment shall be sized to provide the minimum space and system loads calculated in accordance with s. Comm 63.1023. Heating and cooling equipment and systems shall meet the minimum efficiencies in IECC Table 803.2.2 (1).

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1026 Temperature controls. (1) SYSTEM CONTROL.** Each HVAC system shall include at least one temperature control device.

(2) **ZONE CONTROLS.** (a) *Individual thermostatic controls.* 1. 'General.' Except as provided in subd. 2., the supply of heating and cooling energy to each zone shall be controlled by individual thermostatic controls responding to temperature within the zone.

2. 'Exceptions.' Independent perimeter systems that are designed to offset only envelope heat losses or gains, or both, may serve one or more zones also served by an interior system with the following limitations:

a. The perimeter system shall include at least one thermostatic control zone for each building exposure having exterior walls facing only one orientation for 50 contiguous feet or more; and

b. The perimeter system heating and cooling supply shall be controlled by thermostats located within the zones served by the system.

(b) *Zone controls for comfort heating.* Where used to control comfort heating, zone thermostatic controls shall be capable of being set locally or remotely by adjustment or selection of sensors down to 50°F or lower.

(c) *Zone controls for comfort cooling.* Where used to control comfort cooling, zone thermostatic controls shall be capable of being set locally or remotely by adjustment or selection of sensors up to 85°F or higher.

(d) *Zone controls for both heating and cooling.* 1. 'General.' Except as provided in subd. 2., zone thermostatic controls used to control both comfort heating and cooling shall be capable of providing a temperature range, or deadband, of at least 5°F within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.

2. 'Exceptions.' a. Deadbands are not required for special occupancy, special usage, or required systems where deadband controls are not appropriate.

b. Deadbands are not required for buildings complying with the ASHRAE energy cost budget method under subch. III, Part 5,

if, in the proposed building energy analysis, heating and cooling thermostat set-points are set to the same value between 70°F and 75°F inclusive and assumed to be constant throughout the year.

c. Deadbands may be omitted for thermostats that have manual changeover between heating and cooling modes.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1027 Zone controls. (1) THERMOSTATIC AND HUMIDISTATIC CONTROLS.** Except as provided in sub. (2), zone thermostatic and humidistatic controls shall be capable of operating in sequence to supply heating and cooling energy to the zone. Such controls shall prevent any of the following:

(a) Reheating.

(b) Recooling.

(c) Mixing or simultaneous supply of air that has been previously mechanically heated and air that has been previously cooled, either by mechanical refrigeration or by economizer systems.

(d) Other simultaneous operation of heating and cooling systems to the same zone.

(2) **EXCEPTIONS.** All of the following systems and zones are exempt from this section:

(a) Variable air volume (VAV) systems which, during periods of occupancy, are designed to reduce the air supply to each zone to a minimum before reheating, recooling, or mixing takes place. This minimum volume shall be no greater than the largest of the following:

1. 30% of the peak supply volume.

2. The minimum required to meet ventilation requirements of ch. Comm 64.

3. 0.4 cfm/square foot of zone conditioned floor area.

(b) Zones where special pressurization relationships or cross-contamination requirements are such that VAV systems are impractical, such as isolation rooms, operating areas of hospitals, and laboratories.

(c) Where at least 75% of the energy for reheating or for providing warm air in mixing systems is provided from a site-recovered or site-solar energy source.

(d) Zones where specified humidity levels are required to satisfy process needs, such as computer rooms and museums.

(e) Zones with a peak supply air quantity of 150 cfm or less.

(f) Multiple reheat systems serving multiple zones, other than those employing variable air volume for temperature control, that are provided with controls that will automatically reset the system cold air supply to the highest temperature level that will satisfy the zone requiring the coolest air. In the case of direct expansion cooling systems, cooling may be cycled based on the zone requiring the coolest air or average room temperature for all zones.

(g) Dual duct and multizone systems that are provided with controls that will automatically reset all of the following:

1. The cold duct air supply to the highest temperature that will satisfy the zone requiring the coolest air.

2. The hot duct air supply to the lowest temperature that will satisfy the zone requiring the warmest air.

(h) Systems in which heated air is recooled, directly or indirectly, to maintain space temperature that are provided with controls that will automatically reset the temperature to which the supply air is heated to the lowest level that will satisfy the zone requiring the warmest air.

(i) A multiple zone heating, ventilating and air-conditioning system that employs reheating or recooling for control of not more than 5,000 cfm or 20% of the total supply air of the system, whichever is less.

(3) **OFF-HOUR CONTROLS.** Except as provided in pars. (a) to (c), mechanical HVAC systems shall be equipped with automatic controls capable of accomplishing a reduction of energy use through control setback or equipment shutdown during periods of

nonuse or alternate use of the zones served by the system. The following systems are exempt from this subsection:

- (a) Systems serving areas expected to operate continuously.
- (b) Where it can be shown that setback or shutdown will not result in a decrease in overall building energy costs.
- (c) Equipment with full load demands of 2 kW or 6826 Btu/h or less that is controlled by readily accessible manual off-hour controls.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1028 Humidity control.** If a system is equipped with a means for adding moisture to maintain specific humidity levels in a zone or zones, a humidistat shall be provided in accordance with IECC section 503.3.2.4 for residential buildings and IECC section 803.2.3.2 for commercial buildings.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1029 Insulation, materials and construction. (1) GENERAL.** Insulation required by subs. (2) and (3) shall

be suitably protected from damage. Insulation shall be installed in accordance with practices acceptable to the department. The department accepts MICA Commercial and Industrial Insulation Standards as an insulation installation practice.

**(2) PIPING INSULATION.** Except as provided in pars. (a) to (c), recirculating plumbing system piping, plumbing piping in the first 8 feet from storage tanks for noncirculating systems, any piping served by a self-regulating electric heating cable, HVAC system piping, and related HVAC fluid conveying conduit, such as heat exchanger bodies, shall be thermally insulated in accordance with Table 63.1029 or equivalent. The following piping or conduit is exempted from this subsection:

- (a) Factory-installed piping or conduit within HVAC equipment tested and rated in accordance with s. Comm 63.1020;
- (b) Piping or conduit for which no insulation is specified in Table 63.1029.
- (c) Where it can be shown that the heat gain or heat loss to or from piping or conduit without insulation will not increase building energy use.

**Table 63.1029  
Plumbing and HVAC Piping Minimum Insulation [in. <sup>a</sup> (R-Value)]**

Fluid Design Operating Temp. Range, °F	Insulation Conductivity <sup>a</sup>		Nominal Pipe Diameter [in. (R-value)]					
	Conductivity Range Btu·in./- (h·ft <sup>2</sup> ·°F)	Mean Rating Temp. °F	Runouts <sup>b</sup> up to 2	1 and less	1-1/4 to 2	2-1/2 to 4	5 & 6	8 & up
<b>Heating systems (Steam, Steam Condensate, and Hot Water)</b>								
Above 350	0.32-0.34	250	1.5(R-4.4)	1.5(R-4.4)	2.5(R-7.4)	3.0(R-8.8)	3.5(R-10.3)	3.5(R-10.3)
251-350	0.29-0.31	200	1.5(R-4.8)	1.5(R-4.8)	2.5(R-8.1)	2.5(R-8.1)	3.5(R-11.3)	3.5(R-11.3)
201-250	0.27-0.30	150	1.0(R-3.3)	1.0(R-3.3)	1.5(R-5.0)	2.0(R-6.7)	2.0(R-6.7)	3.5(R-11.7)
141-200	0.25-0.29	125	0.5(R-1.8)	0.5(R-1.8)	1.5(R-5.2)	1.5(R-5.2)	1.5(R-5.2)	1.5(R-5.2)
105-140	0.24-0.28	100	0.5(R-1.8)	0.5(R-1.8)	1.0(R-3.6)	1.0(R-3.6)	1.0(R-3.6)	1.5(R-5.4)
<b>Domestic and Service Hot Water systems<sup>c</sup></b>								
105 and greater	0.24-0.28	100	0.5(R-1.8)	1.0(R-3.6)	1.0(R-3.6)	1.5(R-5.4)	1.5(R-5.4)	1.5(R-5.4)
<b>Cooling systems (Chilled water, brine, and refrigerant)<sup>d</sup></b>								
40-55	0.23-0.27	75	0.5(R-1.9)	0.5(R-1.9)	0.75(R-2.8)	1.0(R-3.7)	1.0(R-3.7)	1.0(R-3.7)
Below 40	0.23-0.27	75	1.0(R-3.7)	1.0(R-3.7)	1.5(R-5.6)	1.5(R-5.6)	1.5(R-5.6)	1.5(R-5.6)

<sup>a</sup> For insulation outside the state conductivity range, the minimum thickness (T) shall be determined as follows:  $T = PR [(1 + t/PR)^{k/k} - 1]$ , where T = minimum insulation thickness for material with conductivity K, in.; PR = actual outside radius of pipe, in.; t = insulation thickness, in.; K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature; and k = the lower value of the conductivity range listed for the applicable fluid temperature.

<sup>b</sup> Runouts to individual terminal units not exceeding 12 ft. in length.

<sup>c</sup> Applies to recirculating sections of service or domestic hot water systems and first 8 ft. from storage tank for nonrecirculating systems.

<sup>d</sup> The required minimum thickness does not consider water vapor transmission and condensation.

(3) AIR-HANDLING SYSTEM INSULATION. All air-handling ducts and plenums installed as part of an HVAC air distribution system shall be thermally insulated in accordance with s. Comm 63.0803 (2) (f).

(4) ADDITIONAL DUCT SEALING. (a) *General.* Except as specified in par. (b), ductwork and plenums shall be sealed in accordance with Table 63.1029-1, and shall meet the duct seal classes specified in Table 63.1029-2.

(b) *Exception.* Ductwork and plenums confined within individual dwelling units shall comply with s. Comm 63.0503 (2) (c).

Table 63.1029-1

Minimum Duct Seal Level<sup>a</sup>

Duct Location	Duct Type			
	Supply		Exhaust	Return
	≤ 2 in. w.c. <sup>b</sup> (500 Pa)	> 2 in. w.c. <sup>b</sup> (500 Pa)		
Outdoors <sup>c</sup>	A	A	C	A
Unconditioned Spaces	B	A	C	B
Conditioned Spaces	C	B	B	C

<sup>a</sup> See Table Comm 63.0803-2 definition of Seal Class.  
<sup>b</sup> Duct design static pressure classification.  
<sup>c</sup> Includes indirectly conditioned spaces, such as return air plenums.

Table 63.1029-2  
Duct Seal Classes

Duct Seal Class	Sealing Requirements <sup>a</sup>
A	All transverse joints, longitudinal seams, and duct wall penetrations. Pressure sensitive tape shall not be used as the primary sealant.
B	All transverse joints and longitudinal seams. Pressure sensitive tape shall not be used as the primary sealant.
C	Transverse joints only.

<sup>a</sup> Longitudinal seams are joints oriented in the direction of airflow. Transverse joints are connections of two duct sections and are oriented perpendicular to airflow. Duct wall penetrations are openings made by any screw fastener, pipe, rod or wire. Spiral lock seams in round and flat oval duct need not be sealed. All other connections are considered transverse joints, including but not limited to spin-ins, taps and other branch connections, access door frames and jambs, and duct connections to equipment.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; r. and recr. (4) Register June 2002 No. 558, eff. 7-1-02.

**Comm 63.1030 Hydronic system controls.** Hydronic system controls shall comply with IECC section 803.3.3.7.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1031 Economizer controls. (1) FAN SYSTEM.** Except as provided in sub. (2), each fan system shall be designed and capable of being controlled to take advantage of favorable weather conditions to reduce mechanical cooling requirements. The system shall include either of the following:

(a) A temperature or enthalpy air economizer system which is capable of automatically modulating outside air and return air dampers to provide 100% of the design supply air quantity as outside air for cooling;

(b) A water economizer system, which is capable of cooling supply air by direct evaporation, indirect evaporation, or both. Such a system shall be designed and capable of being controlled to provide 100% of the expected system cooling load at outside air temperatures of 50°F dry-bulb/40°F wet-bulb and below.

(2) EXCEPTIONS. All of the following systems are exempt from this subsection:

(a) Individual fan-cooling units with a supply capacity of less than 2,000 cfm or a total system cooling capacity of less than 62,000 Btu/hour for split systems or less than 36,000 Btu/hour for all other types. The total capacity of all such units complying by use of this exception shall not exceed 600,000 Btu/hour per building or 10% of the total installed cooling capacity, whichever is larger;

(b) Systems with air or evaporatively cooled condensers for which it can be shown that the use of outdoor air cooling affects the operation of other systems, such as humidification, dehumidification, or supermarket refrigeration systems, so as to increase overall building energy costs;

Note: Other areas that may use controlled humidification or dehumidification are computer rooms, museums, library stacks and drafting rooms.

(c) Where the overall building energy use resulting from alternative designs, such as internal to external zone heat recovery systems, can be shown to be less than those resulting from an economizer system.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1032 Electrical motors. (1) PERMANENTLY WIRED MOTORS.** Any permanently wired motor that meets all of the criteria specified in pars. (a) through (g) shall meet the efficiency requirements specified in Table 63.1032 and the requirements of this section:

(a) The motor is used in a HVAC fan or pumping system.

(b) The motor is polyphase.

(c) The motor is one horsepower or more.

(d) The motor is a design A or B squirrel-cage, foot-mounted, T-frame induction motor that has synchronous speeds of 3600, 1800, 1200, and 900 rpm.

(e) The motor is expected to operate more than 1000 hours per year.

(f) The motor is not a multispeed motor used in a system designed to use more than one speed.

(g) The motor is not a component of equipment that meets the efficiency requirements of s. Comm 63.1020 where motor input is included in the determination of the equipment efficiency.

(2) MOTOR NAMEPLATE. The motor nameplate shall list the minimum nominal full-load motor efficiency.

Note: Motors that are classified as "energy efficient" under the National Electric Manufacturer's Association Standard MG 12.55, dated 3-14-91, are acceptable to the department as meeting the efficiency requirements of this section.

**Table 63.1032**  
**Minimum Acceptable Nominal Full-Load Motor Efficiency for Single-Speed Polyphase Squirrel-Cage Induction Motors Having Synchronous Speeds of 3600, 1800, 1200 and 900 rpm**

Full-Load Efficiencies—Open Motors								
HP	2-Pole		4-Pole		6-Pole		8-Pole	
	Nominal Efficiency	Minimum Efficiency						
1.0	—	—	82.5	81.5	80.0	78.5	74.0	72.0
1.5	82.5	81.5	84.0	82.5	84.0	82.5	75.5	74.0
2.0	84.0	82.5	84.0	82.5	85.5	84.0	85.5	84.0
3.0	84.0	82.5	86.5	85.5	86.5	85.5	86.5	85.5
5.0	85.5	84.0	87.5	86.5	87.5	86.5	87.5	86.0
7.5	87.5	86.5	88.5	87.5	88.5	87.5	88.5	87.5
10.0	88.5	87.5	89.5	88.5	90.2	89.5	89.5	88.5
15.0	89.5	88.5	91.0	90.2	90.2	89.5	89.5	88.5
20.0	90.5	89.5	91.0	90.2	91.0	90.2	90.2	89.5
25.0	91.0	90.2	91.7	91.0	91.7	91.0	90.2	89.5
30.0	91.0	90.2	92.4	91.7	92.4	91.7	91.0	90.2
40.0	91.7	91.0	93.0	92.4	93.0	92.4	91.0	90.2
50.0	92.4	91.7	93.0	92.4	93.0	92.4	91.7	91.0
60.0	93.0	92.4	93.6	93.0	93.6	93.0	92.4	91.7
75.0	93.0	92.4	94.1	93.6	93.6	93.0	93.6	93.0
100.0	93.0	92.4	94.1	93.6	94.1	93.6	93.6	93.0
125.0	93.6	93.0	94.5	94.1	94.1	93.6	93.6	93.0
150.0	93.6	93.0	95.0	94.5	94.5	94.1	93.6	93.0
200.0	94.5	94.1	95.0	94.5	94.5	94.1	93.6	93.0
Full-Load Efficiencies—Enclosed Motors								
HP	2-Pole		4-Pole		6-Pole		8-Pole	
	Nominal Efficiency	Minimum Efficiency						
1.0	75.5	74.0	82.5	81.5	80.0	78.5	74.0	72.0
1.5	82.5	81.5	84.0	82.5	85.5	84.0	77.0	75.5
2.0	84.0	82.5	84.0	82.5	86.5	85.5	82.5	81.5
3.0	85.5	84.0	87.5	86.5	87.5	86.5	84.0	82.5
5.0	87.5	86.5	87.5	86.5	87.5	86.5	85.5	84.0
7.5	88.5	87.5	89.5	88.5	89.5	88.5	85.5	84.0
10.0	89.5	88.5	89.5	88.5	89.5	88.5	88.5	87.5
15.0	90.2	89.5	91.0	90.2	90.2	89.5	88.5	87.5
20.0	90.2	89.5	91.0	90.2	90.2	89.5	89.5	88.5
25.0	91.0	90.2	92.4	91.7	91.7	91.0	89.5	88.5
30.0	91.0	90.2	92.4	91.7	91.7	91.0	91.0	90.2
40.0	91.7	91.0	93.0	92.4	93.0	92.4	91.0	90.2
50.0	92.4	91.7	93.0	92.4	93.0	92.4	91.7	91.0
60.0	93.0	92.4	93.6	93.0	93.6	93.0	91.7	91.0
75.0	93.0	92.4	94.1	93.6	93.6	93.0	93.0	92.4
100.0	93.6	93.0	94.5	94.1	94.1	93.6	93.0	92.4
125.0	94.5	94.1	94.5	94.1	94.1	93.6	93.6	93.0
150.0	94.5	94.1	95.0	94.5	95.0	94.5	93.6	93.0
200.0	95.0	94.5	95.0	94.5	95.0	94.5	94.1	93.6

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

### Part 5 — Lighting Power

**Comm 63.1040 Scope.** (1) **GENERAL.** Except as specified in sub. (2), ss. Comm 63.1041 to 63.1051 shall apply to all of the following rooms, spaces and areas:

- (a) Interior spaces of buildings.
- (b) Building exteriors and exterior areas such as entrances, exits, and loading docks.
- (c) Roads, grounds, parking, and other exterior areas where lighting is energized through the building electrical service.

(2) **EXCEPTIONS.** Lighting that is specifically designated as required by a health or life safety regulation is exempt.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1041 Exterior lighting power requirement.** The exterior lighting power of a building or a group of buildings in a multibuilding facility calculated in accordance with s. Comm 63.1042 shall be no greater than the lighting power allowance calculated in accordance with s. Comm 63.1043.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1042 Calculation of exterior lighting power.** The calculated exterior lighting power is the sum of the power for all exterior luminaires that are included in s. Comm 63.1040, minus the power for exempted exterior lighting as specified in subs. (1) to (5).

(1) Task lighting for outdoor activities such as manufacturing and processing facilities.

(2) Lighting power for theatrical productions.

(3) Lighting for outdoor sporting facilities, including playing and seating areas.

(4) Lighting for dwelling units that is controlled within the dwelling unit.

(5) Exit way or egress lighting required by s. Comm 73.21 that has switching regulated by Article 700 of the National Electrical Code.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1043 Exterior lighting power allowance.**

(1) **CALCULATION METHOD.** The exterior lighting power allowance for a building or a multibuilding facility is the sum of all the allowed lighting powers for all exterior areas. The lighting power for each area is calculated by multiplying the unit power allowance from Table 63.1043 by the applicable length or area.

(2) **APPLICABLE AREAS AND LENGTHS.** The applicable areas and lengths used with Table 63.1043 to calculate the exterior lighting power allowance are described in pars. (a) to (d).

(a) Horizontal areas of grounds, driveways, lots, gardens or parks may be calculated as if they were flat, or the actual area of the surfaces of contours may be used.

(b) Canopied areas are the area of the horizontal surface under the canopy. A canopy includes an exterior awning, soffit or ornamental or functional structure signifying a main entrance to a building.

(c) The linear length of door openings is measured in plan view and includes the door opening only. Sidelights and other portions of the door, which do not open, are not included.

(d) The applicable area of the building facade includes all vertical and horizontal areas that are intended to be illuminated.

**Table 63.1043**  
**Exterior Lighting Unit Power Allowances**

Area Description	Allowances
Canopies (not associated with an entrance)	4 W/ft <sup>2</sup>
Commerce or merchandizing areas	4 W/ft <sup>2</sup>
Exit (with or without canopy)	16 W/lin ft of door opening
Entrance (without canopy)	20 W/lin ft of door opening
Entrance (with canopy)	
High traffic (retail, hotel, airport, theater, etc.)	6.6 W/ft <sup>2</sup> of canopied area
Light traffic (hospital, office, school, etc.)	2.6 W/ft <sup>2</sup> of canopied area
Loading area	0.26 W/ft <sup>2</sup>
Loading door	13 W/lin ft of door opening
Building exterior surfaces/facades	0.16 W/ft <sup>2</sup> of surface area to be illuminated
Storage and nonmanufacturing work areas	0.13 W/ft <sup>2</sup>
Other activity areas for casual use such as picnic grounds, gardens, parks and other landscaped areas.	0.06 W/ft <sup>2</sup>
Private driveways/walkways	0.06 W/ft <sup>2</sup>
Public driveways/walkways	0.10 W/ft <sup>2</sup>
Private parking lots	0.08 W/ft <sup>2</sup>
Public parking lots	0.12 W/ft <sup>2</sup>
Pump island canopies	4 W/ft <sup>2</sup>

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1044 Interior lighting power requirement.** The interior lighting power of a building calculated in accordance with s. Comm 63.1045 shall be no greater than the interior lighting power allowance calculated in accordance with s. Comm 63.1046.

*History:* CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1045 Calculation of interior lighting power.** The calculated interior lighting power of a building is the total watts of all interior luminaires including, but not limited to, track and flexible lighting systems, lighting that is integral with modular furniture, movable displays and cabinets, and internally illuminated case work for task or display purposes, minus any adjustments allowed under subs. (1) through (4).

(1) **MULTIPLE INTERLOCKED LIGHTING SYSTEMS SERVING A SPACE.** When multiple interlocked lighting systems serve a space, the watts of all systems except the system with the highest wattage may be excluded from the calculated lighting power if:

(a) The lighting systems are interlocked to prevent simultaneous operation; or

(b) The lighting systems are controlled by a preset dimming system or other device that prevents simultaneous operation of more than one lighting system, except under the direct control of authorized personnel.

(2) **REDUCTION OF WATTAGE THROUGH CONTROLS.** The watts of any luminaire that is controlled may be reduced by the number of

watts times the applicable power adjustment factor from Table 63.1045 if all of the following are met:

- (a) The control complies with s. Comm 63.1051.
- (b) At least 50% of the light output of the luminaire is within the applicable space listed in Table 63.1045.
- (c) Except as noted in Table 63.1045, only one power adjustment factor is used for the luminaire.

(d) For daylighting control credits, the luminaire is controlled by the daylighting control, and the luminaire is located within the daylight area.

(e) For automatic time switch control devices, a timed manual override is provided at each switch location required by s. Comm 63.1050. The override device shall control only the lights in the surrounding area enclosed by ceiling-height partitions.

**Table 63.1045  
Lighting Power Adjustment Factors**

Type of Control	Type of Space	Factor
Automatic daylighting controls	Daylit areas	
Continuous dimming		0.30
Multiple step dimming		0.20
On/off		0.10
Automatic time switch control device in conjunction with automatic daylighting controls	Daylit areas ≤ 250 square feet	
Continuous dimming		0.35
Multiple step dimming		0.25
On/off		0.15
Automatic time switch control device in conjunction with lumen maintenance and automatic daylighting controls	Daylit areas ≤ 250 square feet	
Continuous dimming		0.40
Multiple step dimming		0.30
On/off		0.20
Lumen maintenance	Any space	0.10
Lumen maintenance in conjunction with an automatic time switch control device	Space ≤ 250 square feet	0.15
Automatic time switch control device	Spaces ≤ 250 square feet	0.15
Occupant-sensing device with a separate sensor for each space	Spaces ≤ 250 square feet enclosed by opaque floor-to-ceiling partitions; any size classroom, corridor, conference or waiting room	0.30*
Occupant-sensing device with separate sensor for each space	Rooms of any size that are used exclusively for storage	0.60*
Occupant-sensing device with separate sensor for each space	Spaces > 250 square feet	0.10*
Occupant-sensing device with a separate sensor for each space used in conjunction with daylighting controls and separate sensor for each space	Spaces ≤ 250 square feet within a daylit area and enclosed by opaque floor-to-ceiling partitions	
Continuous dimming		0.40*
Multiple step dimming		0.35*
On/off		0.35*
Occupant-sensing device with a separate sensor for each space used in conjunction with daylighting controls and separate sensor for each space and lumen maintenance	Spaces ≤ 250 square feet within a daylit area and enclosed by opaque floor-to-ceiling partitions	0.35*
Continuous dimming		0.45*
Multiple step dimming		0.40*
On/off		0.35*
Occupant-sensing device with a separate sensor for each space used with lumen maintenance	Spaces ≤ 250 square feet and enclosed by opaque floor-to-ceiling partitions	0.35*
Occupant-sensing device with a separate sensor for each space used in conjunction with an automatic time switch control device	Spaces ≤ 250 square feet enclosed by opaque floor to ceiling partitions	0.35*
Manual dimming system	Hotels, motels, restaurants, auditoriums, theaters	0.10
Multiscene programmable dimming system	Hotels, motels, restaurants, auditoriums, theaters	0.20
Occupant-sensing device with programmable multiscene dimming system	Hotels, motels, restaurants, auditoriums, theaters	0.35

\*Note to Table 63.1045: Adjustment factors for occupant-sensing devices are for devices with on-off operation. If devices are used that turn lights down, rather than off, the adjustment factor shall be multiplied by the percent of energy savings that occur while the lights are turned down.

(3) **LIGHTING WATTAGE EXCLUDED.** The watts of the following lighting applications may be excluded from the calculated interior lighting power of the building.

(a) Lighting for theatrical productions and other live performances, television broadcasting, audio-visual presentations, and those portions of entertainment facilities such as stage areas in hotel ballrooms, night clubs, dance floors, churches, and casinos where lighting is an essential technical element for the function performed, if the lighting is an addition to a general lighting system, and if the lighting is separately controlled and accessible only to authorized operators.

(b) Lighting for television, video and film production.

(c) Lighting for photographic processes.

(d) Lighting for the amusement and attraction areas in theme parks.

(e) Lighting for exhibits in areas such as exhibit, convention, and hotel function areas, if the lighting is an addition to a general lighting system, and if the lighting is separately controlled and accessible only to authorized operators.

(f) Specialized local lighting installed in nonlighting process equipment by its manufacturer used to illuminate process related tasks only.

(g) In buildings for medical and clinical care, examination and surgical lights, low-level night lights, and lighting integral to medical equipment.

(h) Lighting fixtures that are an integral part of refrigeration equipment.

(i) Nonretail display lighting required for art exhibits or displays in galleries, museums and monuments.

(j) Special lighting needed for research.

(k) Task lighting for plant growth or maintenance, if it is equipped with an automatic 24-hour time switch that has program back-up capabilities that prevent the loss of the switch's program and time setting for at least 10 hours if power is interrupted.

(L) Exit way or egress illumination that is normally off.

(m) Task lighting specifically designed for primary use by visually impaired, for lip reading, and by senior citizens.

(n) Lighting for informational signs and exit signs, but excluding commercial displays.

Note: See s. Comm 63.1005 (38) for definition of informational sign and s. Comm 63.1052 for exit sign requirements.

(o) Display window lighting in retail facilities provided the display area is separated from the store sales area by opaque ceiling-height partitions.

(p) Lighting in dwelling units that provides complete independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation.

(q) In restaurant buildings and areas, lighting for food warming or integral to food preparation equipment.

(r) Lighting equipment that is for sale.

(s) Lighting demonstration equipment in lighting education facilities.

(4) **LIGHTING FIXTURES THAT ALLOW SUBSTITUTION OF SOURCES.** The watts of track and other lighting fixtures that allow the substitution of low efficacy sources for high efficacy sources without altering the wiring of the fixture shall be determined by this subsection or other method approved by the department.

(a) *Track and busway line-voltage lighting.* The wattage of line-voltage lighting track and plug-in busway that allow the addition and relocation, or both, of luminaries without altering the wiring of the system shall be the specified wattage of the luminaries included in the system with a minimum of 30 W/lin ft.

(b) *Low-voltage lighting systems.* The wattage of low-voltage lighting track, cable conductor, rail conductor, and other flexible lighting systems that allow the addition or relocation, or both, without altering the wiring of the system shall be the specified wattage of the transformer supplying the system.

(c) *Incandescent medium base sockets.* The wattage for medium base fixtures shall be the listed lighting power capacity, in watts, of the fixture.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1046 Calculation of interior lighting power allowance.** The interior lighting power allowance shall be calculated using one of the methods in s. Comm 63.1047, 63.1048 or 63.1049 as applicable.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1047 Complete building method.** The complete building method may be used only on projects involving entire buildings where at least 80 percent of the areas of the building are the same type of use. Under this approach, the interior lighting power allowance is the lighting power density value in Table 63.1047 times the floor area of the entire building. Hotel, motel and residential buildings shall not use this method. Building uses that are not listed in Table 63.1047 shall be assigned the allowed lighting power density given under "All Others."

**Table 63.1047  
Complete Building Method  
Lighting Power Density Values (Watts/ft<sup>2</sup>)**

Type of Use	Allowed Lighting Power Density
Banks and Financial Institutions	1.7
Correctional Housing	1.4
General Commercial and Industrial Work Buildings	1.2
Grocery Store	1.8
Industrial and Commercial Storage Buildings	0.8
Medical Buildings and Clinics	1.5
Office Building	1.5
Religious Worship, Auditorium, and Convention Centers	2.0
Restaurants	1.5
Retail and Wholesale Store	2.6
Schools	1.8
Theaters	1.5
All others	0.8

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1048 Area category method.** Under the area category method, the interior lighting power allowance for the building is the sum of all allowed lighting powers for all areas in the building. The allowed lighting power for an area is the lighting power density in Table 63.1048 times the area. For purposes of the Area Category Method, an "Area" means all contiguous spaces that accommodate or are associated with a single one of the primary functions listed in Table 63.1048. Buildings with primary functions not listed in Table 63.1048 shall not use this method. Where areas are bounded or separated by interior partitions, the floor space occupied by those interior partitions shall not be included in any area. The area shall not include enclosed retail display windows with exempted lighting as described in s. Comm 63.1045 (3) (o). When the Area Category Method is used to calculate the interior lighting power allowance for an entire building, main entry lobbies, corridors, rest rooms, and support functions shall be treated as separate areas.

**Table 63.1048**  
**Area Category Method – Lighting Power**  
**Density Values (Watts/ft<sup>2</sup>)**

<b>Primary Function</b>	<b>Allowed Lighting Power Density</b>
Auditorium	2.0
Auto Repair	2.0
Bank/Financial Institution	1.8
Classrooms	2.0
Convention, Conference and Meeting Centers	1.6
Corridors, Rest Rooms and Support Areas	0.8
Detention Facilities	1.6
Dining	1.2
Exhibit	2.3
Storage Garage	0.2
General Commercial and Industrial Work	1.3
Grocery	2.0
Guest Room or Dorm Room	1.4
Hotel Function	2.3*
Industrial and Commercial Storage	0.6
Kitchen	2.2
Laboratory	3.3
Lobbies:	
Hotel Lobby	2.3*
Main Entry Lobby	1.6*
Malls, Arcades, and Atria	1.2*
Medical and Clinical Care	1.8
Office	1.6
Precision Commercial and/or Industrial Work	2.0
Religious Worship	2.2*
Retail Sales, Wholesale Showrooms	2.8
Theaters:	
Motion Picture	1.0
Performance	1.5*

\* **Note to Table 63.1048:** The smallest of the following values may be added to the allowed lighting power listed in Table 63.1048 for ornamental chandeliers and sconces that are switched or dimmed on circuits different from the circuits for general lighting:

- a. 1 watt per square foot times the area of the space in which the chandelier or sconce is used; or
- b. The actual design wattage of the chandelier or sconce.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1049 Activity method.** Under the activity method, the interior lighting power allowance for a building is determined by calculating a lighting power budget for each space in accordance with subs. (1) to (4) and summing them in accordance with sub. (5).

(1) The lighting power budget of each interior space shall be determined in accordance with the following equation:

$$LPB = A \times UPD \times AF$$

Where:

- LPB = lighting power budget of the space, W
- A = area of the space, ft<sup>2</sup>
- UPD = unit power density, W/ft<sup>2</sup> [Table 63.1049]

AF = area factor of the room [Figure 63.1049]

(a) The UPD shall be selected from Table 63.1049. For applications to areas or activities other than those given, select values for the most similar areas or activities. The UPD for a multifunctional space shall be based on the lowest UPD of any of the activities of the space.

(b) The area factor (AF) shall be determined from Figure 63.1049 based on the room area (A<sub>r</sub>) and ceiling height. The room area shall be calculated from the inside dimensions of the room. Rooms of identical ceiling height and activities may be evaluated as a group. The AF of a group of rooms shall be determined from the average area of these rooms.

The following equation gives the formula used in developing Fig. 63.1049.

$$AF = 0.2 + 0.8(1/0.9^n)$$

Where:

$$n = \left[ \frac{10.21(CH - 2.5)}{\sqrt{A_r}} \right] - 1$$

AF= Area factor

CH= Average ceiling height, ft.

A<sub>r</sub>= Room area, ft<sup>2</sup>

If AF < 1.0, then AF = 1.0

If AF > 1.8, then AF = 1.8

(2) For rooms serving multiple functions such as hotel banquet or meeting rooms and office conference or presentation rooms; an adjustment factor of 1.5 times the UPD may be used if a supplementary system is actually installed and meets all of the following conditions:

(a) The installed power for the supplementary system shall not be greater than 33 percent of the adjusted lighting power budget calculated for that space.

(b) Independent controls shall be installed for the supplementary system.

(3) In rooms containing multiple simultaneous activities, such as a large general office having separate accounting and drafting areas within the same room, the lighting power budget for the rooms shall be the weighted average of the activities in proportion to the areas being served.

(4) The activity of indoor sports areas shall be considered as an area 10 feet beyond the playing boundaries of the sport, not to exceed the total floor area of the indoor sports space less the spectator seating area.

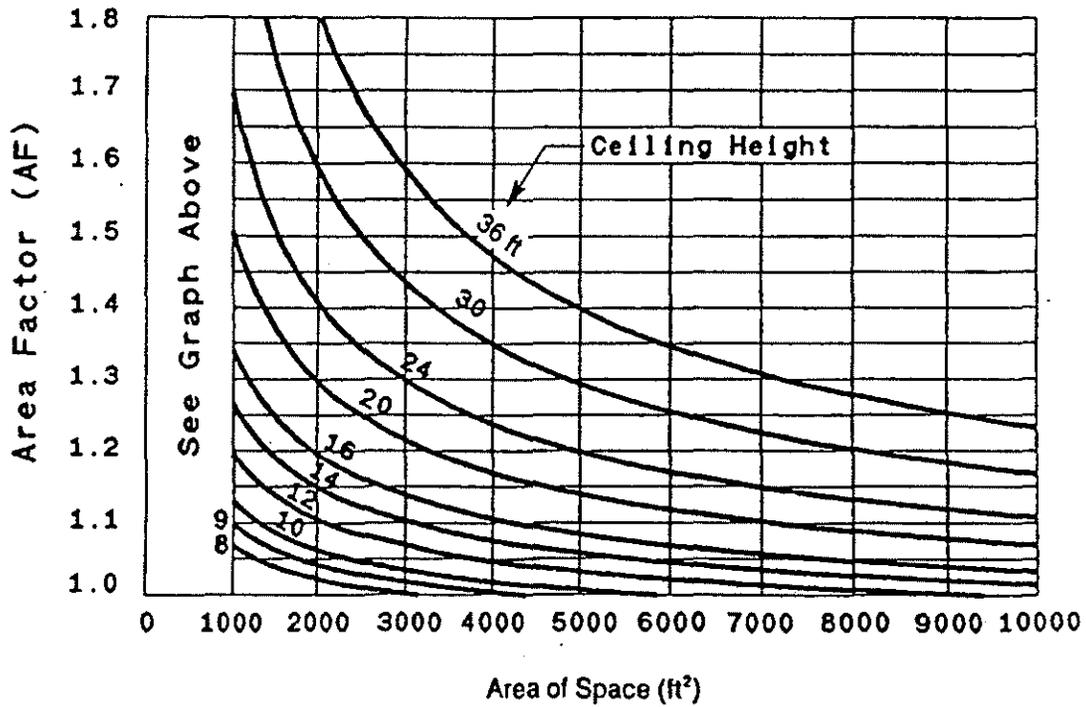
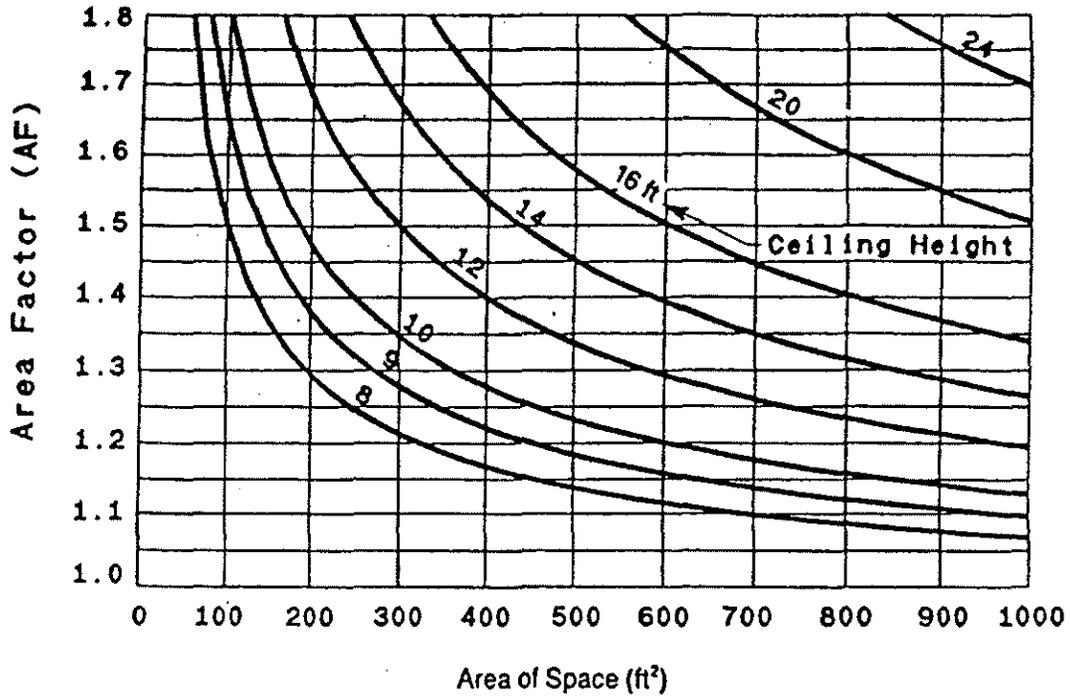
(5) The interior lighting power allowance shall be calculated in accordance with the following equation. The interior lighting power allowance shall include a 0.20 W/ft<sup>2</sup> allowance for unlisted spaces.

$$ILPA = (LPB_1 + LPB_2 + \dots + LPB_n) + (0.20 \text{ W/ft}^2 \times \text{unlisted space area})$$

Where:

- ILPA= interior lighting power allowance, W
- Unlisted space area = GLA – Σ(LS), ft<sup>2</sup>
- GLA= gross lighted area, ft<sup>2</sup>
- LPB= lighting power budget, W
- LS= listed space

Figure 63.1049 Area Factor



**Table 63.1049  
Unit Power Densities**

<b>Part a – Common Activity Areas</b>		
<b>Activity/Area</b>	<b>UPD W/ft<sup>2</sup></b>	<b>Note</b>
Auditorium	1.6	a
Corridor	0.8	b
Classroom/Lecture Hall	2.0	
Electrical/Mechanical Equipment Room		
General	0.7	b
Control Rooms	1.5	b
Food Service		
Fast Food/Cafeteria	1.3	
Leisure Dining	2.5	c
Bar Lounge	2.5	c
Kitchen	1.4	
Recreation/Lounge	0.7	
Stair		
Active Traffic	0.6	
Emergency Exit	0.4	
Toilet and Washroom	0.8	
Garage		
Auto and Pedestrian Circulation Area	0.3	
Parking Area	0.2	
Laboratory	3.0	
Library		
Audio/Visual	1.1	
Stack Area	1.5	
Card File and Cataloging	1.6	
Reading Area	1.9	
Lobby (General)		
Reception and Waiting	1.0	
Elevator Lobbies	0.8	
Atrium (Multistory)		
First Three Floors	0.7	
Each Additional Floor	0.2	
Locker Room and Shower	0.8	
Office Category 1 ( <i>Enclosed offices, all open plan offices without partitions or with partitions* lower than 4.5 feet below the ceiling</i> )		
Reading, Typing and Filing	1.8	d
Drafting	2.6	d
Accounting	2.1	d
Office Category 2 ( <i>Open plan offices 900 square feet or larger with partitions* 3.5 to 4.5 feet below the ceiling. Offices less than 900 square feet shall use Category 1</i> )		

Reading, Typing and Filing	1.9	b
Drafting	2.9	b
Accounting	2.4	b
<i>Office Category 3 (Open plan offices 900 square feet or larger with partitions* higher than 3.5 feet below the ceiling. Offices less than 900 square feet shall use Category 1)</i>		
Reading, Typing and Filing	2.2	b
Drafting	3.4	b
Accounting	2.7	b
<b>Common Activity Areas</b>		
Conference Meeting Room	1.8	a
Computer Office Equipment	2.1	
Filing, Inactive	1.0	
Mail Room	1.8	
<b>Shop</b>		
Machinery	2.5	
Electrical/Electronic	2.5	
Painting	1.6	
Carpentry	2.3	
Welding	1.2	
<b>Storage and Warehouse</b>		
Inactive Storage	0.3	
Active Storage, Bulky	0.3	
Active Storage, Fine	1.0	
Material Handling	1.0	
Unlisted Space	0.2	

\* Not less than 90 percent of all work stations shall be individually enclosed with partitions of at least the height described.

**Part b – Specific Buildings**

<b>Activity/Area</b>	<b>UPD W/ft<sup>2</sup></b>	<b>Note</b>
<b>Airport, Bus and Rail Station</b>		
Baggage Area	1.0	
Concourse/Main Thruway	0.9	
Ticket Counter	2.5	
Waiting and Lounge Area	1.2	
<b>Bank</b>		
Customer Area	1.1	
Banking Activity Area	2.8	
Barber and Beauty Parlor	2.0	
<b>Church, Synagogue, Chapel</b>		
Worship/Congregational	2.5	
Preaching and Sermon	2.7	
<b>Dormitory</b>		
Bedroom	1.1	
Bedroom With Study	1.4	
Study Hall	1.8	

**Part b – Specific Buildings (Continued)**

Activity/Area	UPD W/ft <sup>2</sup>	Note
<b>Fire and Police Department</b>		
Fire Engine Room	0.7	
Detention Dayroom	1.5	
Jail Cell	1.2	
<b>Hospital/Nursing Home</b>		
Corridor	1.3	b
Dental Suite/Examination/Treatment	1.6	
Emergency	2.3	
Laboratory	3.0	
Lounge/Waiting Room	0.9	
Medical Supplies	2.4	
Nursery	2.0	
Nurse Station	2.1	
Occupational Therapy/Physical Therapy	1.6	
Patient Room	1.4	
Pharmacy	1.7	
Radiology	2.1	
<b>Surgical and O.B. Suites</b>		
General Area	2.1	
Operating Room	7.0	
Recovery	2.3	
<b>Hotel/Conference Center</b>		
Banquet Room/Multipurpose	2.4	a
Bathroom/Powder Room	1.2	
Guest Room	1.4	
Public Area	1.2	
Exhibition Hall	2.6	
Conference/Meeting	1.8	a
Lobby	1.9	
Reception Desk	2.4	
<b>Laundry</b>		
Washing	0.9	
Ironing and Sorting	1.3	
<b>Museum and Gallery</b>		
General Exhibition	1.9	
Inspection/Restoration	3.9	
<b>Storage (Artifacts)</b>		
Inactive	0.6	
Active	0.7	
<b>Post Office</b>		
Lobby	1.1	
Sorting and Mailing	2.1	
<b>Service Station/Auto Repair</b>		
	1.0	
<b>Theater</b>		
Performance Arts	1.5	
Motion Picture	1.0	

Lobby	1.5	
<b>Retail Establishments</b>		
<b>Merchandising and Circulation Area –</b> Applicable to all lighting, including accent and display lighting, installed in merchandising and cir- culation areas		
	2.2	g
Mall Concourse	1.4	
<b>Retail Support Areas</b>		
Tailoring	2.1	
Dressing/Fitting Rooms	1.4	

**Part c – Indoor Athletic Areas<sup>e,f</sup>**

Activity/Area	UPD W/ft <sup>2</sup>
Seating Area, All Sports	0.4
<b>Badminton</b>	
Club	0.5
Tournament	0.8
<b>Basketball/Volleyball</b>	
Intramural	0.8
College	1.3
Professional	1.9
<b>Bowling</b>	
Approach Area	0.5
Lanes	1.1
<b>Boxing or Wrestling (platform)</b>	
Amateur	2.4
Professional	4.8
<b>Gymnasium</b>	
General Exercising and Recreation Only	1.0
<b>Handball/Raquetball/Squash</b>	
Club	1.3
Tournament	2.6
<b>Hockey, Ice</b>	
Amateur	1.3
College or Professional	2.6
<b>Skating Rink</b>	
Recreational	0.9
Exhibition/Professional	2.6
<b>Swimming</b>	
Recreational	0.9
Exhibition	1.5
Under Water	1.0
<b>Tennis</b>	
Recreational (Class III)	1.3
Club/College (Class II)	1.9
Professional (Class I)	2.6
<b>Tennis, Table</b>	
Club	1.0
Tournament	1.6

**Notes for Table 63.1049:**

- a A 1.5 power adjustment factor is applicable for multifunctional spaces.
  - b Area factor of 1.0 shall be used for these spaces.
  - c UPD includes lighting power required for clean-up purpose.
  - d Area factor shall not exceed 1.55.
  - e Area factor of 1.0 shall be used for all indoor athletic spaces.
  - f Facilities that are used for more than one level of play shall have appropriate switching between the different levels specified in Table 63.1049. Dimming shall not be used to accomplish the reduction in illumination. The illumination at all levels shall be uniform.
  - g Where lighting equipment is specified to be installed to highlight specific merchandise in addition to lighting equipment specified for general lighting and is switched or dimmed on circuits different from the circuits for general lighting, the smaller of the actual wattage of the lighting equipment installed specifically for merchandise, or 0.8 W/ft<sup>2</sup> times the floor area of the display area shall be added to the interior lighting power determined in accordance with this line item.
- History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1050 Lighting controls that must be installed.** (1) **AREA CONTROLS.** (a) Except as provided in pars. (c) and (d), each interior area enclosed by ceiling-height partitions shall have an independent switching or control device. This switching or control device shall comply with all of the following:

1. Be readily accessible.
2. Located so that a person using the device can see the lights or area controlled by that switch, or so that the area being lit is annunciated.
3. Be manually operated, or automatically controlled by an occupant-sensing device that meets the requirements of s. Comm 63.1051 (4).

(b) Other devices may be installed in conjunction with the switching or control device required by par. (a) provided that they:

1. Permit the required switching or control device to override the action of the other devices; and
2. Reset the mode of any automatic system to normal operation without further action.

(c) Up to one-half watt per square foot of lighting in any area within a building that must be continuously illuminated for reasons of building security or emergency egress are exempt from par. (a) if:

1. The area is designated a security or emergency egress area on the plans and specifications submitted to the department; and
2. The area is controlled by switches accessible only to authorized personnel.

(d) Public areas with switches that are accessible only to authorized personnel are exempt from the area control requirements of par. (a).

(2) **CONTROLS TO REDUCE LIGHTING.** (a) Except as provided in par. (b), the general lighting of any enclosed interior space 100 square feet or larger in which the connected lighting load exceeds 1.2 watts per square foot for the space as a whole, and that has more than one light source or luminaire, shall be controlled so that the load for the lights may be reduced by at least one-half while maintaining a reasonably uniform level of illuminance throughout the area. A reasonably uniform reduction of illuminance shall be achieved by one of the following:

1. Controlling all lamps or luminaires with dimmers.
2. Dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps.
3. Switching the middle lamps of three lamp luminaires independently of the outer lamps.
4. Switching each luminaire or each lamp.
5. Other methods approved by the department.

(b) The requirements of par. (a) do not apply to any of the following:

1. Lights in areas that are controlled by an occupant-sensing device that meets the requirements of s. Comm 63.1051 (4).
2. Lights in corridors.

3. Lights in areas that are controlled by an automatic time switch control device that has a timed manual override available at each switch location required by sub. (1), and that controls only the lights in that area enclosed by ceiling height partitions.

(3) **DAYLIT AREAS.** (a) Except as provided in par. (b), daylight areas in any interior enclosed space greater than 250 square feet and a lighting density more than 1.2 W/ft<sup>2</sup> shall meet the requirements of subs. 1. and 2.

1. Such areas shall have at least one control that complies with all of the following:

- a. Controls only luminaires in the daylight area.
- b. Controls at least 50% of the lamps or luminaires in the daylight area, in a manner described in sub. (2)(a) 1. to 5., independently of all other lamps or luminaires in the enclosed space. The other luminaires in the enclosed space may be controlled in any manner allowed by sub. (2) (a) 1. to 5.

2. Such areas shall have controls that control the luminaires in each vertically daylight area separately from the luminaires in each horizontally daylight area.

(b) The requirements of this subsection do not apply to any of the following:

1. Daylit areas where the effective aperture of glazing is equal or less than 0.1 for vertical glazing and 0.01 for horizontal glazing.
2. Daylit areas where existing adjacent structures or natural objects obstruct daylight to the extent that effective use of daylighting is not feasible.

(4) **SHUT-OFF CONTROLS.** (a) Except as provided in par. (b), for every floor or metered space, all interior lighting systems shall be equipped with at least one separate automatic control to shut off the lighting. This automatic control shall meet the requirements of s. Comm 63.1051 and may be an occupancy sensor, automatic time switch, or other device capable of automatically shutting off the lighting.

(b) The requirements of par. (a) do not apply to any of the following:

1. Buildings or separately metered spaces of less than 5,000 square feet of space.
2. Where the system is serving an area that must be continuously lit, or where the use of the space prohibits the use of a preestablished lighting program.

**Note:** Service equipment rooms as specified in NEC 110-26 (3) (d) are covered by this exception.

3. In residential buildings, hotels and motels, lighting of corridors, guest rooms, and lodging quarters.

4. Up to one-half watt per square foot of lighting in any area within a building that must be continuously illuminated for reasons of building security or emergency egress, if:

- a. The area is designated a security or emergency egress area on the plans and specifications submitted to the department; or
- b. The area is controlled by switches accessible only to authorized personnel.

(c) If an automatic time switch control device is installed to comply with par. (a), it shall incorporate an override switching device that complies with all of the following:

1. Is readily accessible.
2. Is located so that a person using the device can see the lights or the area controlled by that switch, or so that the area being lit is annunciated.
3. Is manually operated.
4. Allows the lighting to remain on for no more than two hours when an override is initiated.
5. Controls an area not exceeding 20,000 square feet in malls, auditoriums, gymnasiums, single tenant retail spaces, factories, warehouses and arenas, and not exceeding 5,000 square feet for other uses.

6. Two overrides may be provided for a maximum of 10,000 square feet if the lighting is dual level controlled in accordance with sub. (2) (a) 2. or 3.

(5) **DISPLAY LIGHTING CONTROLS.** Display lighting shall be separately switched on circuits that are 20 amps or less.

(6) **EXTERIOR LIGHTING CONTROLS.** Except in lighting in parking garages, tunnels, and large covered areas that require illumination during daylight hours, exterior lighting shall be controlled by a directional photocell or astronomical time switch that automatically turns off the exterior lighting when daylight is available. Time switches shall be equipped with back-up provisions to keep time during a power outage of 10 hours or more.

(7) **HOTEL AND MOTEL GUEST ROOM CONTROLS.** Hotel and motel guest rooms or suites excluding bathrooms shall have one or more master switches at the main entry door or at the entry door of each room that turn off all permanently wired lighting fixtures and switched receptacles in the room or suite.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1051 Requirements for lighting control devices.**

Automatic time switch control devices, occupant-sensing devices, automatic daylighting control devices, lumen maintenance control devices, or interior photocell sensor devices that are used to justify a wattage reduction factor in the calculation of the actual internal lighting power in s. Comm 63.1045 (2) shall be approved for compliance with all of the applicable requirements of subs. (1) to (7) and shall be installed in compliance with sub. (8). Approval of devices shall be obtained via the material approval program in accordance with ch. Comm 61 or via manufacturer certification to the California Energy Commission.

Note: Information on California Energy Commission Certification may be obtained from the California Energy Commission, Energy Efficiency and Demand Analysis Division, 1516 9th Street, MS-25, Sacramento, CA 95814, (916) 654-4080. A list of approved control devices is available on the internet at <http://38.144.192.166/pub/efftech/appliance/>.

(1) **ALL DEVICES: INSTRUCTIONS FOR INSTALLATION AND CALIBRATION.** The manufacturer shall provide step-by-step instructions for installation and start-up calibration of the device.

(2) **ALL DEVICES: STATUS SIGNAL.** The device shall have an indicator that visibly or audibly informs the device operator that it is operating properly, or that it has failed or malfunctioned, except for photocell sensors or other devices where a status signal is infeasible because of inadequate power.

(3) **AUTOMATIC TIME SWITCH CONTROL DEVICES.** Automatic time switch control devices shall comply with all of the following:

(a) Be capable of programming different schedules for weekdays and weekends.

(b) Incorporate an automatic "holiday shut-off" feature that turns off all loads for at least 24 hours, then resumes the normally scheduled operation.

(c) Have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted.

(4) **OCCUPANT-SENSING DEVICES.** Occupant-sensing devices shall be capable of automatically controlling all the lights in an area no more than 30 minutes after the area has been vacated. In addition, ultrasonic and microwave devices shall have a built-in mechanism that allows calibration of the sensitivity of the device to room movement in order to reduce the false sensing of occupants and shall comply with either par. (a) or (b), as applicable:

(a) If the device emits ultrasonic radiation as a signal for sensing occupants within an area, the device shall comply with all of the following:

1. Have had an Initial Report submitted to the Bureau of Radiological Health, Federal Food and Drug Administration, under 21 CFR 1002.10.

2. Emit no audible sound.

3. Not emit ultrasound in excess of the decibel (dB) values given in Table 63.1051 measured no more than 5 feet from the source on axis.

**Table 63.1051  
Maximum Ultrasound Emissions**

Midfrequency of Sound Pressure Third-Octave Bank (in kHz)	Maximum dB Level within Third-Octave B and (in dB reference 20 micropascals)
less than 20	80
20 or more to less than 25	105
25 or more to less than 31.5	110
31.5 or more	115

(b) If the device emits microwave radiation as a signal for sensing occupants within area, the device shall comply with all of the following:

1. Comply with all applicable provisions in 47 CFR Part 5, and have an approved Federal Communications Commission identification number that appears on all units of the device and that has been submitted to the department.

2. Not emit radiation in excess of 1 milliwatt per square centimeter measured at no more than 5 centimeters from the emission surface of the device.

3. Have permanently affixed to it installation instructions recommending that it be installed at least 12 inches from any area normally used by room occupants.

(5) **AUTOMATIC DAYLIGHTING CONTROL DEVICES.** Automatic daylighting control devices shall comply with all of the following:

(a) Be capable of reducing the light output of the general lighting of the controlled area by at least one-half while maintaining a uniform level of illuminance throughout the area.

(b) If the device is a dimmer, provide electrical outputs to lamps for reduced flicker operation through the dimming range and without causing premature lamp failure.

(c) If the device is a stepped dimming system, incorporate time delay circuits to prevent cycling of light level changes of less than three minutes.

(d) If the device uses step switching with separate "on" and "off" settings for the steps, have sufficient separation or deadband of "on" and "off" points to prevent cycling.

(e) Have provided by the manufacturer step-by-step instructions for installation and start-up calibration to design foot-candle levels.

(6) **LUMEN MAINTENANCE CONTROL DEVICES.** Lumen maintenance control devices shall comply with all of the following:

(a) Be capable of reducing the light output of the general lighting of the controlled area by at least 30% while maintaining a uniform illuminance throughout the area.

(b) Provide electrical outputs to lamps for reduced flicker operation through the dimming range and without causing premature lamp failure.

(c) Incorporate an alarm, either audible or visible, to announce when a specified setpoint of lumens or watts has been reached.

(d) Have provided by the manufacturer step-by-step instructions for installation and start up calibration to design foot-candle levels.

(7) **INTERIOR PHOTOCCELL SENSOR DEVICES.** Interior photocell sensors shall not have a mechanical slide cover or other device that permits easy unauthorized disabling of the control, and shall not be incorporated into a wall-mounted occupant-sensing device.

(8) **INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.** If an automatic time switch control device, occupant-sensing device, automatic daylighting control device, lumen

maintenance control device, or interior photocell sensor device is installed, it shall comply with both pars. (a) and (b).

(a) The device shall be installed in accordance with the manufacturer's instructions.

(b) Automatic daylighting control devices and lumen maintenance control devices shall:

1. Be installed so that automatic daylighting control devices control only luminaries within the daylit area; and

2. Have photocell sensors that are either ceiling mounted or located so that they are accessible only to authorized personnel, and that are located so that they maintain adequate illumination in the area according to the designer's or manufacturer's instructions.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1052 Exit signs.** Exit signs shall have an installed wattage of 20 watts or less.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 63.1053 Reduction of single lamp ballasts.**

The following luminaries located within the same room shall be tandem wired or provided with three-lamp ballasts:

(1) One-lamp or three-lamp fluorescent luminaries recess-mounted within 10 feet center-to-center of each other.

(2) One-lamp or three-lamp fluorescent luminaries pendant- or surface-mounted within one foot edge-to-edge of each other.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

#### ***Part 6 — Nondepletable Energy Source***

**Comm 63.1060 Buildings utilizing solar, geothermal, wind or other nondepletable energy source.** Any building, or portion thereof, utilizing any nondepletable energy source shall meet all the requirements in IECC section 806.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

#### ***Part 7 — System Analysis Design***

**Comm 63.1070 System analysis design.** A building designed using system analysis design shall comply with IECC section 806.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

## Chapter Comm 64

### HEATING, VENTILATING AND AIR CONDITIONING

#### Subchapter I — Purpose, Scope, Application and Compliance

Comm 64.0001	Purpose and scope.
Comm 64.0002	Application.
Comm 64.0003	Compliance.
Comm 64.0004	Approval of drawings and specifications.

#### Subchapter II — Changes, Additions or Omissions to the International Mechanical Code (IMC)

Comm 64.0100	Changes, additions or omission to the International Mechanical Code® (IMC).
Comm 64.0101	General.
Comm 64.0102	Applicability.
Comm 64.0202	Definitions.
Comm 64.0300	Specific criteria for operating rooms and autopsy rooms.
Comm 64.0301	General regulations.
Comm 64.0304	Installation.
Comm 64.0306	Access and service space.
Comm 64.0309	Temperature control.
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Comm 64.0313	Other requirements.
Comm 64.0401	Ventilation.
Comm 64.0402	Natural ventilation.

Comm 64.0403	Mechanical ventilation.
Comm 64.0404	Enclosed parking garages.
Comm 64.0501	Required systems.
Comm 64.0502	Required systems.
Comm 64.0506	Commercial kitchen grease ducts and exhaust equipment.
Comm 64.0507	Capacity of hoods.
Comm 64.0603	Duct construction and insulation.
Comm 64.0604	Insulation.
Comm 64.0605	General.
Comm 64.0606	Smoke detection system control.
Comm 64.0702	Inside air.
Comm 64.0710	Opening location and protection.
Comm 64.0801	Chimneys and vents.
Comm 64.0900	Specific criteria for duct humidifiers.
Comm 64.0918	Forced-air warm-air furnaces.
Comm 64.1001	Boilers, water heaters and pressure vessels.
Comm 64.1101	Refrigeration.
Comm 64.1201	Hydronic piping.
Comm 64.1300	Fuel oil piping and storage.
Comm 64.1500	Referenced standards.
Comm 64.1600	Appendices.

**Note:** Chapter Comm 64 as it existed on June 30, 2002 was repealed and a new chapter Comm 64 was created, Register December 2001 No. 552, effective July 1, 2002.

**Note:** Chapter ILHR 64 was renumbered to be Chapter Comm 64 under s. 13.93 (2m) (b) 1., Stats., and corrections made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1998, No. 513.

**Note:** Chapter ILHR 64 was revised in December, 1995 effective April 1, 1996. On April 6, 1996 the department of industry, labor and human relations published an emergency rule stating that the effective date of the December, 1995 rule version was delayed. A permanent rule was adopted in December, 1996 stating that the revised text of ch. ILHR 64, as published, would be effective April 1, 1997.

**Note:** Chapter Ind 59 as it existed on December 31, 1975 was repealed and a new chapter Ind 64 was created effective January 1, 1976. Chapter Ind 64 was renumbered to be chapter Comm 64 effective January 1, 1984. Chapter ILHR 64 as it existed on March 31, 1997 was repealed and a new chapter ILHR 64 was created effective April 1, 1997. Corrections made under s. 13.93 (2m) (b) 1. and 7., Stats., Register, March, 1997, No. 495.

#### Subchapter I — Purpose, Scope, Application and Compliance

**Comm 64.0001 Purpose and scope. (1) PURPOSE.** (a) The purpose of this chapter is to regulate the design, installation, operation and maintenance of heating, ventilating and air conditioning systems in buildings and structures as specified in ch. Comm 61.

(b) The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by ch. Comm 65.

(c) Fixed electric space heating equipment shall comply with ch. Comm 16.

**(2) SCOPE.** The scope of this chapter is as specified in s. Comm 61.02.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0002 Application. (1) GENERAL.** The application of this chapter is as specified in s. Comm 61.03 and as modified in this section.

**(2) APPLICABILITY.** All heating, ventilating and air conditioning systems shall be designed, installed, maintained and operated so as to provide the service and results required within the provisions of this chapter. The minimum requirements established in each part of this chapter shall be complied with as they apply to the structures and facilities covered in the IBC.

**Note:** The administrative rules pertaining to energy conservation, ch. Comm 63, may be applied retroactively to existing buildings and structures.

**(3) EXISTING SYSTEMS.** The provisions for existing systems shall be as specified in pars. (a) and (b).

(a) **Additions.** 1. The provisions of this chapter shall apply to all additions to existing buildings and structures as specified in s. Comm 61.03.

2. Except when an existing heating, ventilating and air conditioning system is extended to serve an addition, existing system components are not required to be replaced if the provisions in this chapter are met within the addition.

(b) **Alterations.** 1. The provisions of this chapter shall apply to all alterations in any building or structure which affect the replacement of major equipment as specified in s. Comm 61.03.

2. When an existing heating, ventilating and air conditioning system serves a remodeled or altered space that has not undergone a change in occupancy classification, the existing system components are not required to be replaced if the provisions in this chapter that applied to the original construction of the space are met.

**Note:** "Occupancy classification" refers to the entries in Table 64.0403.

**Note:** Compliance with this chapter shall not constitute assurance of proper installation or operation of the heating, ventilating and air conditioning system. This chapter is not to be used as a design manual, but it is established as a minimum standard for safety, health and general welfare of the public.

**Note:** Maintenance and repair to existing equipment when there is no change to the building or occupancy, is considered an alteration.

**(4) RETROACTIVITY.** Retroactivity shall apply as specified in s. Comm 61.03.

**(5) CONFLICTS.** Conflicts between rules and other requirements shall apply as specified in s. Comm 61.03.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0003 Compliance.** All buildings and structures shall comply with the IMC and the changes, additions or omissions under subch. II.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0004 Approval of drawings and specifications.** All drawings and specifications shall be submitted to the department in accordance with the provisions of subch. III of ch. Comm 61.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

## Subchapter II — Changes, Additions or Omissions to the International Mechanical Code (IMC)

**Comm 64.0100 Changes, additions or omission to the International Mechanical Code® (IMC).** Changes, additions or omission to the international mechanical code are specified in this subchapter and are rules of the department and are not requirements of the IMC.

**Note:** This code subchapter is numbered to correspond to the numbering used within the model code; i.e., s. Comm 64.0102 refers to section IMC 102.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0101 General. (1) ADMINISTRATION.** (a) The requirements in IMC section 101 are not included as part of this chapter.

(b) The requirements in IMC sections 102.1, 102.2, 102.4 to 102.7 and 102.9 are not included as part of this chapter.

**(2) SCOPE.** The requirements of IMC sections 103 to 107, 108.1 to 108.6 and 109 are not included as part of this chapter.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0102 Applicability.** This is a department rule in addition to the requirements in IMC section 102.3:

**(1)** The designer or installer shall provide the owner with written instructions for the operation and maintenance of the system and equipment. An operating and maintenance manual shall be provided to the building owner or operator. The manual shall include basic data relating to the operation and maintenance of heating, ventilating and air conditioning (HVAC) systems and equipment.

**(2)** Required routine maintenance actions shall be clearly identified. Where applicable, HVAC controls information such as diagrams, schematics, control sequence descriptions, and maintenance and calibration information shall be included.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0202 Definitions. (1) ADDITIONS.** These are department definitions in addition to the definitions in IMC section 202:

(a) "Air change" means the introduction of new, cleaned or recirculated air to a space.

(b) "Air change rate" means airflow in volume units per hour divided by the building space volume in identical volume units.

(c) "DHFS" means the department of health and family services.

(d) "Spot heating" means to provide heat to raise the air temperature to the required minimum in the immediate area of the occupants.

**(2) SUBSTITUTIONS.** Substitute the following meanings for the corresponding definitions in IMC section 202:

(a) "Approved" means acceptable to the department.

(b) "Unusually tight construction" has the meaning given in s. Comm 65.0201.

**Note:** Section Comm 65.0201 reads: "Unusually tight construction" means the total area of outdoor openings is less than 3% of the floor area of the space in which equipment is located."

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. (2) (b), renum. (2) (c) to be (2) (b) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0300 Specific criteria for operating rooms and autopsy rooms.** This is a department rule in addition to the requirements in IMC chapter 3: In operating rooms of hospitals and ambulatory surgery centers rooms and autopsy rooms, the bottoms of ventilation supply and return openings shall be at least 3 inches above the floor.

**History:** CR 01-135: cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0301 General regulations. (1) ENERGY UTILIZATION.** This is a department informational note to be used under IMC section 301.2:

**Note:** See ch. Comm 63 for additional requirements.

**(2) LISTED AND LABELED.** Substitute the following wording for the requirements in IMC section 301.4:

(a) *General.* All appliances regulated by this chapter shall be listed and labeled as specified in this chapter, unless approved by the department in accordance with par. (b) or the product approval criteria in s. Comm 61.60.

(b) *Unlisted equipment.* The department may approve an installation of unlisted equipment after receipt of all of the following:

1. A statement from the equipment manufacturer indicating the national standard with which the equipment complies.

2. The results of a test conducted by a Wisconsin registered engineer on the output and safety controls in accordance with the national standard used by the manufacturer.

**(3) ELECTRICAL.** Substitute the following wording for the requirements in IMC section 301.7: Electrical wiring, controls and connections to equipment and appliances regulated by this chapter shall be in accordance with ch. Comm 16.

**(4) PLUMBING CONNECTIONS.** Substitute the following wording for the requirements in IMC section 301.8: Potable water supply and building drainage system connections to equipment and appliances regulated by this chapter shall be in accordance with chs. Comm 81 to 87.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. and recr. (2) (a) and (b) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0304 Installation.** This is a department informational note to be used under IMC section 304.2:

**Note:** See s. Comm 61.03 (2) for clarification on the application of different requirements and where the most restrictive requirements apply.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0306 Access and service space.** This is a department exception to the requirements in IMC section 306.6: These provisions do not apply when the installation consists of fans only.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0309 Temperature control.** Substitute the following wording for the requirements and exception in IMC section 309:

**(1) HEATING SYSTEM DESIGN.** Except as provided in sub. (2) or (3), the heating system shall be designed and operated to maintain a temperature of not less than that shown in Table 64.0403 at 3 feet above the floor within the occupied space during occupied periods.

**(2) SPOT HEATING.** Spot heating may be used to heat individual fixed work stations in industrial buildings in lieu of heating the entire space as specified in sub. (1), provided the inside design temperature at the fixed work station is at least 60°F.

**(3) SEASONAL OCCUPANCIES.** When approved by the department, heating requirements may be waived, but not ventilation required by this chapter, during the period of May 15 through September 15 for the following or similar occupancies: drive-in eating places, club houses, outdoor toilets, camp lodge buildings, canning factories and migrant labor camps.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135: am. (1) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0312 Heating and cooling load calculations.** This is a department informational note to be used under IMC section 312:

**Note:** For design parameters in the IECC refer to ch. Comm 63 or IECC section 803.

**History:** CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0313 Other requirements.** These are department rules in addition to the requirements in IMC chapter 3:

**(1) BALANCING, FINAL TEST REQUIRED.** Every heating, ventilating and air conditioning system shall be balanced upon installation. The person or agency responsible for balancing of the venti-

lating system shall document in writing the amount of outdoor air being provided and distributed for the building occupants and any other specialty ventilation. The document shall be retained at the site and shall be made available to the department upon request.

(a) Air systems shall be balanced in a manner to minimize losses from damper throttling by first adjusting fan speed then adjusting dampers to meet design flow conditions. Balancing procedures shall be acceptable to the department. Damper throttling alone may be used for air system balancing with fan motors of 1 hp or less, or if throttling results in no greater than 1/3 hp fan horsepower draw above that required if the fan speed were adjusted.

(b) Either of the following test methods shall be used:

1. Hydronic systems shall be balanced in a manner to minimize valve throttling losses by first trimming the pump impeller or adjusting the pump speed then adjusting the valves to meet design flow conditions.

2. Valve throttling alone may be used for hydronic system balancing under any of the following conditions as specified in subd. 2. a. to d.

a. Pumps with pump motors of 10 hp or less.

b. If throttling results in no greater than 3 hp pump horsepower draw for pumps of 60 hp or less, or no greater than 5% of pump horsepower draw for pumps greater than 60 hp, above that required if the impeller were trimmed.

c. To reserve additional pump pressure capability in open circuit piping systems subject to fouling. Valve throttling pressure drop shall not exceed that expected for future fouling.

d. Where it can be shown that throttling will not increase overall building energy costs.

Note: National Environmental Balancing Bureau (NEBB) Procedural Standards, the Associated Air Balance Council (AABC) National Standards, the Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), or equivalent balancing procedures are acceptable to the department.

(2) **BALANCING, PROPER WORKING CONDITION.** HVAC control systems shall be tested to assure that control elements are calibrated, adjusted and in proper working condition.

(3) **BALANCING, OPERATING AND MAINTENANCE MANUAL.** An operating and maintenance manual shall be provided to the building owner or operator. The manual shall include basic data relating to the operation and maintenance of HVAC systems and equipment. Required routine maintenance actions shall be clearly identified. Where applicable, HVAC controls information such as diagrams, schematics, control sequence descriptions, and maintenance and calibration information shall be included.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0401 Ventilation. (1) VENTILATION REQUIRED.** Substitute the following wording for the requirements in IMC section 401.2: Every occupied space shall be ventilated by natural means in accordance with IMC section 402 or by mechanical means in accordance with IMC section 403 and as specified in Table 64.0403.

(2) **WHEN REQUIRED.** Substitute the following wording for the requirements in IMC section 401.3:

(a) *Outside air.* Mechanical ventilation systems shall be operated to provide a continuous source of outside air to all areas while people are present.

(b) *Operation.* 1. Except as provided in subd. 2., the required building exhaust ventilating systems shall operate continuously when people are in the building to provide the amount of exhaust specified in Table 64.0403.

Note: Chapter Comm 32 may require continuous operation of some exhaust systems, such as purging systems, chloride storage exhaust or industrial exhaust.

2. Subdivision 1. does not apply to all of the following:

a. Toilet rooms with 2 or fewer total water closets or urinals if the required ventilation is provided when the room is occupied.

b. Shower rooms with 2 or fewer showerheads if the required ventilation is provided when the room is occupied.

c. Common residential laundry rooms with a total of 4 or fewer washers and dryers if the required ventilation is provided when the room is occupied.

d. Mechanical exhaust systems for natatoriums even when the building is not occupied.

(3) **EXITS.** Substitute the following wording for the requirements in IMC section 401.4: Vestibule ventilation for smokeproof enclosures shall be in accordance with the IBC.

(4) **INTAKE OPENINGS.** (a) Substitute the following wording for the requirements in IMC section 401.5.1:

1. Mechanical and required gravity outside air intake openings shall be located a minimum of 10 feet from any hazardous or noxious contaminant such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks, except as otherwise specified in this chapter. Where a source of contaminant is located within 10 feet of an intake opening, such opening shall be located a minimum of 2 feet below the contaminant source.

2. The lowest side of outside air intake required openings shall be located at least 12 inches vertically from the adjoining grade level, above adjoining roof surfaces, or above the bottom of an areaway.

3. If an outside air intake is located in an areaway, the areaway shall have a horizontal cross section equal to or greater than the free area of the outside air intake opening.

4. For health care facilities all of the following shall apply:

a. Except as provided under subd. 4. b., outdoor air intakes shall be located at least 25 feet from exhaust outlets of ventilating systems, combustion equipment stacks, medical-surgical vacuum systems, plumbing vents or areas that may collect vehicular exhaust or other noxious fumes.

b. Plumbing and vacuum vents that terminate at a level above the top of the air intake may be located as close as 10 feet to an outdoor air intake.

c. The bottom of outdoor air intakes serving central systems shall be located at least 6 feet above ground level or, when installed above the roof, at least 3 feet above roof level.

d. Exhaust outlets from areas that may be contaminated shall be located above roof level and arranged to minimize recirculation of exhaust air into the building.

(b) These are department exceptions in addition to the requirements in IMC section 401.5.1:

1. The setback distances as specified in IMC section 401.5.1 shall not apply to the combustion air intake of a direct vent appliance.

2. Unless a greater distance is specified by the manufacturer, exhaust openings for 100 cfm or less discharge shall be located at least 12 inches, measured in any direction, from doors or openable windows.

3. The 10-foot minimum separation does not apply to the intake and exhaust of a factory-packaged rooftop unit or other listed outdoor appliance provided nothing restricts air flow around the unit. The exhaust and intake of the unit shall be located to minimize contamination of outside air.

4. Unless a greater distance is specified by the manufacturer, product of combustion outlets of direct vent appliance vents shall terminate at least 12 inches measured in any direction from doors or openable windows.

5. Where it can be demonstrated that an engineered system design will prevent the maximum concentration of contaminants brought in through the outside air intake from exceeding the maximum contaminant concentration obtainable by providing the separation distances in accordance with sub. (4) (a), the outdoor air intakes may be located in accordance with such engineered system design.

**Note:** See ch. Comm 82 for plumbing vent setbacks. That rule requires plumbing vents to be 10 feet from air intakes and 10 feet horizontally from or 2 feet above roof scuttles, doors or openable windows.

**Note:** See NFPA standard 45, Fire Protection for Laboratories Using Chemicals, adopted under ch. Comm 10, for chemical fume hood exhaust location. Health care and related facilities may have additional requirements.

**(5) EXHAUST OPENINGS.** These are department rules in addition to the requirements in IMC section 401.5.2:

(a) *Gravity ventilation ducts.* Gravity ventilation ducts shall extend not less than 2 feet above the highest portion of the building within a 10-foot radius of the duct and shall be provided with a siphon roof ventilator.

(b) *Barometric relief vents.* Where barometric relief vents are installed on the roof, the discharge openings shall be no less than 2 feet above the roof surface where the vent pierces the roof.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135; r. and recr. (4) (a) (intro.), cr. (4) (a) 4. and (b) 5., CR 01-139; r. and recr. (4) (a) 3., am. (4) (b) 2. Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0402 Natural ventilation.** This is a department rule in addition to the requirements in IMC section 402: Natural ventilation shall be permitted only in areas specified in Table 64.0403.

**History:** CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0403 Mechanical ventilation. (1) VENTILATION SYSTEMS.** Substitute the following wording for the requirements in IMC section 403.1:

(a) Mechanical ventilation shall be provided by a method of supply air and exhaust air. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with IMC chapter 6.

(b) Ventilation supply systems shall be designed to deliver the required rate of supply air into the occupied zone within an occupied space.

**(2) OUTDOOR AIR REQUIRED.** (a) This is a department exception to the requirements in IMC section 403.2: Where it can be demonstrated that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding the maximum obtainable by providing the rate of outdoor air ventilation determined in accordance with IMC section 403.3, the minimum required rate of outdoor air may be reduced in accordance with such engineered system design.

(b) This is a department rule in addition to the requirements in IMC section 403.2: The outdoor air shall be free from contamination of any kind in proportions detrimental to the health and comfort of the general population exposed to it.

**(3) RECIRCULATION PROHIBITED.** Substitute the following wording for exception 3 in IMC section 403.2.1: Where mechanical exhaust is required by Table 64.0403, recirculation of air from such spaces is prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 64.0403.

**(4) RECIRCULATION OF AIR.** (a) These are department rules in addition to the requirements in IMC section 403.2:

1. In hospitals and ambulatory surgery centers, air supply for operating rooms and delivery rooms that are designed for cesarean-section deliveries shall be provided from ceiling outlets located near the center of the work area. Return-air inlets shall be located near the floor level. Each operating room and delivery room designed for cesarean-section deliveries shall have at least 2 return-air inlets located as remotely from each other as practical.

2. In hospitals and ambulatory surgery centers, air supply outlets for rooms used for invasive procedures shall be located at or near the ceiling. Return or exhaust air inlets shall be located near the floor level. Exhaust grills for anesthesia evacuation and other special applications may be installed in the ceiling.

(b) This is a department informational note to be used under IMC section 403.2.1:

**Note:** The following are examples where the department will accept air transferred from: corridor to toilet room; corridor to cloak room or janitor closet; dining room to kitchen; locker room to toilet room; gymnasium to locker room; showroom to garage; and corridor to school vocational shops.

**(5) TRANSFER AIR.** Substitute the following wording for the requirements in IMC section 403.2.2: Except where recirculation from such spaces is prohibited by Table 64.0403, air transferred from occupied spaces is not prohibited from serving as makeup air for required exhaust systems in such spaces as kitchens, baths, toilet rooms, elevators and smoking lounges. The amount of transfer air and exhaust air shall be sufficient to provide the flow rates as specified in IMC sections 403.3 and 403.3.1. The required outdoor air rates specified in Table 64.0403 shall be introduced directly into such spaces or into the occupied spaces from which air is transferred or a combination of both.

**(6) VENTILATION RATE.** Substitute the following wording for the requirements and exceptions in IMC section 403.3:

(a) *Ventilation rate determination.* 1. Except as provided in pars. (c) and (d), ventilation systems shall be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with Table 64.0403 based on the occupancy of the space, the occupant load and a minimum of 7.5 cfm of outside air per person, or other parameters stated in Table 64.0403.

2. a. Except as provided in subpars. b. to d., the occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 64.0403.

b. The estimated maximum occupant load rate may be determined using other means with justification acceptable to the department to show that a different number of occupants is reasonable.

c. Where there is no value indicated for the net square feet per person in Table 64.0403, the actual number of occupants shall be used to determine the required amount of outside air.

d. Ventilation rates for occupancies not represented in Table 64.0403 shall be determined by an approved engineering analysis, or by using the most similar occupancy in the table.

3. The ventilation system shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of this chapter.

**Note:** See Table 64.0403 for specific occupancies.

(b) *Adjacent spaces with differing ventilation requirements.* 1. Except as provided in subd. 2., spaces with different ventilation requirements shall be provided with a complete solid separation, or the most stringent ventilation requirement shall apply to all unseparated areas.

2. The separation as specified in subd. 1. is not required where an engineered ventilation design system will prevent the concentration of contaminants from exceeding that obtainable by providing a physical separation.

(c) *Exceptions for certain occupancies.* 1. 'Toilet rooms.' A toilet room that has only one water closet or urinal and no bathtub or shower may be provided with either natural ventilation via a window or louvered opening with at least 2 square feet of area openable directly to the outside or mechanical exhaust ventilation as specified in Table 64.0403.

2. 'Janitor closets.' A janitor closet that has only one service sink may be provided with either natural ventilation via a window or louvered opening with at least 2 square feet of area openable directly to the outside or mechanical exhaust ventilation as specified in Table 64.0403.

3. 'Locker and shower rooms.' An adjoining locker room, shower room and toilet room shall be exhausted at the rate specified in Table 64.0403 based on the largest amount of exhaust required for any of the three rooms. A negative pressure relation-

ship shall be maintained in the shower and toilet rooms with respect to the locker room.

4. 'Chemical or septic toilets.' Chemical or septic toilets and composting privies are prohibited in spaces under negative pressure. Toilet rooms with chemical or septic toilets shall be provided with natural ventilation via a window, louver or skylight with at least 2 square feet of area openable directly to the outside. The opening shall be provided with a screen to limit the passage of insects and vermin.

5. 'Pool ventilation.' In a natatorium, the volume of supply air and exhaust air may be reduced to a minimum of 1 cfm per square foot of pool surface provided automatic humidity controls perform so as not to create accelerated building material deterioration from moisture condensation.

6. 'Health care facilities.' Recirculation and flow of air in health care facilities shall comply with the requirements in Table 2 or Table 6, as applicable, of AIA Guidelines for Design and Construction of Hospital and Health Care Facilities.

(d) *Outside air requirements waived.* 1. If a mechanical air supply system is provided and the requirement for outdoor air determined in accordance with Table 64.0403 is less than 5% of the minimum required air changes per hour, the requirement for outside air may be eliminated.

2. The requirement for outside air or percent of openings specified in Table 64.0403 may be omitted in large volume spaces containing 5,000 or more cubic feet per occupant. Required exhaust ventilation and makeup air shall not be omitted.

(7) **SYSTEM OPERATION.** Substitute the following wording for the requirements in IMC section 403.3.1: The minimum flow rate of outdoor air that the ventilation system must be capable of supplying during its operation may be based on the rate per person indicated in Table 64.0403 and the actual number of occupants present.

(8) **COMMON VENTILATION SYSTEM.** These are department alternatives to the requirements in IMC section 403.3.2:

(a) *General.* Except as specified in par. (d), each room served by a common mechanical ventilation system shall be provided with the minimum outdoor airflow rate determined individually for each room, or the minimum amount of outside air may be supplied to the system if a minimum air change rate for each room is

either provided in accordance with this section or waived in accordance with par. (c).

(b) *Minimum air change.* 1. 'Application.' a. The required air change shall be provided while people are present.

b. The air-change rate may be based on actual room height or up to 10 feet from the floor level of the room in question. The volume above 10 feet, in rooms that are more than 10 feet in height, need not be considered in the air change requirement if the required air change is designed to occur in the lower 10 feet of the occupied space.

c. The required minimum air change volume shall be transferred through the air handling equipment where it is diluted or replaced with outside air, and supplied back to the space.

2. 'Six air changes per hour.' Except as specified in subd. 3. and unless mechanical exhaust is required by Table 64.0403, the total air change rate for each room shall be at least 6 air changes per hour.

3. 'Less than 6 air changes per hour.' An air change rate of less than 6 air changes per hour will be permitted where mechanical cooling (air conditioning) is provided to maintain an interior design temperature of 78°F or lower and the heat gain requirement for the space has been satisfied. The air change rate may not be less than the minimum air changes per hour if specified in Table 64.0403.

**Note:** As specified in s. Comm 64.0403, the amount of outside air required must be maintained even if the air change rate is reduced.

(c) *Air change requirement waived.* The air change requirement for 6 air changes per hour may be omitted in any of the following applications:

1. Buildings or rooms utilizing spot heating as the only source of heat.

2. Buildings where the requirement for outside air is waived in accordance with sub. (6) (d).

3. Buildings utilizing natural ventilation as specified in IMC section 402.

(d) *Air change rates in health care facilities.* Air change rates in health care facilities shall comply with the requirements in Table 2 or Table 6, as applicable, of AIA Guidelines for Design and Construction of Hospital and Health Care Facilities.

(9) **REQUIRED OUTDOOR VENTILATION AIR.** (a) Substitute the following table for IMC Table 403.3:

**Table 64.0403**  
**Required Minimum Inside Temperature**  
**And Outdoor Ventilation Air**

Occupancy Classification <sup>i</sup>	Minimum Inside Temperature (degrees F)	Ventilation Requirements			
		Basis of Capacity			
		Estimated Maximum Occupant Load (persons per 1,000 sq. ft.) <sup>a</sup>	Natural Ventilation Allowed	Exhaust <sup>e</sup> (cfm/net sq. ft. floor area)	Air Change Rate <sup>k</sup> (minimum air change per hour with A/C)
<u>Correctional facilities</u>					
Sleeping rooms <sup>j</sup>	68	20	yes	—	—
Dining halls	68	100	no	—	2.0
Guard stations	68	40	yes	—	—
<u>Dry cleaners, laundries</u>					
Coin-operated dry cleaners	68	8	yes	—	1.0
Coin-operated laundries	68	8	yes	—	1.0
Commercial dry cleaners	60	—	no	2.0	—
Commercial laundries	60	—	no	2.0	—
Storage, pick up	60	8	yes	—	1.0
Apartment laundry rooms	60	—	no	0.5	—
<u>Education</u>					
Auditoriums	68	150	no	—	2.0
Classrooms	68	50	no	—	2.0
Day care facilities	68	30	yes only if ≤ 20 children	—	2.0
Laboratories (science)	68	30	no	—	2.0
Corridors with lockers	68	—	—	—	10 cfm/lineal ft. of length
Music rooms	68	50	no	—	2.0
Smoking lounges <sup>b,g</sup>	68	—	no	2.0	—
Special education	68	35	no	—	2.0
Training shops	60	30	no	—	—
<u>Food and beverage service</u>					
Bars and cocktail lounges	68	100	no	—	2.0
Cafeterias, fast food	68	100	no	—	2.0
Dining rooms	68	70	no	—	2.0
Kitchens (cooking) <sup>f,g</sup>	60	20	yes	—	1.0

**Table 64.0403 – Continued**  
**Required Minimum Inside Temperature**  
**And Outdoor Ventilation Air**

Occupancy Classification <sup>1</sup>	Minimum Inside Temperature (degrees F)	Ventilation Requirements			
		Basis of Capacity			
		Estimated Maximum Occupant Load (persons per 1,000 sq. ft.) <sup>a</sup>	Natural Ventilation Allowed	Exhaust <sup>e</sup> (cfm/net sq. ft. floor area)	Air Change Rate <sup>k</sup> (minimum air change per hour with A/C)
<u>Health care facilities</u>	footnote m	footnote m	no	footnote m	footnote m
Hospitals					
Nursing homes					
Ambulatory surgery centers					
<u>Hotels, motels, resorts and dorms</u>					
Assembly rooms	68	120	no	—	2.0
Bathrooms <sup>b,g</sup>	68	—	no	35 cfm/room	—
Bedrooms	68	footnote n	yes	—	—
Conference rooms	68	50	no	—	2.0
Dormitory sleeping areas	68	20	yes	—	—
Casinos	68	—	no	2.0	—
Living rooms	68	footnote n	yes	—	—
Lobbies	68	30	no	—	—
<u>Industrial/Factory</u>					
Factories and machine shops	60	13	yes	—	—
Foundries	NMR	13	yes	—	—
Sawmills	NMR	—	yes	—	—
<u>Offices</u>					
Conference rooms	68	50	no	—	1.5
Office spaces	68	7	no	—	1.5
Reception areas	68	60	no	—	1.5
Telecommunication centers and data entry	68	60	no	—	1.5
<u>Places of worship, entertainment and recreation which accommodate less than 100 persons</u>	footnote h	—	yes	footnote h	—
<u>Private dwellings, single and multiple</u>					
Living areas	68	2 people for first bedroom plus one person for each additional bedroom	yes	—	—

**Table 64.0403 – Continued**  
**Required Minimum Inside Temperature**  
**And Outdoor Ventilation Air**

Occupancy Classification <sup>1</sup>	Minimum Inside Temperature (degrees F)	Ventilation Requirements			
		Basis of Capacity			
		Estimated Maximum Occupant Load  (persons per 1,000 sq. ft.) <sup>a</sup>	Natural Ventilation Allowed	Exhaust <sup>e</sup>  (cfm/net sq. ft. floor area)	Air Change Rate <sup>k</sup>  (minimum air change per hour with A/C)
Kitchens <sup>g</sup>	68	—	yes	100 cfm intermittent or 20 cfm continuous	—
Toilet rooms and bathrooms <sup>g,1</sup>	68	—	no	Mechanical exhaust capacity 50 cfm intermittent or 20 cfm continuous	—
Garages, separated by a solid wall for each dwelling	NMR	—	yes	100 cfm/vehicle	—
Garages, common for multiple units <sup>b</sup>	NMR	—	no	0.5	—
<u>Retail stores, sales floors and show-room floors</u>	68	8	yes	—	1.0
<u>Seasonal occupancies, camps and lodges</u>					
Dining and recreational areas	NMR	15	yes	—	—
Living and sleeping areas	NMR	—	yes	—	—
Club houses	NMR	15	yes	—	—
Drive-ins	NMR	15	yes	—	—
<u>Specialty shops</u>					
Automotive service and repair garages	60	—	no	0.5	—
Barber shops	68	25	no	—	—
Beauty salons <sup>c</sup>	68	—	no	0.5	—
Clothier, furniture specialty shops	68	8	yes	—	1.0
Florist shops	68	8	yes	—	1.0
Hardware, drugs, fabrics stores	68	8	yes	—	1.0
Supermarkets	68	8	yes	—	1.0

**Table 64.0403 – Continued**  
**Required Minimum Inside Temperature**  
**And Outdoor Ventilation Air**

Occupancy Classification <sup>i</sup>	Minimum Inside Temperature (degrees F)	Ventilation Requirements			
		Basis of Capacity			
		Estimated Maximum Occupant Load (persons per 1,000 sq. ft.) <sup>a</sup>	Natural Ventilation Allowed	Exhaust <sup>e</sup> (cfm/net sq. ft. floor area)	Air Change Rate <sup>k</sup> (minimum air change per hour with A/C)
<u>Sports and amusement</u>					
Ballrooms and discos	68	100	no	—	2.0
Bleacher areas	68	363 or 18 in./person	no	—	2.0
Bowling centers (seating areas)	68	70	no	—	2.0
Game rooms	68	70	no	—	2.0
Natoriums	76	—	—	2.0 cfm/ sq. ft. pool area	—
Ice skating rinks (indoor)	NMR	5	no	—	—
Playing floor (gymnasiums)	68	30	no	—	2.0
Roller skating rinks (indoor)	60	30	no	—	2.0
Spectator areas (non-bleacher)	68	150	no	—	2.0
<u>Storage</u>					
Chlorine storage and handling rooms	NMR	—	no	2.0	—
Enclosed parking garages <sup>d</sup>	NMR	—	no	0.5	—
Warehouses	NMR	—	—	—	—
<u>Theaters</u>					
Auditoriums	68	150	no	—	2.0
Lobbies	68	150	no	—	—
Stages, studios	68	70	no	—	2.0
Ticket booths	68	60	no	—	2.0
<u>Transportation</u>					
Platforms	NMR	100	no	—	2.0
Waiting rooms	68	100	no	—	2.0
<u>Utility and public spaces</u>					
Elevators <sup>g</sup>	NMR	—	no	1.0	—
Janitor closets <sup>l</sup>	NMR	—	no	2.0 or 75 cfm/ sink	—
Locker and dressing rooms <sup>b</sup>	70	—	no	0.5	—
Shower rooms	70	—	no	2.0	—
Toilet rooms <sup>b, g, l</sup>	68	—	no	75 cfm/TF	—
Smoking lounges <sup>b, g</sup>	68	—	no	2.0	—

**Table 64.0403 – Continued**  
**Required Minimum Inside Temperature**  
**And Outdoor Ventilation Air**

Occupancy Classification <sup>1</sup>	Minimum Inside Temperature (degrees F)	Ventilation Requirements			
		Basis of Capacity			
		Estimated Maximum Occupant Load  (persons per 1,000 sq. ft.) <sup>a</sup>	Natural Ventilation Allowed	Exhaust <sup>e</sup>  (cfm/net sq. ft. floor area)	Air Change Rate <sup>k</sup>  (minimum air change per hour with A/C)
<u>Workrooms</u>					
Bank vault	68	5	no	—	—
Meat processing	NMR	10	yes	—	—
Pharmacy	68	20	yes	—	1.5
Photo studio	68	10	yes	—	1.0
Printing	60	13	yes	footnote <sup>o</sup>	—

CFM = Cubic feet per minute; LF = Lineal foot; NMR = No minimum requirement; TF = Toilet fixtures (water closets and urinals); A/C = Air conditioning

a Based upon net floor area.

b Mechanical exhaust is required and the recirculation of air from these spaces that would otherwise be allowed by IMC section 403.2.1 is prohibited.

c The classification of a 'beauty' shop depends on the types of services provided. Only beauty salons routinely provide chemical processing of hair to produce texture or color changes, or manicures or other services with a similar need for air-borne contaminant and odor control.

d Enclosed parking garages are parking garages with less than 30% open areas in the total wall area enclosing the garage. Ventilation systems in enclosed parking garages shall comply with IMC section 404. A mechanical ventilation system shall not be required in garages having a floor area of 850 square feet or less and used for the storage of 5 or fewer motorized vehicles. Requirements for parking garages shall apply to all buildings, or parts of buildings, into which motor vehicles are driven for loading or unloading or are stored.

e The ventilation rate is based upon cubic feet per minute per square foot of the floor area being ventilated.

f The sum of the outdoor and transfer air from adjacent spaces shall be sufficient to provide an exhaust rate of not less than 1.5 cfm/sf.

g Transfer air permitted in accordance with IMC section 403.2.2.

h See specific occupancy classification table entries for inside design temperature and cfm per net square feet floor area requirements.

i This table is intended as a reference guide with generic Use types listed under those Occupancy types most often associated with the use. When Use types are mixed between Occupancy types and the Use type is unlisted within the specific Occupancy type, the use shall be ventilated as required by the same Use type listed in the other Occupancy type. Unlisted occupancies or uses shall be ventilated as required for the most similar listed occupancy classification acceptable to the department. Rooms that are used for different purposes at different times shall be designed for the greatest amount of ventilation required for any of the uses.

j When unseparated toilet fixtures are included in sleeping areas (such as cells), the room shall be ventilated as required for toilet rooms.

k See sub. (5) for specific requirements and exceptions. Units listed as minimum air change per hour with air conditioning unless otherwise specified.

l Natural ventilation may be allowed under this section.

m For air ventilation requirements in healthcare facilities, use American Institute of Architects (AIA) guidelines (AIA Guidelines for Design and Construction of Hospital and Health Care Facilities).

n The minimum mechanical ventilation rate is 15 cfm/room of outside air.

o Refer to IMC chapter 5 for requirements.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135: renum. (3) to be (3) (b), cr. (3) (a), (4) (a) 6, and (5) (d), am. (5) (a), (b) 1. a., (c) 1. and (6) Table; CR 01-139: renum. (3) to (6) to be (4), (6), (8) and (9), cr. (3), (5) and (7), am. (6) Table, r. and recr. (6) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0404 Enclosed parking garages.**

(1) ENCLOSED PARKING GARAGES. Substitute the following wording for the requirements in IMC section 404.1: Mechanical ventilation systems for enclosed parking garages are not required to operate continuously where the system meets all of the following:

(a) The system is arranged to operate automatically upon detection of carbon monoxide at a level of 35 parts per million (ppm) by automatic detection devices.

(b) If diesel fuel vehicles are stored, the system is arranged to operate automatically upon detection of nitrogen dioxide at a level of one part per million (ppm) by automatic detection devices.

(c) The system includes automatic controls for providing exhaust ventilation at a rate of 1/2 cfm per square foot for at least five hours in each 24-hour period.

(d) The system maintains the garage at negative or neutral pressure relative to other spaces.

(2) MINIMUM VENTILATION. Substitute the following wording for the requirements in IMC section 404.2: Automatic operation of the system shall not reduce the ventilation rate below 7.5 cfm per person and the system shall be capable of producing an exhaust rate of 0.5 cfm per square foot of floor area.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: r. and recr. (1) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0501 Required systems.** This is a department exception to the requirements in IMC section 501.4: A mechanically exhausted room or space that is within a dwelling unit which is served by an independent heating, ventilating and air

conditioning system is not required to be maintained with negative or neutral pressure.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0502 Required systems.** Substitute the following wording for the requirements in IMC section 502.1: An exhaust system shall be provided, maintained and operated as specifically required by this section and for all occupied areas where machines, vats, tanks, furnaces, forges, salamanders and other appliances, equipment and processes in such areas produce or throw off dust particles sufficiently light to float in the air or which emit heat, odors, fumes, spray, gas or smoke, in such quantities to be injurious to health or safety.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0506 Commercial kitchen grease ducts and exhaust equipment.** (1) GENERAL. This is an informational note to be used under IMC section 506.1:

Note: See Table 64.0403 for modifications regarding required cfm/person.

(2) EXHAUST FANS. (a) This is a department alternative to the requirements, but not the exceptions, in IMC section 506.3.3: Joints may be made with any other means that provide a liquid-tight seal at 1500°F.

(b) Substitute the following wording for the requirements in IMC section 506.3.3.1:

1. Duct joints shall be butt joints or overlapping duct joints of either the telescoping bell type or flanged. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point.

2. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch.

3. The length of overlap for overlapping duct joints shall not exceed 2 inches.

(c) This is a department rule in addition to the requirements in IMC section 506.3.8: Fans serving commercial kitchen hoods shall be listed for use with grease-laden air.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0507 Capacity of hoods.** Substitute the following wording for the introductory paragraph in IMC section 507.13: A kitchen exhaust hood shall be provided with a capture velocity to capture the grease vapors effectively and may be designed through engineering analysis, or based on this section and the requirements in IMC sections 507.13.1 through 507.13.4, where:

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0603 Duct construction and insulation.** This is a department informational note to be used under IMC sections 603.3 and 603.4:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 131, 132, and 134, also refer to the following standards: Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), HVAC Duct Construction Standards—Metal and Flexible, 1995 edition.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0604 Insulation.** (1) These are department rules in addition to the requirements in IMC sections 604 and 604.8:

(a) 1. Except as provided under subd. 2., in hospitals and ambulatory surgery centers, duct linings exposed to air movement shall not be used in ducts serving operating rooms, delivery rooms, labor, delivery and recovery rooms, nurseries, protective environment rooms and critical care units.

2. In hospitals and ambulatory surgery centers, the requirement in subd. 1. does not apply to mixing boxes and acoustical traps that have special coverings over such lining to mitigate fungal and microbial growth.

(b) In hospitals and ambulatory surgery centers, duct lining shall not be installed within 15 feet downstream of humidifiers or as necessary to prevent moisture accumulation in the lining.

(2) This is a department exception to the requirements in IMC section 604.8: The distances from a listed duct lining to a heater may be reduced in accordance with the duct lining listing.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135: renum. (1) to be (3), cr. (1) Register June 2002 No. 558, eff. 7-1-02; correction to renum. (3) to be (2) made under s. 13.93 (2m) (b) 1., Stats., Register June 2002 No. 558.

**Comm 64.0605 General.** These are department exceptions to the requirements in IMC section 605.1:

(1) Central air handling systems in hospitals, nursing homes and ambulatory surgery centers shall comply with the applicable filtration requirements specified in section 7.31.D8, 8.31.D5, 9.31.D8 or 11.31.D4 of the ALA Guidelines for Design and Construction of Hospitals and Health Care Facilities.

(2) Non-central air handling systems in hospitals, nursing homes and ambulatory surgery centers shall be equipped with permanent cleanable or replaceable filters with a minimum efficiency of 68 percent weight arrestance.

(3) In hospitals and ambulatory surgery centers, non-central air handling systems shall be used as recirculating units only. All outdoor air requirements shall be met by a separate central air handling system with the filtration as provided in sub. (1).

(4) Preheat coils for snow melting that are single row, have a maximum 8 fins per inch, are accessible for pressure washing and have ductwork that is designed for drainage need not be provided with air filters.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-135: am. (1), renum. (2) to be (4), cr. (2) and (3) Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0606 Smoke detection system control.** (1) This is a department informational note to be used under IMC section 606.2.1:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 131, 132, and 134, also refer to NFPA standard 90A section 4-4.2A for air handling units between 2,000 cfm and 15,000 cfm.

(2) This is a department informational note to be used under IMC section 606.4:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 131, 132, and 134, also refer to NFPA standard 90A section 4-3.2 for smoke dampers isolating air handling units.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0702 Inside air.** (1) This is a department rule in addition to the requirements in IMC section 702.1: When the space providing air for combustion, ventilation and dilution of flue gases has a minimum volume of 250 cubic feet per 1,000 Btu per hour combined input rating of all appliances, the use of inside air for combustion shall be allowed.

(2) This is a department informational note to be used under IMC section 702.1:

Note: When applying the provisions of this section, refer to IFGC section 201 as adopted and modified in s. Comm 65.0210 for the definition of "unusually tight construction".

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0710 Opening location and protection.** Substitute the following wording for the requirements in IMC section 710.1: Mounting height of the combustion air intakes shall have the lowest side of outside air intake openings located at least 12 inches vertical from the adjoining grade level.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0801 Chimneys and vents.** (1) This is a department informational note to be used under IMC chapter 8:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 132, and 134, also refer to NFPA 211 as adopted in these chapters.

(2) These are department rules in addition to the requirements in IMC section 801.2: Permanently installed and portable unvented fuel-fired space heaters are prohibited.

Note: See ch. Comm 65, subch. II, Part 6 for the prohibition of unvented gas-fired space heaters.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.0900 Specific criteria for duct humidifiers.** These are department rules in addition to the requirements in IMC chapter 9:

(1) For duct humidifiers located upstream of final filters in a hospital or ambulatory surgery center all of the following shall apply:

(a) The duct humidifier shall be located at least 15 feet upstream of the final filters.

(b) The ductwork with duct-mounted humidifiers shall have a means of water removal.

(c) An adjustable high-limit humidistat shall be located downstream of the humidifier to reduce the potential of condensation inside the duct.

(d) All duct takeoffs shall be sufficiently downstream of the humidifier to ensure complete moisture absorption.

(2) For all other humidifiers located in hospitals or ambulatory surgery centers all of the following shall apply:

(a) Steam humidifiers shall be used.

(b) Reservoir-type water spray or evaporative pan humidifiers shall not be used.

History: CR 01-135; cr. Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.0918 Forced-air warm-air furnaces.**

(1) This is a department rule in addition to the requirements in IMC section 918.6: The outside air intake openings shall be located at least 12 inches vertical from the adjoining grade level.

(2) Substitute the following wording for the requirements IMC section 918.6 item 1: Closer than 10 feet from any appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 2 feet above the outside air inlet.

(3) Substitute the following wording for the requirements in IMC section 918.6 item 2: Where located less than 10 feet above the surface of any abutting public way or driveway, or at grade level by a sidewalk, street, alley or driveway.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.1001 Boilers, water heaters and pressure vessels.** Substitute the following wording for the requirements and exceptions in IMC chapter 10:

(1) The provisions of ch. Comm 41 shall govern the installation, alteration and repair of boilers and pressure vessels. The provisions of chs. Comm 81 to 86 shall govern the installation, alteration and repair of water heaters.

(2) Water heaters utilized both to supply potable hot water and provide hot water for space-heating applications shall be listed

and labeled by the manufacturer and shall be installed in accordance with the manufacturer's installation instructions and applicable provisions in chs. Comm 81 to 86.

(3) Water heaters utilized for both potable water heating and space-heating applications shall be sized to prevent the space-heating load from diminishing the required water-heating capacity.

(4) Where a combination potable water-heating and space-heating system requires water for space heating at temperatures higher than 140°F, a tempering valve shall be provided to temper the water supplied to the potable hot water distribution system to a temperature of 140°F or less.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.1101 Refrigeration.** Substitute the following wording for the requirements and exceptions in IMC chapter 11: Mechanical refrigerating systems installed in public buildings and places of employment shall comply with ch. Comm 45.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.1201 Hydronic piping.** Substitute the following wording for the requirements and exceptions in IMC Chapter 12: The provisions of ch. Comm 41 shall apply to boilers, piping components associated with boilers, pressure vessels and power piping in places of employment and in public buildings.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.1300 Fuel oil piping and storage.** Substitute this informational note for the requirements in IMC chapter 13:

Note: See ch. Comm 10 for fuel oil piping requirements.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 64.1500 Referenced standards.** (1) Substitute the following NFPA standards for the corresponding standards listed in IMC chapter 15: NFPA 13-1999, 13-2001 and 72-1999.

(2) This is a department rule in addition to the requirements in IMC chapter 15: The following standard is hereby incorporated by reference into this code: AIA Guidelines for Design and Construction of Hospital and Health Care Facilities, 1996-97.

Note: NFPA standards may be purchased from the National Fire Protection Association, One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

AIA guidelines may be purchased from the American Institute of Architects, Order Department, 9 Jay Gould Court, P.O. Box 753, Waldorf, MD 20601.

Copies of the standards are on file in the offices of the department, the secretary of state and the revisor of statutes.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139; am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 64.1600 Appendices.** IMC Appendices A and B are not included as part of this chapter.

History: CR 00-179; cr. Register December 2001 No. 552, eff. 7-1-02.

## Chapter Comm 65

### FUEL GAS APPLIANCES

#### Subchapter I — Purpose, Scope, Application and Compliance

Comm 65.0001	Purpose and scope.
Comm 65.0002	Application.
Comm 65.0003	Compliance.
Comm 65.0004	Approval of drawings and specifications.

#### Subchapter II — Changes, Additions or Omissions to the International Fuel Gas Code (IFGC)

Comm 65.0100	Changes, Additions or Omissions to the International Fuel Gas Code® (IFGC).
Comm 65.0101	Administration.
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Comm 65.0300	Temperature control.
Comm 65.0301	General regulations.

Comm 65.0303	Appliance location.
Comm 65.0304	Combustion, ventilation and dilution air.
Comm 65.0305	Installation.
Comm 65.0306	Access and service space.
Comm 65.0400	Gas piping installations.
Comm 65.0501	Chimneys and vents.
Comm 65.0503	Venting of equipment.
Comm 65.0609	Duct furnaces.
Comm 65.0617	Forced-air warm-air furnaces.
Comm 65.0620	Unvented room heaters.
Comm 65.0629	Infrared radiant heaters.
Comm 65.0630	Boilers.
Comm 65.0700	Referenced standards.
Comm 65.0800	Appendices.

#### Subchapter I — Purpose, Scope, Application and Compliance

**Comm 65.0001 Purpose and scope. (1) PURPOSE.** The purpose of this chapter is to regulate the design, installation, operation and maintenance of gas-fueled heating, ventilating and air conditioning systems in buildings and structures as specified in ch. Comm 61.

**(2) SCOPE.** The scope of this chapter is as specified in s. Comm 61.02.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0002 Application. (1) GENERAL.** The application of this chapter is as specified in s. Comm 61.03 and as modified in this section.

**(2) APPLICABILITY.** All heating, ventilating and air conditioning systems shall be designed, installed, maintained and operated so as to provide the service and results required within the provisions of this chapter. The minimum requirements established in each part of this chapter shall be complied with as they apply to the structures and facilities covered in the IBC.

**(3) ADDITIONS. (a)** This chapter applies to all additions to existing buildings and structures as specified in s. Comm 61.03.

**(b)** Except when an existing heating, ventilation and air conditioning system is extended to serve an addition, existing system components are not required to be replaced if the provisions in this chapter are met within the addition.

**(4) ALTERATIONS. (a)** This chapter applies to all remodeling and alterations in any building or structure which affect the replacement of major equipment as specified in s. Comm 61.03.

**(b)** When an existing heating, ventilating and air conditioning system serves a remodeled or altered space that has not undergone a change in occupancy or use, the existing system components are not required to be replaced if the provisions in this chapter that applied to the original construction of the space are met.

Note: "Occupancy or use" refers to the entries in Table 64.0403.

Note: Maintenance and repair to existing equipment when there is no change to the building or occupancy, is considered an alteration.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0003 Compliance.** All gas-fueled heating, ventilating and air conditioning systems in buildings and structures shall comply with the IFGC and the changes, additions or omissions under subch. II.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0004 Approval of drawings and specifications.** All drawings and specifications shall be submitted to the

department in accordance with the provisions of subch. III of ch. Comm 61.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

#### Subchapter II — Changes, Additions or Omissions to the International Fuel Gas Code (IFGC)

**Comm 65.0100 Changes, Additions or Omissions to the International Fuel Gas Code® (IFGC).** Changes, additions or omissions to the international fuel gas code are specified in this subchapter and are rules of the department and are not requirements of the IFGC.

Note: This subchapter is numbered to correspond with the numbering used within the model code; i.e., s. Comm 65.0201 refers to section IFGC 201.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0101 Administration.** Except for IFGC sections 102.8 and 108.7, the requirements in IFGC chapter 1 are not included as part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0201 Definitions. (1)** This is a department substitution for the corresponding definition in IFGC section 201: "Unusually tight construction" means the total area of outdoor openings is less than 3% of the floor area of the space in which equipment is located.

**(2)** This is a department addition to the definitions in IFGC section 201: "DHFS" means the department of health and family services.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0300 Temperature control.** This is a department rule in addition to the requirements in IFGC chapter 3: The requirements in IMC section 309 and s. Comm 64.0309 apply to gas-fired equipment and systems.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0301 General regulations.** Substitute the following wording for the requirements in IFGC section 301.3: The requirements as specified in s. Comm 64.0301 (2) shall apply.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 65.0303 Appliance location. (1) GENERAL.** This is a department rule in addition to the requirements in IFGC section 303.1: If the air entering the heat exchanger of all gas-fired equipment is 30°F or lower, the heat exchanger and burners shall be constructed of corrosion-resistive materials.

**(2) PROHIBITED LOCATIONS.** The requirements in IFGC section 303.3 exceptions 3. and 4. are not included as a part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0304 Combustion, ventilation and dilution air.** (1) GENERAL. This is a department rule in addition to the requirement of IFGC section 304.1: The requirements in IMC sections 705, 706, and 707 shall apply to gas appliances.

(2) UNUSUALLY TIGHT CONSTRUCTION. This is a department informational note to be used under IFGC section 304.9:

Note: When applying the provisions of this section, refer to s. Comm 65.0201 (1) for the definition for "unusually tight construction".

(3) SPACES WITHOUT OPENINGS TO THE OUTSIDE. This is a department rule in addition to the requirements in IFGC section 304.9: When the space providing air for combustion, ventilation and dilution of flue gases has a minimum volume of 250 cubic feet per 1,000 Btu per hour combined input rating of all appliances, the use of inside air for combustion shall be allowed.

(4) COMBUSTION AIR DUCTS. This is a department rule in addition to the requirement of IFGC section 304.15: Mounting height of the combustion air intakes shall have the lowest side of outside air intake openings located at least 12 inches vertically from the adjoining grade level.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. (3) Register June 2002 No. 558, eff. 7-1-02.

**Comm 65.0305 Installation.** These are department rules in addition to the requirements in IFGC section 305.1:

(1) ADDITIONAL REQUIREMENTS. The requirements in IMC sections 304.2, 304.8, 304.9, 304.10, and 305 as adopted in s. Comm 64.0304 shall apply to gas appliance installations.

(2) FINAL TEST REQUIRED. The requirements as specified in s. Comm 64.0313 shall apply.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02 CR 01-139: renum. (1) (intro.), (a) and (b) to be (intro.), (1) and (2) Register June 2002 No. 558, eff. 7-1-02.

**Comm 65.0306 Access and service space.** This is a department exception to the requirements in IFGC section 306.5.1: Section IFGC 306.5.1 does not apply to installations which consist of only fans.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0400 Gas piping installations.** Substitute the following wording for the requirements and exceptions in IFGC chapter 4: All gas piping and gas piping installations shall comply with NFPA 54, National Fuel Gas Code.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0501 Chimneys and vents.** (1) This is a department informational note to be used under IFGC chapter 5:

Note: For DHFS licensed healthcare facilities as specified in chs. HFS 124, 132, and 134, also refer to NFPA 211 as adopted in these chapters.

(2) The requirements in section IFGC 501.8 item 8 are not included as a part of this chapter.

(3) Substitute the following wording for the requirements in section IFGC 501.8 item 10: Infrared radiant heaters listed for unvented use and not provided with flue collars.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0503 Venting of equipment.** (1) MECHANICAL DRAFT SYSTEMS. These are department rules in addition to the requirements in IFGC section 503.3.3:

(a) All horizontal exit terminals of a gas appliance mechanical draft system shall be located in accordance with IMC section 804.3.4 items 4 and 5.

(b) All vertical exit terminals of a gas appliance mechanical draft system shall be located in accordance with IMC section 804.3.5 items 3 and 6.

(2) VENTING SYSTEM TERMINATION LOCATION. Substitute the following wording for the requirements, but not the exceptions, in IFGC sections 503.8 items 1, 2 and 3:

(a) The separation between gravity and mechanical air inlets and venting system terminations shall comply with IMC section 401.5.1 and s. Comm 64.0401 (4).

(b) Unless a greater distance is specified by the manufacturer, mechanical draft venting systems shall terminate at least 12 inches vertically from the adjoining grade level.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. (1) (b) Register June 2002 No. 558, eff. 7-1-02.

**Comm 65.0609 Duct furnaces.** The requirements in IFGC section 609.2 are not included as part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0617 Forced-air warm-air furnaces.** Substitute the following wording for the requirements and exceptions in IFGC section 617.5: Gas-fired appliances shall comply with IMC section 918 and s. Comm 64.0918.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0620 Unvented room heaters.** Substitute the following wording for the requirements in IFGC section 620: The use of unvented room heaters is prohibited.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0629 Infrared radiant heaters.** These are department rules in addition to the requirements in IFGC section 629.1:

(1) Spaces served with unvented infrared radiant heaters shall be provided with at least 4 cfm of outside air per 1,000 Btu per hour input of installed heaters.

(2) Unvented infrared radiant heaters may be used only in the following occupancies:

(a) Groups F and S.

(b) Groups U and H only with written approval.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0630 Boilers.** Substitute the following wording for the requirements in IFGC section 630: The provisions of ch. Comm 41 shall govern the installation, alteration and repair of boilers and pressure vessels.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

**Comm 65.0700 Referenced standards.** This is a department rule in addition to the requirements in IFGC chapter 7: The following standard is hereby incorporated by reference into this code: ANSI Z223.1/NFPA 54-1999, National Fuel Gas Code.

Note: NFPA standards may be purchased from the National Fire Protection Association, One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

Copies of the standard adopted under this section are on file in the offices of the department, the secretary of state and the revisor of statutes.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02; CR 01-139: am. Register June 2002 No. 558, eff. 7-1-02.

**Comm 65.0800 Appendices.** IFGC Appendices A to D are not included as part of this chapter.

History: CR 00-179: cr. Register December 2001 No. 552, eff. 7-1-02.

## Chapters Comm 61 to 65

### APPENDIX A

The material contained in this appendix is for clarification purposes only and is numbered to correspond to the number of the rule as it appears in the text of the code.

**A-61.03 (4) (b) and 62.0903 (2) Lower thresholds for municipalities with preexisting stricter sprinkler ordinances.** Section 101.14 (4m) (d) and (e), Stats., provides the following thresholds above which fire sprinkler protection or 2-hour fire-resistance can be required by a municipality with a preexisting stricter sprinkler ordinance.

Class of Construction	Total Floor Area Within Individual Dwelling Units	Number of Units	Total Floor Area of Nondwelling Unit Portions (Common use areas, such as corridors, stairways, basements, cellars, vestibules, community rooms, laundry rooms, pools, etc.)
Type IA	8,000 sq ft	8 units	12,000 sq ft
Type IB			10,000 sq ft
Type IIA			8,000 sq ft
Type IIB			5,600 sq ft
Type III			
Type IV			
Type VA			
Type VB	4,800 sq ft		

The department, based on ordinances forwarded by municipalities (and checked by Safety and Buildings staff for conformance with the preexisting sprinkler ordinance criteria), or based on other provided information, believes the following municipalities have preexisting stricter sprinkler ordinances. Other municipalities may also have preexisting stricter sprinkler ordinances.

Appleton	Madison	Muskego	Shorewood Hills
Brookfield	Menomonee Falls	New Berlin	Sussex
Franklin	Monona	Oak Creek	West Allis
Greendale	Mount Pleasant	Racine	West Bend
Greenfield			



## Chapters Comm 61 to 65

## APPENDIX B

The 1989 Wis. Act 335 requires the department to establish rules for public buildings such that adequate space is provided within or adjacent to buildings for the separation, temporary storage and collection of recyclable materials likely to be generated by the occupants of the building.

When verified amounts of previously generated recyclable materials are available, the following may be used to determine adequate space for the separation, temporary storage and collection of recyclable materials:

One cubic yard should be allocated for each 200 pounds

of newspaper and mixed paper.

One cubic yard should be allocated for each 80 pounds of mixed or commingled recyclable materials.

The guidelines in the following table are provided for determining adequate space allocation when verified amounts of previously generated recyclable materials are not available. These guidelines are based on accumulation of recyclable materials likely to be generated by the building occupants for one week and one month, respectively.

**Guidelines for Recommended Space Allocation by Type of Building Occupancy<sup>a</sup>**

Type of Building Occupancy	Space Allocation (cu. ft./1,000 sq. ft. floor area)	
	One Week	One Month
Assembly Hall, Theater .....	2.2	10.0
Child Day Care		
with meals served .....	4.5	20.0
without meals served .....	3.0	12.0
Detention and correctional .....	13.5	60.0
Garage		
Storage .....	0	0
Repair .....	b	b
Health Care		
Hospital .....	13.85	60.0
Clinic, without meals served .....	8.0	36.0
Nursing/Rest Home .....	4.5	20.0
Hotel, Motel		
without meals served .....	3.5	15.0
Industrial .....	b	b
Library .....	2.2	10.0
Mercantile		
Department Store, Shopping Mall .....	9.0	40.0
Grocery .....	18.0	80.0
Museum, Art Gallery .....	2.2	10.0
Office .....	7.0	30.0
Residential, multifamily dwelling .....	9.0	40.0
Restaurant or Food Service .....	c	c
School, Places of Instruction .....	3.0	12.0
Warehouse .....	b	b

<sup>a</sup> This information is to be used only as a guide in determining space allocation. Space allocation may differ from the listed value when using verified amounts of previously generated recyclable materials.

<sup>b</sup> Varies with type of activity.

<sup>c</sup> Varies with number of meals served and type of meal service.

