

June, 2016  
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This is a Preliminary Draft for Discussion  
Only Subject to Change

## Chapter SPS 363

Yellow highlights-changes reviewed by council

Blue-new provisions suggested by council for review

Green-provisions suggested by DOA/Division of Facilities Development for review

### ENERGY CONSERVATION

**Note:** Chapter Comm 63 as it existed on June 30, 2002 was repealed and a new chapter Comm 63 was created, Register December 2001 No. 552, effective July 1, 2002; Chapter Comm 63 was repealed and recreated, Register February 2008 No. 626, eff. March 1, 2008. **Chapter Comm 63 was renumbered chapter SPS 363 under s. 13.92 (4) (b) 1., Stats., Register December 2011 No. 672.**

#### Subchapter I — Purpose and Application

**SPS 363.001 Purpose.** This chapter regulates the design and construction of buildings for the effective use of energy. This chapter provides flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy. This chapter is not intended to abridge safety, health or environmental requirements contained in other applicable codes.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08.

**SPS 363.002 Application. (1) MIXED OCCUPANCY.** Where a building includes both residential and commercial occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC chapter 4 commercial provisions for residential commercial occupancies or IECC chapter 5 residential provisions for commercial residential occupancies.

**(2) EXEMPT BUILDINGS AND STRUCTURES.** Glazed structures or glazed portions of buildings used for the production of plant life or for maintaining plant life as the primary purpose, as is typical of a greenhouse, are exempt from the building thermal envelope provisions of this code chs. SPS 361 to 366, provided that glazed portions are separated from the remainder of the building by building thermal envelope assemblies complying with this chapter.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 10-103: r. and recr. (2) Register August 2011 No. 668, eff. 9-1-11.

#### Subchapter II — Changes, Additions or Omissions to the International Energy Conservation Code (IECC)

**SPS 363.0100 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:** The sections in this chapter are generally numbered to correspond to the numbering used in the IECC, with a 0 to the right of the decimal point referring to the commercial provisions and a 5 to the right of the decimal referring to the residential provisions of the IECC, i.e., s. SPS 363.0101 refers to section IECC 101C101 and s. SPS 363.5101 refers to section IECC R101.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08.

**SPS 363.0101 Administration and enforcement.** Except for IECC section 101.5.2, the requirements in IECC sections 101 and 103 to 109 C101 and C103 to C109 are not included as part of this chapter.

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**SPS 363.0202 General definitions. (1) ADDITIONS.** This is a department definition for this chapter in addition to the definitions in ~~IMC IECC~~ section **202 C202**: “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.

**(2) SUBSTITUTIONS.** Substitute the following definition for the corresponding definition listed in IECC section **202 C202**: “Approved” has the meaning given in s. SPS 362.0202 (2).

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register August 2011 No. 668; **correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

**SPS 363.0302 Exterior design conditions.** These are department rules in addition to the requirements in IECC section **302 C302**: The exterior design temperatures used for heating and cooling load calculations shall be as specified under Table 363.0302.

**Table 363.0302- Exterior Design Conditions**

County	Winter Design Temp (F)	Summer		County	Winter Design Temp (F)	Summer	
		Dry Bulb (°F)	Wet Bulb (°F)			Dry Bulb (°F)	Wet Bulb (°F)
Adams	-20	87	75	Marathon	-20	87	75
Ashland	-25	86	70	Marinette	-20	87	75
Barron	-25	86	75	Marquette	-15	87	75
Bayfield	-25	86	70	Menominee	-20	87	75
Brown	-15	87	75	Milwaukee	-10	89	77
Buffalo	-20	87	75	Monroe	-20	87	75
Burnett	-25	86	75	Oconto	-20	87	75
Calumet	-15	87	75	Oneida	-25	86	75
Chippewa	-25	86	75	Outagamie	-15	87	75
Clark	-20	87	75	Ozaukee	-10	89	77
Columbia	-15	87	75	Pepin	-20	87	75
Crawford	-15	87	75	Pierce	-25	86	75
Dane	-15	87	75	Polk	-25	86	75
Dodge	-15	87	75	Portage	-20	87	75
Door	-15	87	75	Price	-25	86	75
Douglas	-25	86	70	Racine	-10	89	77
Dunn	-25	86	75	Richland	-15	87	75
Eau Claire	-20	87	75	Rock	-10	89	77
Florence	-25	86	75	Rusk	-25	86	75
Fond du Lac	-15	87	75	St. Croix	-25	86	75
Forest	-25	86	75	Sauk	-15	87	75
Grant	-15	87	75	Sawyer	-25	86	75
Green	-15	87	75	Shawano	-20	87	75
Green Lake	-15	87	75	Sheboygan	-15	87	75
Iowa	-15	87	75	Taylor	-25	86	75
Iron	-25	86	70	Trempealeau	-20	87	75
Jackson	-20	87	75	Vernon	-20	87	75
Jefferson	-10	89	77	Vilas	-25	86	75
Juneau	-20	87	75	Walworth	-10	89	77
Kenosha	-10	89	77	Washburn	-25	86	75
Kewaunee	-15	87	75	Washington	-10	89	77
La Crosse	-20	87	75	Waukesha	-10	89	77
Lafayette	-15	87	75	Waupaca	-20	87	75
Langlade	-20	87	75	Waushara	-15	87	75
Lincoln	-25	86	75	Winnebago	-15	87	75
Manitowoc	-15	87	75	Wood	-20	87	75

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**SPS 363.0303 Materials, systems and equipment.** These are department rules in addition to the requirements in IECC section **303 C303**.

**(1) GENERAL.** 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) When the information is not available from ASHRAE Handbook of Fundamentals, the data shall be obtained from laboratory or field-test measurements. If laboratory or field test measurements are used for envelope heat transmission, the measurements shall be obtained using one of the following test methods:

1. ASTM C177, Test method by guarded hot plate apparatus.
2. ASTM C335, Test method of horizontal pipe insulation.
3. ASTM C518, Test method by means of the heat flow meter apparatus.
4. ASTM C1363, Test method by means of a hot box apparatus.

(b) For foam plastic insulation that incorporates a substance 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 to determine thermal properties or performance. The tests shall be conducted by an independent third party.

(c) 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:

1. NCMA Evaluation Procedures for the Integrally-Insulated Concrete Masonry Walls.
2. Default values as approved by the department.

(d) 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:

1. Default values as approved by the department.
2. Laboratory or field-test measurements specified in par. (a).
3. Department material approval process as specified in ch. SPS 361 to determine the U-factor.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 09-104: r. (1), (2) (title), renum (2) (a), (b) to be (1), (2) and am. Register December 2010 No. 660, eff. 1-1-11; CR 10-103: renum. from Comm 63.0102 and am. (intro.) Register August 2011 No. 668, eff. 9-1-11; **correction in (2) (d) 3. made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

~~**SPS 363.0401—Certificate.** The requirements in IECC section 401.3 are not included as part of this code. (Renumbered as 363.5401)~~

~~**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08.~~

~~**SPS 363.0403—Systems.** **(1) ELECTRICAL POWER AND LIGHTING.** This is a department rule in addition to the requirements in IECC section 403: In residential buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.~~

~~**(2) DUCTS.** Substitute the following wording for the requirements in IECC section 403.2.2: All ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with IMC section 603.9. (Renumbered as 363.5403-see 363.5403)~~

~~**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 10-103: r. and recr. (2), r. (3) Register August 2011 No. 668, eff. 9-1-11.~~

~~**SPS 363.0405—Calculation software tools.** This is a department informational note to be used under IECC section 405.6:~~

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~~Note: The federal Department of Energy has developed REScheck™, a computer program that may be used in demonstrating compliance for a residential building which has no more than 3 stories above grade and has 3 or more dwelling units. The REScheck program may be downloaded at <http://www.energycodes.gov/>. When using the program, the applicable code must be defined as the “2009 IECC.” The use of the “Wisconsin” option will apply requirements associated with a 1 or 2 family dwelling, which are more restrictive than those associated with low rise multifamily buildings.~~

~~History: CR 06 120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 10 103: renum. from Comm 63.0404 and am. Register August 2011 No. 668, eff. 9-1-11.~~

**SPS 363.0501–363.0401 General application. (1) ADDITIONAL REQUIREMENTS.** This is a department rule in addition to the requirements in IECC section ~~501.2 R401.2:~~ All of the following rules shall apply regardless of whether the ~~IECC chapter 5 4~~ or ASHRAE 90.1 standard is used to determine compliance:

~~(1)(a) Section SPS 363.0503 363.0403 (1) relating to design loads.~~

~~(2)(b) Sections SPS 363.0503 363.0403 (3) and (4) relating to economizers.~~

~~(3)(c) Section SPS 363.0505 363.0405 relating to lighting systems.~~

~~(4) (d) IECC section 505.2.2.1 C405.2.2.2 relating to dual switching.~~

~~(2) AUTOMATIC RECEPTACLE CONTROL. The requirements in ANSI/ASHRAE/IESNA 90.1-2013 section 8.4.2 are not included as part of this chapter.~~

~~(3) MONITORING. Substitute the following wording for ANSI/ASHRAE/IESNA 90.1-2013 section 8.4.3.1: A measurement device shall be installed in new buildings to monitor total electrical energy use. For buildings with tenants, total electrical energy shall be monitored for the total building and for each individual tenant.~~

**SPS 363.0503 363.0403 Building mechanical systems. (1) CALCULATION OF HEATING AND COOLING LOADS.** The following wording is a department requirement in addition to the requirements in IECC section ~~503.2.1 C403.2.1:~~ Design heating and cooling loads shall be determined in accordance with s. SPS 363.0302 and Table 363.0302.

~~(2) EQUIPMENT AND SYSTEM SIZING. Substitute the following wording for the requirements and the exceptions in IECC section 503.2.2 C403.2.2: Heating and cooling equipment and systems shall be sized to provide the minimum space and system loads calculated in accordance with s. SPS 363.0302.~~

~~(3) HVAC SYSTEM COMPLETION. The requirements in IECC sections 503.2.9 to 503.2.9.3 section C408 are not included as part of this chapter.~~

~~(4) ECONOMIZERS SIMPLE HVAC SYSTEMS. Substitute the following wording for the requirements in IECC section 503.3.1 the first paragraph and Table 503.3.1 (1) C403.3: Supply air economizers shall be provided on the following cooling systems:~~

~~(a) Package All package roof top units  $\geq$  33,000 Btu/h.~~

~~(b) All other cooling systems  $\geq$  54,000 Btu/h.~~

~~(5) ECONOMIZERS COMPLEX HVAC SYSTEMS. Substitute the following wording for the requirements, but not the exceptions, in IECC section 503.4.1: Supply air economizers shall be provided on cooling systems as described under sub. (4). Economizers shall be capable of operating at 100 percent outside air, even if additional mechanical cooling is required to meet the cooling load of the building.~~

~~(5) ECONOMIZER COOLING REQUIREMENTS. Substitute the following wording for the title of IECC Table C403.3(1): MINIMUM BUILDING CHILLED WATER SYSTEM COOLING CAPACITY FOR DETERMINING ECONOMIZER COOLING REQUIREMENTS.~~

~~(6) CLIMATE ZONES 3 6 AND 4 7. Substitute the following wording for the requirements in IECC section 503.4.3.3.2.2 C403: For climate Zones 5 through 8 6 and 7 as indicated in IECC Figure 301.1 C301.1 and Table 301.1 C301.1, if an open-circuit cooling tower is used, then a separate heat exchanger shall be required to isolate the cooling tower from the heat pump loop, and heat loss shall be controlled by shutting down the circulation pump on the cooling tower loop and providing an automatic valve to stop the flow of fluid.~~

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**SPS 363.0504 363.0404 Service water heating.** (1) TEMPERATURE CONTROLS. The requirements in IECC section 504.3 C404.3 are not included as part of this chapter.

(2) HEAT TRAPS. The requirements in IECC section 504.4 C404.3 are not included as part of this chapter.

(3) CIRCULATION SYSTEMS. Substitute the following wording for the requirements in IECC section C404.6.1: Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermo-syphon circulation systems shall be prohibited. Controls for circulation hot water system pumps shall automatically turn off the pump when the water in the circulation loop is at the desired temperature.

(3) POOL COVERS (4) POOLS AND SPAS. The requirements in IECC section 504.7.3 sections C404.9.2 and C404.9.3 are not included as part of this chapter.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 09-104: cr. (3) Register December 2010 No. 660, eff. 1-1-11.

**SPS 363.0505 363.0405 Lighting systems.** (1) CONTROLS. These are department rules in addition to the requirements in IECC section 505 C405:

(a) *General.* Except as provided in par. (b), daylight zones in any interior enclosed space greater than 250 square feet and a lighting density more than 0.6 W/ft<sup>2</sup> shall have at least one control that meets all of the following requirements:

1. Controls only luminaires in the daylight zones.
2. Controls at least 50% of the lamps or luminaires in the daylight zone, in a manner described in IECC section 505.2.2.1 405.2.3.

(b) *Exceptions.* The requirements of this subsection do not apply to any of the following:

1. Daylight zones where the effective aperture of glazing is equal or less than 0.1 for vertical glazing and 0.01 for horizontal glazing.
2. Daylight zones where existing adjacent structures or natural objects obstruct daylight to the extent that effective use of daylighting is not feasible.

(2) LINE-VOLTAGE LIGHTING TRACK AND PLUG-IN BUSYWAY BUSWAY. Substitute the following for the requirements in IECC section 505.5.1.4 C405: The wattage of line-voltage lighting track and plug-in busway which allows the addition or relocation of luminaires without altering the wiring of the system shall be the volt-ampere rating of the branch circuit feeding the luminaires or an integral current limiter controlling the luminaires, or the higher of the maximum relamping rated wattage of all of the luminaires included in the system, listed on a permanent factory installed label, or 30 W/linear foot.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08; CR 10-103: r. (1), (2) (a) 3., (3), renum. (2), (4) to be (1), (2) and am. (1) Register August 2011 No. 668, eff. 9-1-11.

**SPS 363.0506 363.0407 Total building performance.** (1) MANDATORY REQUIREMENTS. The requirements in IECC section C403.2.7 are not included as part of this chapter.

(2) COMCHECK. This is a department informational note to be used under IECC section 506 C407:

**Note:** ComCheck COMcheck is a computer program that may be used only for determining building envelope or lighting compliance. The ComCheck COMcheck computer program may be downloaded at: <http://www.energycodes.gov/>. The most recent version of COMcheck shall be used to demonstrate code compliance. The 2015 IECC or ASHRAE 90.1-2013 options shall be selected.

**SPS 363.0503** Substitute the following wording for the exception in IECC section C503.6: **Exception:** Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.

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**SPS 363.0900 363.0600 Referenced standards.** This is a department rule in addition to the requirements in IECC chapter 6: The following standards are hereby incorporated by reference into ~~this code~~ chs. SPS 361 to 366:

(1) ~~ASTM C177-04~~ ASTM C177-13, Test method for steady-state heat flux measurements and thermal transmission properties by means of the guarded-hot-plate apparatus.

(2) ~~ASTM C335-05~~ ASTM C335/335M-10, Test method for steady state heat transfer properties of horizontal pipe insulation.

(3) ~~ASTM C518-04~~ ASTM C518-15, Test Method for steady-state thermal transmission properties by means of the heat flow meter apparatus.

(4) ~~ASTM C1363-05~~ ASTM C1363-13, Test method for thermal performance of materials and envelope assemblies by means of a hot box apparatus.

(5) National Concrete Masonry Association (NCMA) Evaluation Procedures of Integrally Insulated Concrete Masonry Walls, January 1, 1999.

**Note:** 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 legislative reference bureau.

**History:** CR 06-120: cr. Register February 2008 No. 626, eff. 3-1-08.

**SPS 363.5101 Administration and Enforcement.** The requirements in IECC sections R101, and R103 to R109 are not included as part of this chapter.

**SPS 363.5202 Substitutions.** Substitute the following definition for the corresponding definition listed in IECC section R202: “Approved” has the meaning given in s. SPS 362.0202 (2).

**SPS 363.5303 Materials, systems and equipment.** These are department rules in addition to the requirements in IECC section R303.

(1) GENERAL. 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) When the information is not available from ASHRAE Handbook of Fundamentals, the data shall be obtained from laboratory or field-test measurements. If laboratory or field test measurements are used for envelope heat transmission, the measurements shall be obtained using one of the following test methods:

1. ASTM C177, Test method by guarded hot plate apparatus.

2. ASTM C335, Test method of horizontal pipe insulation.

3. ASTM C518, Test method by means of the heat flow meter apparatus.

4. ASTM C1363, Test method by means of a hot box apparatus.

(b) For foam plastic insulation that incorporates a substance other than air as the insulating medium, laboratory or field tests shall be conducted on representative samples that have been aged for the equivalent

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of 5 years or until the R-Value has stabilized to determine thermal properties or performance. The tests shall be conducted by an independent third party.

(c) 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:

1. NCMA Evaluation Procedures for the Integrally-Insulated Concrete Masonry Walls.

2. Default values as approved by the department.

(d) 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:

1. Default values as approved by the department.

2. Laboratory or field-test measurements specified in par. (a).

3. Department material approval process as specified in ch. SPS 361 to determine the U-factor.

**SPS ~~363.0401~~ 363.5401 Certificate.** The requirements in IECC section ~~401.3~~ **R401.3** are not included as part of ~~this code~~ chs. SPS 361 to 366.

**SPS 363.5402 Vapor retarder.** Substitute the following wording for IECC section R402.1.1: Wall assemblies in the building thermal envelope shall comply with the vapor retarder requirements of section 1405.3 of the *International Building Code*, as applicable.

**SPS ~~363.0403~~ 363.5403 Systems.** (1) **ELECTRICAL POWER AND LIGHTING.** This is a department rule in addition to the requirements in IECC section ~~403~~ **R403**: In residential buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.

(2) **DUCTS.** Substitute the following wording for the requirements in IECC section ~~403.2.2~~ **R403.2.2**: All ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with IMC section 603.9.

(3) **POOLS.**

**SPS ~~363.0405~~ 363.5405 Calculation software tools.** This is a department informational note to be used under IECC section 405.6:

Note: The federal Department of Energy has developed REScheck™, a computer program that may be used in demonstrating compliance for a residential building which has no more than 3 stories above grade and has 3 or more dwelling units. The REScheck™ program may be downloaded at <http://www.energycodes.gov/>. The most recent version of REScheck™ shall be used to demonstrate code compliance. When using the program, the applicable code must be defined as the “~~2009~~ **2015 IECC.**” The use of the “Wisconsin” option will apply requirements associated with a 1 or 2 family dwelling, which are more restrictive than those associated with low rise multifamily buildings.