

CHAPTER 23.60 LOCAL AMENDMENTS TO THE INTERNATIONAL ENERGY CONSERVATION CODE 2006 EDITION

Sections

23.60.100	Local amendments to the International Energy Conservation Code 2006 Edition.....	2
23.60.202	General definitions	2
23.60.401.2	Compliance	2
23.60.402.1.1	Insulation and fenestration criteria.....	2
23.60.402.1.3	U-factor alternative	2
23.60.402.2.1	Ceilings with attics.....	2
23.60.402.2.3	Mass walls.....	3
23.60.402.3.7	Glazing limitation.....	3
23.60.402.5	Moisture control.....	3
23.60.403.3	Mechanical system piping insulation	3
23.60.403.2.2	Sealing.....	3
23.60.403.6	Equipment sizing.....	3
23.60.404.3	Performance based compliance.....	3
23.60.Table 502.2(1)	4
23.60.502.4.2	Curtain wall, storefront glazing and commercial entrance doors	4
23.60.502.4.3	Sealing the building envelope	4
23.60.502.5	Moisture control.....	4
23.60.503.1	General	4
23.60.503.2.2	Equipment and system sizing.....	5
23.60.503.2.4.3	Off-hour controls.....	5
23.60.503.2.4.4	Shutoff damper controls.....	5
23.60.503.2.6	Energy recovery ventilation systems	5
23.60.503.2.7.1.3	High-pressure duct systems.....	5
23.60.503.2.8	Piping insulation.....	5
23.60.Table 503.2.8	Minimum pipe insulation	5
23.60.503.2.9	HVAC system completion	6
23.60.503.3.2	Hydronic system controls.....	6
23.60.503.4.2	Variable air volume (VAV) fan control	6
23.60.503.4.3.4	Part load controls.....	6
23.60.503.4.3.5	Pump isolation.....	6
23.60.503.4.5	Requirements for complex mechanical systems serving multiple zones.....	6
23.60.504.3	Temperature control.....	6
23.60.505.1	General	6
23.60.505.2.2.1	Light reduction controls	6
23.60.505.2.2.2	Automatic lighting shutoff	7
23.60.505.5	Interior lighting power requirements	7
23.60.505.5.1	Total connected interior lighting power.....	7
23.60.505.6	Exterior lighting	7
23.60.505.7	Electrical energy consumption.....	7

23.60.100 Local amendments to the International Energy Conservation Code 2006 Edition

The amendments to the 2006 edition of the International Energy Conservation Code are listed hereafter by section. The last digits of the number (after the title and chapter digits) are the sections of the International Energy Conservation Code to which the amendments refer.

23.60.202 General definitions

Vapor Retarder. Amend definition by replacing 1 perm with 0.06 perms.

23.60.401.2 Compliance

Amend section 401.2 by adding the following exception:

Exception: Projects that comply with the International Residential Code as amended under AMC Title 23.45.

23.60.402.1.1 Insulation and fenestration criteria

Delete Table 402.1.1 and replace with 23.60.Table 402.1.1.

Climate Zone	Windows & Skylights	Ceiling ^a	Exterior Frame Wall	Floor	Below Grade Wall ^b	Slab ^c & Depth	Crawl Space Wall ^b
7	3	49 or 38	20	30	15/19	10, 4ft	15/19

- a. The smaller value may be used with a properly sized, energy-heel truss.
- b. The first R-value applies to continuous insulation, the second to framing cavity insulation; either meets the requirement.
- c. R-5 shall be added to the required slab edge R-values for heated slabs.

23.60.402.1.3 U-factor alternative

Delete Table 402.1.3 and replace with 23.60.Table 402.1.3

Climate Zone	Windows & Skylights	Ceiling ^a	Exterior Frame Wall	Floor	Below Grade Wall ^b	Slab	Crawl Space Wall ^c
7	0.33	0.020	0.053	0.033	0.067/0.053	0.10	c

- a. The larger factor of 0.0263 may be used with a properly sized, energy-heel truss.
- b. The first U-factor applies to continuous insulation, the second to framing cavity insulation; either meets the requirement.
- c. See below grade wall factors.
- d. Nonglazing U-factors shall be obtained from measurement, calculation, or an approved source.

23.60.402.2.1 Ceilings with attics

Amend section 402.2.1 by adding the following exception:

Exception: R-38 fiberglass blanket insulation may be compressed at the eave to provide a 1.5 inch air space when installed between wood trusses having a minimum heel height of 11.25 inches.

23.60.402.2.3 Mass walls

Delete section 402.2.3 Mass Walls.

23.60.402.3.7 Glazing limitation

Add the following section:

402.3.7 Glazing limitation. Glazing shall be limited to 18% of the conditioned floor area.

23.60.402.5 Moisture control

Delete section 402.5 Moisture Control, and replace with the following:

402.5 Moisture control. (Mandatory.) The building design shall not create conditions of accelerated deterioration from moisture condensation. Walls, floors, ceilings, crawl space walls, crawl space floors and concrete slabs shall incorporate an approved, continuous, vapor retarder. The vapor retarder shall be installed on the warm side of the insulation.

Lap and seal all seams with approved tape or sealant.
Insulate and seal voids between joists in an approved manner.

Exceptions:

1. In construction where moisture or its freezing will not damage materials.
2. One-third of total installed insulation may be installed on the warm side of vapor retarders.

23.60.403.3 Mechanical system piping insulation

Insert the following exception under section 403.3:

Exception: piping installed within the building thermal envelope.

23.60.403.2.2 Sealing

Delete “section M1601.3.1 of the International Residential Code” and replace with “the International Mechanical Code, as amended under AMC Title 23.20”.

23.60.403.6 Equipment sizing

Delete “in accordance with section M1401.3 of the International Residential Code” and replace with “based on design loads determined in accordance with the procedures described in ASHRAE Fundamentals Handbook, or other approved equivalent computational procedures. Oversizing should be limited to 15% of the design load.”

23.60.404.3 Performance based compliance

Add the following exception:

Exception: Compliance may be demonstrated through a home energy rating under a program approved by the Alaska Housing Finance Corporation (AHFC) that meets the following:

1. A minimum four star plus rating is required.
2. The maximum air infiltration rate shall not exceed seven air changes per hour at 50 pascals pressure difference.
3. The compliance rating shall be performed by a person authorized by AHFC.

Compliance with sections 404.4 through 404.6 is not required.

23.60.Table 502.2(1)

Amend Table 502.2(1) by replacing “NR” for unheated slabs in climate zone 7 with “R-10 for 36 in. below”.

23.60.502.4.2 Curtain wall, storefront glazing and commercial entrance doors

Amend section 502.4.2 by adding the following sentence:

Curtain wall and store front systems shall incorporate exterior openings for ventilation and drainage.

23.60.502.4.3 Sealing the building envelope

Amend section 502.4.3 by adding the following sentences:

This does not include required moisture channels and exterior openings for ventilation and drainage in curtain wall and store front systems. These shall be maintained open and functional.

23.60.502.5 Moisture control

Delete section 502.5 Moisture Control, and replace with the following:

502.5 Moisture control. (Mandatory.) The building design shall not create conditions of accelerated deterioration from moisture condensation. Walls, floors, ceilings, crawl space walls, crawl space floors and concrete slabs shall incorporate an approved, continuous, vapor retarder. The vapor retarder shall be installed on the warm side of the insulation.

Lap and seal all seams with approved tape or sealant.

Insulate and seal voids between joists in an approved manner.

Exceptions:

1. In construction where moisture or its freezing will not damage materials.
2. One-third of total installed insulation may be installed on the warm side of vapor retarders.

23.60.503.1 General

Amend section 503.1 by adding the following exception:

Exception: Additions, alterations, or repairs to existing buildings.

23.60.503.2.2 Equipment and system sizing

Amend section 503.2.2 by adding exception number 3 as follows:

3. Heating equipment may be oversized by up to 20 percent.

23.60.503.2.4.3 Off-hour controls

Amend section 503.2.4.3 by adding exception number 3 as follows:

3. Simple systems as defined under Section 503.3, where no cooling system is installed.

23.60.503.2.4.4 Shutoff damper controls

Amend section 503.2.4.4 by adding exception number 4 as follows:

4. Motorized dampers shall not be required for exhaust systems where grease, lint, and similar particulates may accumulate on the damper and create a fire hazard.

23.60.503.2.6 Energy recovery ventilation systems

Amend section 503.2.6 by adding exceptions numbered 9 and 10 as follows:

9. Where grease, lint, and similar particulates may accumulate on heat recovery coils, plates, and similar components and create a fire hazard.
10. Where the system does not operate continuously and is controlled only to operate under a safety operation such as carbon monoxide exhaust systems in garages and smoke evacuation systems.

23.60.503.2.7.1.3 High-pressure duct systems

Amend section 503.2.7.1.3 by deleting the last sentence stating “Documentation shall be furnished by the designer demonstrating...”

23.60.503.2.8 Piping insulation

Amend section 503.2.8 by adding exception number 5 as follows:

4. Piping within baseboard radiation assemblies and piping that is intended to serve as a terminal heating device.

23.60.Table 503.2.8 Minimum pipe insulation

Amend the insulation thickness in Table 503.2.8 as follows:

Steam:	pipe diameter 1.5 inch or less = 1 inch pipe diameter greater than 1.5 inch = 2 inch
Hot Water:	All pipe sizes = 1 inch.
Chilled Water:	All pipe sizes = 1 inch.

23.60.503.2.9 HVAC system completion

Delete section 503.2.9.

23.60.503.3.2 Hydronic system controls

Amend section 503.3.2 as follows:

“Hydronic systems of at least 500,000 Btu/h design output capacity supplying heated or chilled water to comfort conditioning systems shall include controls that meet the requirements of 503.4.3.”

23.60.503.4.2 Variable air volume (VAV) fan control

Amend section 503.4.2 by deleting the last sentence stating “For systems with direct digital control of individual zone boxes...”

23.60.503.4.3.4 Part load controls

Amend section 503.4.3.4 by replacing 300,000 Bth/h with 500,000 Btu/h, and adding an exception as follows:

Exception: Where the hydronic system serves domestic hot water generation equipment or other equipment that requires a consistent supply temperature and is not applicable to fluid temperature setback control.

23.60.503.4.3.5 Pump isolation

Delete section 503.4.3.5.

23.60.503.4.5 Requirements for complex mechanical systems serving multiple zones

Amend section 503.4.5 by adding item number 7 to the exception, as follows:

7. Supply air systems less than 10,000 CFM in capacity.

23.60.504.3 Temperature control

Delete section 504.3.

23.60.505.1 General

Amend section 505.1 by adding exception number 2 as follows:

2. Additions, alterations, or repairs to an existing building.

23.60.505.2.2.1 Light reduction controls

Amend section 505.2.2.1 as follows:

Revise Exception number 3 to read:

- 3 Corridors, storerooms, restrooms, public lobbies, and similar common and/or normally unoccupied spaces.

Add exception number 6 as follows:

6. Areas where HID lighting is utilized as the primary light source.

23.60.505.2.2.2 Automatic lighting shutoff

Amend section 505.2.2.2 by replacing the first sentence with the following:

Occupied areas exceeding 5000 square feet (465 square meters) and under the control of a single occupant, owner, or tenant shall be equipped with an automatic control device to shutoff lighting.

23.60.505.5 Interior lighting power requirements

Amend section 505.5 by replacing the first sentence with the following:

A building complies with this section if its total connected lighting power calculated under section 505.5.1 is no greater than 150 percent of the interior lighting power calculated under section 505.5.2.

23.60.505.5.1 Total connected interior lighting power

Amend section 23.60.505.5.1 by adding exception number 6 as follows:

6. Theatrical and special effects lighting.

23.60.505.6 Exterior lighting

Revise section 505.6 as follows:

505.6 Exterior lighting. (Mandatory). When the power for the exterior lighting is supplied through the energy service to the building, all exterior lighting, other than low voltage lighting, shall have a source efficacy of at least 45 lumens per Watt. Fixtures employing lamps rated over 100 Watts shall either have a source efficacy of at least 60 lumens per Watt or be controlled by a motion sensor.

Exceptions:

1. Where approved because of historical, safety, signage or emergency considerations.
2. Light Emitting Diode (LED), neon, and cold cathode exterior lamp sources.
3. Where specific lighting levels are required by state or local governmental criteria, the state or local code shall prevail. Areas affected by this exemption may include, but are not limited to, ATM's and parking garage emergency lighting.
4. Theatrical and special effects lighting.

Delete sections 505.6.1 and 505.6.2.

23.60.505.7 Electrical energy consumption

Revise section 505.7 by adding the following exceptions:

Exceptions:

1. Transient occupancies such as dormitories, barracks, guest suites in hotels and motels, and similar type facilities.
2. Assisted living facilities, long term extended care facilities and similar facilities under the management and supervision and a single agency.