

ORDINANCES OF THE CITY OF HELENA, MONTANA

ORDINANCE NO. 3128

AN ORDINANCE AMENDING SECTION 3-2-4 OF THE HELENA CITY CODE (ENERGY CODE)

BE IT ORDAINED BY THE COMMISSION OF THE CITY OF HELENA,

MONTANA:

That Section 3-2-4 of the Helena City Code is hereby amended as follows:

3-2-4: ENERGY CODE: The purpose of the international energy conservation code is to provide minimum requirements for the design of new buildings and structures and additions to existing buildings, regulating their exterior envelopes and selection of their heating, ventilating, air conditioning, service water heating, electrical distribution and illuminating systems, and equipment for effective use of energy. The ~~2003~~ 2009 edition of the international energy conservation code is hereby adopted and amended by the city and by this reference made a part hereof. This code is available for public inspection at the office of the clerk of the city commission.

A. Section ~~104.1~~ 103.1, General, is deleted and replaced with the following: With each application for a building permit, and when required by the building official, plans and specifications shall be submitted. The building official may require that plans and specifications be prepared by an engineer or architect licensed to practice by the state, except for owner-occupied, single-family dwelling houses. ~~All designs submitted under the provisions of chapter 4 shall be prepared by an engineer or architect licensed to practice by the state.~~ Exceptions:

~~1.~~ The building official is authorized to waive the submission of requirements for construction documents ~~and or other supporting data not required to be prepared by an engineer or architect licensed to practice by the state if it is found the nature of the work applied for is such that reviewing of construction documents is~~ if the building

ORDINANCES OF THE CITY OF HELENA, MONTANA

Ord. No. 3128

official determines they are not necessary to obtain confirm compliance with this code.

~~2. For residential buildings having a conditioned floor area of 5,000 square feet (465 m²) or less, designs submitted under the provisions of chapter 4 shall be prepared by anyone having qualifications acceptable to the building official.~~

- B. ~~Section 105.2~~ 104.2, Approvals Required Approvals, remains undeleted and available for use by certified local governments using the code.
- C. ~~Section 502.2.3.6, Basement Walls,~~ is amended by adding the following: Basement wall insulation below uninsulated floors, except for rim joists and perimeter cripple walls, may be delayed until such time as the basement is actually finished for occupancy 202, General Definitions, the definition for "Air Barrier" is deleted and replaced with a new definition for "Air Barrier" as follows: "Air Barrier: Material(s) assembled and joined together to provide a barrier to air leakage through and into the building envelope. An air barrier may be a single material or a combination of materials."
- D. ~~Section 502.2.4.1, Walls,~~ is amended by adding the following: Lesser R value may be allowed for log building walls. (d) Table 402.1.1, INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT, is amending footnote c for climate zone "6" and is adding footnote k as follows: Footnotes: "c." "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home. "10/19" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "k." Fenestration U-Factor is 0.33 after January 1, 2010."

ORDINANCES OF THE CITY OF HELENA, MONTANA

Ord. No. 3128

Climate Zone	Fenestration U-Factor(b)	Skylight(b) U-Factor	Glazed Penetration SHGC(b,d)	Ceiling R-Value	Wood Framed Wall R-Value
6	0.35(k) 0.33(l)	0.60	NR	49	21 or 13+5(h)

Mass Wall R-Value(i)	Floor R-Value	Basement(c) Wall R-Value	Slab(b) R-Value & Depth	Crawl Space Wall(c) R-Value
15/19	30(g)	15/19	10, 4 ft	10/19

- E. ~~Section 503.3.3.1, Piping Insulation, is amended by adding a fourth exception as follows: "4. Pipe insulation is not required in heated or conditioned areas."~~ Subsection 402.2.2, Ceilings Without Attic Spaces, is deleted and replaced with the following: "Where Section 402.1.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section 402.1.1, shall be limited to 250 square feet or ten percent of the total insulated ceiling area, whichever is less. This reduction shall not apply to the U-factor alternative approach in Section 402.1.3, and the total UA alternative in Section 402.1.4."
- F. ~~Table 503.3.3.3, Minimum Duct Insulation, is amended by adding footnote e as follows: "e. In locations where annual heating degree days exceeds 7500, minimum R-value for ducts in all areas need not exceed R-8."~~ Subsection 402.2.9, Crawl Space Walls, is deleted and replaced with the following: "As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. Temporary crawl space vent openings are allowed during construction for crawl spaces that have insulated crawl space walls. These temporary crawl space vent openings shall be closed, sealed, and insulated to the same

ORDINANCES OF THE CITY OF HELENA, MONTANA

Ord. No. 3128

R-value of the surrounding crawl space wall insulation once construction is complete and prior to the time that the final building inspection would occur. Crawl space wall insulation shall be permanently fastened to the wall and shall extend downward from the floor, the entire height of the crawl space wall. Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder. All joints of the vapor retarder shall overlap six inches and be sealed or taped. The edges of the vapor retarder shall extend at least six inches up the stem wall and shall be attached and sealed to the stem wall."

- G. Subsection 402.4.2.1, Testing Option, is deleted and replaced with the following: "Building envelope tightness and insulation installation shall be considered acceptable when tested air leakage is less than four air changes per hour (ACH), when tested with a blower door at a pressure of 33.5 psf (50Pa). Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. During testing:
- "(i) exterior windows and doors, fireplace and stove doors shall be closed, but not sealed;
 - (ii) dampers shall be closed, but not sealed, including exhaust, intake, makeup air, back draft and flue dampers;
 - (iii) interior doors shall be open;
 - (iv) exterior openings for continuous ventilation systems and heat recovery ventilators shall be closed and sealed;
 - (v) heating and cooling system(s) shall be turned off;
 - (vi) "B" or "L" vents, combustion air vents, and dryer vents shall be sealed;
 - (vii) HVAC ducts shall not be sealed; and
 - (viii) supply and return registers shall not be sealed."
- H. Table 502.2(1), BUILDING ENVELOPE REQUIREMENTS OPAQUE ASSEMBLIES, is deleted for climate zone "6" and replaced, with all footnotes remaining the same as in the original text of the code, as follows:

ORDINANCES OF THE CITY OF HELENA, MONTANA

Ord. No. 3128

<u>Climate Zone</u>	<u>6</u> All Other	<u>6</u> Group R
<u>Roofs</u>		
<u>Insulation Entirely Above Deck</u>	<u>R-20ci</u>	<u>R-20ci</u>
<u>Metal Buildings (with R-5 Thermal Blocks) a, b</u>	<u>R13+R19</u>	<u>R-19</u>
<u>Attic and Other</u>	<u>R-49</u>	<u>R-49</u>
<u>Walls, Above Grade</u>		
<u>Mass</u>	<u>R-13.3ci</u>	<u>R-15.2ci</u>
<u>Metal Buildings (b)</u>	<u>R-13+R-5.6ci</u>	<u>R-13+R-5.6ci</u>
<u>Metal Framed</u>	<u>R-13+R-7.5ci</u>	<u>R-13+R-7.5ci</u>
<u>Wood Framed and Other</u>	<u>R-13+R-7.5ci</u> or <u>R-21</u>	<u>R-13+R-7.5ci</u> or <u>R-21</u>
<u>Walls, Below Grade</u>		
<u>Below Grade Wall (d)</u>	<u>R-7.5ci</u>	<u>R-7.5ci</u>
<u>Floors</u>		
<u>Mass</u>	<u>R-12.5ci</u>	<u>R-14.6ci</u>
<u>Joist/Framing Steel/Wood</u>	<u>R-30</u>	<u>R-30(e)</u>
<u>Slab-on-Grade Floors</u>		
<u>Unheated Slabs</u>	<u>R-10 for 24 in. below</u>	<u>R-15 for 24 in. below</u>
<u>Heated Slabs</u>	<u>R-15 for 24 in. below</u>	<u>R-20 for 48 in. below</u>
<u>Opaque Doors</u>		
<u>Swinging</u>	<u>U-0.70</u>	<u>U-0.50</u>
<u>Roll-up or sliding</u>	<u>U-0.50</u>	<u>U-0.50</u>

ORDINANCES OF THE CITY OF HELENA, MONTANA

Ord. No. 3128

FIRST PASSED BY THE COMMISSION OF THE CITY OF HELENA,
MONTANA, THIS 21st DAY OF JUNE, 2010.

/S/ James E. Smith
MAYOR

ATTEST:

/S/ Debbie Havens
CLERK OF THE COMMISSION

FINALLY PASSED BY THE COMMISSION OF THE CITY OF HELENA,
MONTANA, THIS 26th DAY OF JULY, 2010.

/S/ James E. Smith
MAYOR

ATTEST:

/S/ Debbie Havens
CLERK OF THE COMMISSION