

ADVISORY COMMITTEE COMMENT FORM FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

Author/requestor: Karen Linner

Email address: karenl@bamn.org

IECC RE-8A

Telephone number: 651-269-0944

Firm/Association affiliation, if any: Builders Association of Minnesota

Proposed Code Change - Language

Please provide your proposed code change in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be striken. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

See next page

R402.1.1 Insulation and fenestration criteria.

The *building thermal envelope* shall meet the requirements of Table R402.1.1 based on the climate zone specified in Chapter 3.

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 ^h	8/13	19	10 /13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 ^h	13/17	30 ^g	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 ^h	15/20	30 ^g	15/19	10, 4 <u>3.5</u> ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 ^h	19/21	38 ^g	15/19	10, 4 <u>5</u> ft	15/19

For SI: 1 foot = 304.8 mm.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

c. "15/19" means R-15 continuous insulation 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 insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs. For slabs in Climate Zones 6 and 7, insulation ~~Insulation depth shall be the depth of the footing~~

~~or 2 feet, which ever is less in climate zone 1 through 3 shall be installed to the depth indicated or to the top of the footing whichever is less.~~

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.

i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this change and why this proposed code change is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Only the italicized part of this section has been added. The rest of the Need and Reasonableness section has not been changed from the IECC RE-8 version.

Code proposal IECC RE-8 was previously passed without any changes to footnote "d" by the Residential Energy Code Advisory Committee at their March 12, 2012 meeting. A member of the committee commented on that footnote "d" was worded in a way that was confusing. A code official could by the letter of the law make a builder place foundation below the top of the footing which is technically where 3.5 or 5 feet would be. Version IECC RE-8A is being resubmitted to the committee with changes to footnote "d" that will hopefully clear up the intent of this code provision.

The Minnesota Building Code has historically divided the state into two frost depth zones. Zone I is the same as Zone 6 in the 2012 IECC. Zone II is the same as Zone 7 in the 2012 IECC.

1303.1600 Footing depth for frost protection. Subpart 1. **Minimum footing depth.** In the absence of a determination by an engineer competent in soil mechanics, the minimum allowable footing depth in feet due to freezing is five feet in Zone I and 3-1/2 feet in Zone II.

Zone I includes the counties of: Aitkin, Becker, Beltrami, Carlton, Cass, Clay, Clearwater, Cook, Crow Wing, Douglas, Grant, Hubbard, Itasca, Kanabec, Kittson, Koochiching, Lake, Lake of the Woods, Mahnomon, Marshall, Mille Lacs, Morrison, Norman, Otter Tail, Pennington, Pine, Polk, Red Lake, Roseau, St. Louis, Todd, Traverse, Wadena, and Wilkin.

Zone II shall include the counties of: Anoka, Benton, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac qui Parle, Le Sueur, Lincoln, Lyon, McLeod, Martin, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Pope, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sibley, Sherburne, Stearns, Steele, Stevens, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, and Yellow Medicine.

Less depths may be permitted when supporting evidence is presented by an engineer competent in soil mechanics.

This proposal is needed because it aligns the required frost depth listed in the slab edge insulation requirement with the frost depth zones defined in the Minnesota State Building Code. Without this proposal the required footing depths would not be aligned with the required insulation requirements. This code change is reasonable because it is exactly the same change that was made in the 2007 Minnesota State Building Code's Residential Energy Code, Chapter 1322.

Proposed Code Change – Cost/Benefit Analysis

This code change will not increase the cost of construction since it is aligned with current building practice.

Other Factors to Consider Related to Proposed Code Change

1. Is this proposed code change meant to:

change language contained in a published code book? If so, list section(s).
2012 IECC, TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this proposed code change required by a Minnesota Statute or new legislation? NO
If so, please provide the citation to the Statute or legislation.

3. Will this proposed code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
1303.1600 Footing depth for frost protection

4. Will this proposed code change impact other parts of the Minnesota State Building Code?
NO
If so, please list the affected parts of the Minnesota State Building Code.

5. Who are the parties affected or segments of industry affected by this proposed code change? Homebuilders, remodelers, code officials, concrete contractors, insulation contractors

6. Can you think of other means or methods to achieve the purpose of the proposed code change? NO
If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.

7. Are you aware of any federal requirement or regulation related to this proposed code change? . NO
If so, please list the regulation or requirement.