
HOUSE BILL 2779

State of Washington 53rd Legislature 1994 Regular Session

By Representatives Morris, Finkbeiner and Grant

Read first time 01/24/94. Referred to Committee on Energy & Utilities.

1 AN ACT Relating to window U-value; and amending RCW 19.27A.020.

2 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

3 **Sec. 1.** RCW 19.27A.020 and 1990 c 2 s 3 are each amended to read
4 as follows:

5 (1) No later than January 1, 1991, the state building code council
6 shall promulgate rules to be known as the Washington state energy code
7 as part of the state building code.

8 (2) The council shall follow the legislature's standards set forth
9 in this section to promulgate rules to be known as the Washington state
10 energy code. The Washington state energy code shall be designed to
11 require new buildings to meet a certain level of energy efficiency, but
12 allow flexibility in building design, construction, and heating
13 equipment efficiencies within that framework. The Washington state
14 energy code shall be designed to allow space heating equipment
15 efficiency to offset or substitute for building envelope thermal
16 performance.

17 (3) The Washington state energy code shall take into account
18 regional climatic conditions. Climate zone 1 shall include all
19 counties not included in climate zone 2. Climate zone 2 includes:

1 Adams, Chelan, Douglas, Ferry, Grant, Kittitas, Lincoln, Okanogan, Pend
2 Oreille, Spokane, Stevens, and Whitman counties.

3 (4) The Washington state energy code for residential buildings
4 shall require:

5 (a) New residential buildings that are space heated with electric
6 resistance heating systems to achieve energy use equivalent to that
7 used in typical buildings constructed with:

8 (i) Ceilings insulated to a level of R-38. The code shall contain
9 an exception which permits single rafter or joist vaulted ceilings
10 insulated to a level of R-30 (R value includes insulation only);

11 (ii) In zone 1, walls insulated to a level of R-19 (R value
12 includes insulation only), or constructed with two by four members,
13 R-13 insulation batts, R-3.2 insulated sheathing, and other normal
14 assembly components; in zone 2 walls insulated to a level of R-24 (R
15 value includes insulation only), or constructed with two by six
16 members, R-22 insulation batts, R-3.2 insulated sheathing, and other
17 normal construction assembly components; for the purpose of determining
18 equivalent thermal performance, the wall U-value shall be 0.058 in zone
19 1 and 0.044 in zone 2;

20 (iii) Below grade walls, insulated on the interior side, to a level
21 of R-19 or, if insulated on the exterior side, to a level of R-10 in
22 zone 1 and R-12 in zone 2 (R value includes insulation only);

23 (iv) Floors over unheated spaces insulated to a level of R-30 (R
24 value includes insulation only);

25 (v) Slab on grade floors insulated to a level of R-10 at the
26 perimeter;

27 (vi) Double glazed windows with values not more than $((U-0.4)) \underline{U-}$
28 0.5;

29 (vii) In zone 1 the glazing area may be up to twenty-one percent of
30 floor area and in zone 2 the glazing area may be up to seventeen
31 percent of floor area where consideration of the thermal resistance
32 values for other building components and solar heat gains through the
33 glazing result in thermal performance equivalent to that achieved with
34 thermal resistance values for other components determined in accordance
35 with the equivalent thermal performance criteria of (a) of this
36 subsection and glazing area equal to fifteen percent of the floor area.
37 Throughout the state for the purposes of determining equivalent thermal
38 performance, the maximum glazing area shall be fifteen percent of the
39 floor area; and

1 (viii) Exterior doors insulated to a level of R-5; or an exterior
2 wood door with a thermal resistance value of less than R-5 and values
3 for other components determined in accordance with the equivalent
4 thermal performance criteria of (a) of this subsection.

5 (b) New residential buildings which are space-heated with all other
6 forms of space heating to achieve energy use equivalent to that used in
7 typical buildings constructed with:

8 (i) Ceilings insulated to a level of R-30 in zone 1 and R-38 in
9 zone 2 the code shall contain an exception which permits single rafter
10 or joist vaulted ceilings insulated to a level of R-30 (R value
11 includes insulation only);

12 (ii) Walls insulated to a level of R-19 (R value includes
13 insulation only), or constructed with two by four members, R-13
14 insulation batts, R-3.2 insulated sheathing, and other normal assembly
15 components;

16 (iii) Below grade walls, insulated on the interior side, to a level
17 of R-19 or, if insulated on the exterior side, to a level of R-10 in
18 zone 1 and R-12 in zone 2 (R value includes insulation only);

19 (iv) Floors over unheated spaces insulated to a level of R-19 in
20 zone 1 and R-30 in zone 2 (R value includes insulation only);

21 (v) Slab on grade floors insulated to a level of R-10 at the
22 perimeter;

23 (vi) Heat pumps with a minimum heating season performance factor
24 (HSPF) of 6.8 or with all other energy sources with a minimum annual
25 fuel utilization efficiency (AFUE) of seventy-eight percent;

26 (vii) Double glazed windows with values not more than U-0.65 in
27 zone 1 and U-0.60 in zone 2. The state building code council, in
28 consultation with the state energy office, shall review these U-values,
29 and, if economically justified for consumers, shall amend the
30 Washington state energy code to improve the U-values by December 1,
31 1993. The amendment shall not take effect until July 1, 1994; and

32 (viii) In zone 1, the maximum glazing area shall be twenty-one
33 percent of the floor area. In zone 2 the maximum glazing area shall be
34 seventeen percent of the floor area. Throughout the state for the
35 purposes of determining equivalent thermal performance, the maximum
36 glazing area shall be fifteen percent of the floor area.

37 (c) For log built homes with space heat other than electric
38 resistance, the building code council shall establish equivalent

1 thermal performance standards consistent with the standards and maximum
2 glazing areas of (b) of this subsection.

3 (d) The state building code council may approve an energy code for
4 pilot projects of residential construction that use innovative energy
5 efficiency technologies intended to result in savings that are greater
6 than those realized in the levels specified in this section.

7 (5) U-values for glazing shall be determined using the area
8 weighted average of all glazing in the building. U-values for glazing
9 are the tested values for thermal transmittance due to conduction
10 resulting from either the American architectural manufacturers'
11 association (AAMA) 1503.1 test procedure or the American society for
12 testing materials (ASTM) C236 or C976 test procedures. Testing shall
13 be conducted under established winter horizontal heat flow test
14 conditions using the fifteen miles per hour wind speed perpendicular to
15 the exterior surface of the glazing as specified under AAMA 1503.1 and
16 product sample sizes specified under AAMA 1503.1. The AAMA 1503.1
17 testing must be conducted by an AAMA certified testing laboratory. The
18 ASTM C236 or C976 testing U-values include any tested values resulting
19 from a future revised AAMA 1503.1 test procedure. Sealed insulation
20 glass, where used, shall conform to ASTM E-774-81 level A or better.
21 The state building code council shall maintain a list of the tested U-
22 values for glazing products available in the state.

23 (6) The minimum state energy code for new nonresidential buildings
24 shall be the Washington state energy code, 1986 edition, as amended.

25 (7)(a) Except as provided in (b) of this subsection, the Washington
26 state energy code for residential structures shall preempt the
27 residential energy code of each city, town, and county in the state of
28 Washington.

29 (b) The state energy code for residential structures does not
30 preempt a city, town, or county's energy code for residential
31 structures which exceeds the requirements of the state energy code and
32 which was adopted by the city, town, or county prior to March 1, 1990.
33 Such cities, towns, or counties may not subsequently amend their energy
34 code for residential structures to exceed the requirements adopted
35 prior to March 1, 1990.

36 (8) The state building code council shall consult with the state
37 energy office as provided in RCW 34.05.310 prior to publication of
38 proposed rules. The state energy office shall review the proposed
39 rules for consistency with the guidelines adopted in subsection (4) of

1 this section. The director of the state energy office shall recommend
2 to the state building code council any changes necessary to conform the
3 proposed rules to the requirements of this section.

4 (9) The state building code council shall conduct a study of county
5 and city enforcement of energy codes in the state. In conducting the
6 study, the council shall conduct public hearings at designated council
7 meetings to seek input from interested individuals and organizations,
8 and to the extent possible, hold these meetings in conjunction with
9 adopting rules under this section. The study shall include
10 recommendations as to how code enforcement may be improved. The
11 findings of the study shall be submitted in a report to the legislature
12 no later than January 1, 1991.

13 (10) If any electric utility providing electric service to
14 customers in the state of Washington purchases at least one percent of
15 its firm energy load from a federal agency, pursuant to section
16 5.(b)(1) of the Pacific Northwest electric power planning and
17 conservation act (P.L. 96-501), and such utility is unable to obtain
18 from that agency at least fifty percent of the funds for payments
19 required by RCW 19.27A.035, the amendments to this section by chapter
20 2, Laws of 1990 shall be null and void, and the 1986 state energy code
21 shall be in effect, except that a city, town, or county may enforce a
22 local energy code with more stringent energy requirements adopted prior
23 to March 1, 1990. This subsection shall expire June 30, 1995.

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