
SUBSTITUTE SENATE BILL 6169

State of Washington

53rd Legislature

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By Senate Committee on Energy & Utilities (originally sponsored by Senators Sutherland, Hochstatter and Haugen; by request of Department of Community Development and State Building Code Council)

Read first time 01/21/94.

1 AN ACT Relating to thermal transmittance rating standards for
2 fenestration products; and amending RCW 19.27A.020.

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

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

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

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

18 (3) The Washington state energy code shall take into account
19 regional climatic conditions. Climate zone 1 shall include all

1 counties not included in climate zone 2. Climate zone 2 includes:
2 Adams, Chelan, Douglas, Ferry, Grant, Kittitas, Lincoln, Okanogan, Pend
3 Oreille, Spokane, Stevens, and Whitman counties.

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

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

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

12 (ii) In zone 1, walls insulated to a level of R-19 (R value
13 includes insulation only), or constructed with two by four members,
14 R-13 insulation batts, R-3.2 insulated sheathing, and other normal
15 assembly components; in zone 2 walls insulated to a level of R-24 (R
16 value includes insulation only), or constructed with two by six
17 members, R-22 insulation batts, R-3.2 insulated sheathing, and other
18 normal construction assembly components; for the purpose of determining
19 equivalent thermal performance, the wall U-value shall be 0.058 in zone
20 1 and 0.044 in zone 2;

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

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

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

28 (vi) Double glazed windows with values not more than U-0.4;

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
9 glazing are the tested values for thermal transmittance due to
10 conduction resulting from either the American architectural
11 manufacturers' association (AAMA) 1503.1 test procedure or the American
12 society for testing materials (ASTM) C236 or C976 test procedures.
13 Testing shall be conducted under established winter horizontal heat
14 flow test conditions using the fifteen miles per hour wind speed
15 perpendicular to the exterior surface of the glazing as specified under
16 AAMA 1503.1 and product sample sizes specified under AAMA 1503.1. The
17 AAMA 1503.1 testing must be conducted by an AAMA certified testing
18 laboratory. The ASTM C236 or C976 testing U-values include any tested
19 values resulting from a future revised AAMA 1503.1 test procedure.))~~
20 U-values for vertical glazing shall be determined, certified, and
21 labeled in accordance with the appropriate national fenestration rating
22 council standard, as determined and adopted by the state building code
23 council. Certification of U-values shall be conducted by a certified,
24 independent agency licensed by the national fenestration rating
25 council. The state building code council may develop and adopt
26 appropriate alternative methods for determining, certifying, and
27 labeling U-values for vertical glazing. U-values for doors and
28 skylights determined, certified, and labeled in accordance with the
29 appropriate national fenestration rating council standard shall be
30 acceptable for compliance. The state building code council shall
31 review standards for determining, certifying, and labeling for doors
32 and skylights when developed and published by the national fenestration
33 rating council and shall consider adoption of these standards. The
34 state building code council may develop and adopt appropriate
35 alternative methods for determining, certifying, and labeling U-values
36 for doors and skylights. Sealed insulation glass, where used, shall
37 conform to, or be in the process of being tested for, ASTM E-774-81
38 ~~((level)) class A or better. ((The state building code council shall~~

1 ~~maintain a list of the tested U-values for glazing products available~~
2 ~~in the state.))~~

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

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

9 (b) The state energy code for residential structures does not
10 preempt a city, town, or county's energy code for residential
11 structures which exceeds the requirements of the state energy code and
12 which was adopted by the city, town, or county prior to March 1, 1990.
13 Such cities, towns, or counties may not subsequently amend their energy
14 code for residential structures to exceed the requirements adopted
15 prior to March 1, 1990.

16 (8) The state building code council shall consult with the state
17 energy office as provided in RCW 34.05.310 prior to publication of
18 proposed rules. The state energy office shall review the proposed
19 rules for consistency with the guidelines adopted in subsection (4) of
20 this section. The director of the state energy office shall recommend
21 to the state building code council any changes necessary to conform the
22 proposed rules to the requirements of this section.

23 (9) The state building code council shall conduct a study of county
24 and city enforcement of energy codes in the state. In conducting the
25 study, the council shall conduct public hearings at designated council
26 meetings to seek input from interested individuals and organizations,
27 and to the extent possible, hold these meetings in conjunction with
28 adopting rules under this section. The study shall include
29 recommendations as to how code enforcement may be improved. The
30 findings of the study shall be submitted in a report to the legislature
31 no later than January 1, 1991.

32 (10) If any electric utility providing electric service to
33 customers in the state of Washington purchases at least one percent of
34 its firm energy load from a federal agency, pursuant to section
35 5.(b)(1) of the Pacific Northwest electric power planning and
36 conservation act (P.L. 96-501), and such utility is unable to obtain
37 from that agency at least fifty percent of the funds for payments
38 required by RCW 19.27A.035, the amendments to this section by chapter
39 2, Laws of 1990 shall be null and void, and the 1986 state energy code

1 shall be in effect, except that a city, town, or county may enforce a
2 local energy code with more stringent energy requirements adopted prior
3 to March 1, 1990. This subsection shall expire June 30, 1995.

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