

CERTIFICATION OF ENROLLMENT

ENGROSSED HOUSE BILL 2347

Chapter 226, Laws of 1994

53rd Legislature
1994 Regular Session

WINDOWS, DOORS, SKYLIGHTS--THERMAL TRANSMITTANCE RATING STANDARDS

EFFECTIVE DATE: 4/1/94

Passed by the House March 9, 1994
Yeas 97 Nays 0

BRIAN EBERSOLE

**Speaker of the
House of Representatives**

Passed by the Senate March 9, 1994
Yeas 47 Nays 0

JOEL PRITCHARD

President of the Senate

Approved April 1, 1994

MIKE LOWRY

Governor of the State of Washington

CERTIFICATE

I, Marilyn Showalter, Chief Clerk of the House of Representatives of the State of Washington, do hereby certify that the attached is **ENGROSSED HOUSE BILL 2347** as passed by the House of Representatives and the Senate on the dates hereon set forth.

MARILYN SHOWALTER

Chief Clerk

FILED

April 1, 1994 - 10:21 a.m.

**Secretary of State
State of Washington**

ENGROSSED HOUSE BILL 2347

AS RECOMMENDED BY THE CONFERENCE COMMITTEE

Passed Legislature - 1994 Regular Session

State of Washington 53rd Legislature 1994 Regular Session

By Representatives Morris, Horn, Bray and Springer; by request of
Department of Community Development

Read first time 01/14/94. Referred to Committee on Energy & Utilities.

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

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

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

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

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

1 (3) The Washington state energy code shall take into account
2 regional climatic conditions. Climate zone 1 shall include all
3 counties not included in climate zone 2. Climate zone 2 includes:
4 Adams, Chelan, Douglas, Ferry, Grant, Kittitas, Lincoln, Okanogan, Pend
5 Oreille, Spokane, Stevens, and Whitman counties.

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

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

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

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

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

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

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

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

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

1 performance, the maximum glazing area shall be fifteen percent of the
2 floor area; and

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

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

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

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

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

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

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

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

28 (vii) Double glazed windows with values not more than U-0.65 in
29 zone 1 and U-0.60 in zone 2. The state building code council, in
30 consultation with the state energy office, shall review these U-values,
31 and, if economically justified for consumers, shall amend the
32 Washington state energy code to improve the U-values by December 1,
33 1993. The amendment shall not take effect until July 1, 1994; and

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

1 (c) (~~For log built homes with space heat other than electric~~
2 ~~resistance, the building code council shall establish equivalent~~
3 ~~thermal performance standards consistent with the standards and maximum~~
4 ~~glazing areas of (b) of this subsection.~~) The requirements of (b)(ii)
5 of this subsection do not apply to residences with log or solid timber
6 walls with a minimum average thickness of three and one-half inches and
7 with space heat other than electric resistance.

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

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

1 accordance with the appropriate NFRC standard shall be acceptable for
2 compliance with the state energy code. Sealed insulation glass, where
3 used, shall conform to, or be in the process of being tested for, ASTM
4 E-774-81 (~~(level)~~) class A or better. (~~(The state building code~~
5 ~~council shall maintain a list of the tested U values for glazing~~
6 ~~products available in the state.)~~)

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

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

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

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

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

36 (10) If any electric utility providing electric service to
37 customers in the state of Washington purchases at least one percent of
38 its firm energy load from a federal agency, pursuant to section
39 5.(b)(1) of the Pacific Northwest electric power planning and

1 conservation act (P.L. 96-501), and such utility is unable to obtain
2 from that agency at least fifty percent of the funds for payments
3 required by RCW 19.27A.035, the amendments to this section by chapter
4 2, Laws of 1990 shall be null and void, and the 1986 state energy code
5 shall be in effect, except that a city, town, or county may enforce a
6 local energy code with more stringent energy requirements adopted prior
7 to March 1, 1990. This subsection shall expire June 30, 1995.

8 NEW SECTION. **Sec. 2.** This act is necessary for the immediate
9 preservation of the public peace, health, or safety, or support of the
10 state government and its existing public institutions, and shall take
11 effect immediately.

Passed the House March 9, 1994.

Passed the Senate March 9, 1994.

Approved by the Governor April 1, 1994.

Filed in Office of Secretary of State April 1, 1994.