

**(Effective until March 15, 2024)**

**WAC 51-11R-40530 Section R405.3—Performance-based compliance.**

**R405.3 Performance-based compliance.** Compliance based on simulated energy performance requires that a proposed residence (*proposed design*) be shown to have an annual energy consumption based on carbon emissions of the fuels and energy use in the proposed building. Carbon emissions for both the standard reference design and the proposed design shall be calculated using Table R405.3. Energy use derived from simulation analysis shall be expressed in pounds of carbon per square foot of *conditioned floor area* as follows:

1. For structures less than 1,500 square feet of conditioned floor area, the annual carbon emissions shall be less than or equal to 73 percent of the annual carbon emissions of the *standard reference design*.

2. For structures 1,500 to 5,000 square feet of conditioned floor area, the annual carbon emissions shall be no more than 56 percent of the *standard reference design*.

3. For structures over 5,000 square feet of conditioned floor area, the annual carbon emissions shall be no more than 50 percent of the *standard reference design*.

4. For structures serving Group R-2 occupancies, the annual carbon emissions shall be less than or equal to 70 percent of the annual energy consumption of the *standard reference design*.

**TABLE R405.3  
CARBON EMISSIONS FACTORS**

Type	CO2e (lb/unit)	Unit
Electricity	0.80	kWh
Natural gas	11.7	Therm
Oil	19.2	Gallon
Propane	10.5	Gallon
Other <sup>a</sup>	195.00	mmBtu
On-site renewable energy	0.00	

<sup>a</sup> District energy systems may use alternative emission factors supported by calculations *approved by the code official*.

[Statutory Authority: RCW 19.27A.045 and chapter 19.27A RCW. WSR 20-21-081, § 51-11R-40530, filed 10/19/20, effective 2/1/21. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160 and chapter 19.27 RCW. WSR 20-01-047, § 51-11R-40530, filed 12/9/19, effective 7/1/20. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and 19.27.074. WSR 16-02-127, § 51-11R-40530, filed 1/6/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.045 and chapters 19.27 and 34.05 RCW. WSR 13-04-055, § 51-11R-40530, filed 2/1/13, effective 7/1/13.]

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**WAC 51-11R-40530 Section R405.3—Documentation.**

**R405.3 Documentation.** Documentation of the software used for the performance design and the parameters for the building shall be in accordance with Sections R405.3.1 through R405.3.3.

**R405.3.1 Compliance software tools.** Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the *code official*.

**R405.3.2 Compliance report.** Compliance software tools shall generate a report that documents that the *proposed design* complies with Section R405.2.

A compliance report on the *proposed design* shall be submitted with the application for the building permit. Upon completion of the building, a confirmed compliance report based upon the confirmed condition of the building shall be submitted to the *code official* before a certificate of occupancy is issued.

Compliance reports shall include information in accordance with Sections R405.3.2.1 and R405.3.2.2.

**R405.3.2.1 Compliance report for permit application.** A compliance report submitted with the application for building permit shall include all of the following:

1. Building street address, or other building site identification.
2. The name, organization, and contact information of the individual performing the analysis and generating the compliance report.
3. The name and version of the compliance software tool.
4. Documentation of all inputs entered into the software used to produce the results for the reference design and/or the rated home.
5. A certificate indicating that the *proposed design* complied with Section R405.2. The certificate shall document the building components' energy specifications that are included in the calculation including: Component-level insulation *R*-values or *U*-factors; duct system and building envelope air leakage testing assumptions; and the type and rated efficiencies of proposed heating, cooling, mechanical ventilation, and service water-heating equipment to be installed. If on-site renewable energy systems will be installed, the certificate shall report the type and production size of the proposed system. Additional documentation reporting estimated annual energy production shall be provided.
6. When a site-specific report is not generated, the *proposed design* shall be based on the worst-case orientation and configuration of the rated home.

**R405.3.2.2 Compliance report for certificate of occupancy.** A compliance report submitted for obtaining the certificate of occupancy shall include all of the following:

1. Building street address, or other building site identification.
2. Declaration of the total building performance path on the title page of the energy report and the title page of the building plans.
3. A statement bearing the name of the individual performing the analysis and generating the report, along with their organization and contact information, indicating that the as-build building complies with Section R405.2.
4. The name and version of the compliance software tool.
5. A site-specific energy analysis report that is in compliance with Section R405.2.
6. A final confirmed certificate indicating compliance based on inspection, and a statement indicating that the confirmed rated design of the built home complies with Section R405.2. The certificate shall

report the energy features that were confirmed to be in the home, including component level insulation *R*-values or *U*-factors; results from any required duct system and building envelope air leakage testing; and the type and rated efficiencies of the heating, cooling, mechanical ventilation, and service water-heating equipment installed.

7. Where on-site renewable energy systems have been installed, the certificate shall report the type and production size of the installed system. Additional documentation reporting estimated annual energy production shall be provided.

[Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and chapter 19.27A RCW. WSR 23-02-060, 23-12-102, and 23-20-022, § 51-11R-40530, filed 1/3/23, 6/7/23, and 9/25/23, effective 3/15/24. Statutory Authority: RCW 19.27A.045 and chapter 19.27A RCW. WSR 20-21-081, § 51-11R-40530, filed 10/19/20, effective 2/1/21. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160 and chapter 19.27 RCW. WSR 20-01-047, § 51-11R-40530, filed 12/9/19, effective 7/1/20. Statutory Authority: RCW 19.27A.020, 19.27A.045, 19.27A.160, and 19.27.074. WSR 16-02-127, § 51-11R-40530, filed 1/6/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.045 and chapters 19.27 and 34.05 RCW. WSR 13-04-055, § 51-11R-40530, filed 2/1/13, effective 7/1/13.]