



Community Development and Sustainability Department

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RESIDENTIAL WATER HEATER REPLACEMENT REQUIREMENTS

Replacement water heaters shall comply with one of the four (4) options below in addition to the First Hour Rating from Table 501.1, the Appliance Efficiency Regulations (Title 20) and insulation requirements listed below.

1. A natural gas or propane water-heating system shall meet one of the requirements listed below and have no recirculation system.
 - a. Gas or propane storage type water heater with an input of 75,000 Btu per hour or less.
 - b. Gas or propane instantaneous water heater with an input of 200,000 Btu per hour or less and no tank.
 - c. New electric-resistance storage or instantaneous water heater may be installed as the main water heating source only if the following conditions are met:
 - i. natural gas is unavailable,
 - ii. the water heater is located within the building envelope, and
 - iii. a compliant solar water-heating system is installed.
2. If no natural gas is connected to the building, an electric water heater may be installed. For storage type water heaters the capacity shall not exceed 60 gallons. No recirculation system shall be installed.
3. A water-heating system approved by the executive director.
4. Existing building plus addition performance approach to demonstrate that the system uses no more energy than the system defined in Item 1 above.

Hot water system piping shall be insulated as follows:

- A. Domestic hot water system piping listed below must be insulated with 1" thick pipe insulation.
 - i. The first 5 feet (1.5 meters) of hot and cold water pipes from the storage tank.
 - ii. All piping with a nominal diameter of 3/4 inch or larger.
 - iii. All piping associated with a domestic hot water recirculation system.
 - iv. Piping from the heating source to storage tank or between tanks.
 - v. Piping buried below grade.
 - vi. All hot water pipes from the heating source to the kitchen fixtures.

**TABLE 501.1
FIRST HOUR RATING¹**

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
Number of Bedrooms	1	2	3	2	3	4	5	3	4	5	6
First Hour Rating, ² Gallons	42	54	54	54	67	67	80	67	80	80	80

¹ The first hour rating is found on the energy label

NOTES:

1. **A CF2R is required to be completed by the installer (2013 CF2R-PLB-02).** A simplified version of the form can be obtained at the Building Division website.
<<LINK TO FORM>>
2. The minimum capacity for storage water heaters shall be in accordance with the first hour rating listed in Table 501.1.
3. Existing inaccessible piping shall not require insulation
4. Piping installed in attics with a minimum of 4 inches of attic insulation on top of the piping shall not be required to have pipe insulation.