

CHAPTER 5

WATER HEATERS

Part I

501.0 General.

The regulations of this chapter shall govern the construction, location, and installation of fuel-burning and other water heaters heating potable water. The minimum capacity for water heaters shall be in accordance with the first hour rating listed in Table 5-1. All design, construction, and workmanship shall be in conformity with accepted engineering practices, manufacturer's installation instructions, and applicable standards and shall be of such character as to secure the results sought to be obtained by this code. No water heater shall be hereinafter installed that does not comply in all respects with the type and model of each size thereof approved by the Authority Having Jurisdiction. A list of accepted standards is included in Table 14-1.

502.0 Definitions.

502.1 Hot Water Supply Boiler. A potable water heating unit exceeding any of the parameters of Section 502.3. A Hot Water Supply Boiler is under the jurisdiction of the Oregon Boiler and Pressure Vessel Specialty Code.

502.2 Direct Vent Water Heater. A water heater which is constructed and installed so that all air for combustion is derived directly from the outside atmosphere and all flue gases are discharged directly to the outside atmosphere.

502.3 Water heaters regulated by this code are appliances which heat potable water and are equipped with approved safety devices and operate at or below all of the following:

- (1) Volume of one hundred twenty (120) gallons;
- (2) Water temperature of two hundred ten degrees (210°F.);
- (3) One hundred fifty (150) pounds-per-square-inch operating pressure; and
- (4) Two hundred thousand (200,000) BTU input.

Water heaters regulated by this code include domestic water heaters designed to create hot water instantaneously on demand without the use of a storage tank.

502.4 - 502.10 - DELETED

502.11 Indirect-Fired Water Heater. A water heater consisting of a storage tank equipped with an internal or external heat exchanger used to transfer heat from an external source to heat potable water. The storage tank may contain heated potable water or water supplied from an external source, such as a boiler.

502.12 through 502.14 - DELETED

502.15 Water Heater. An appliance for supplying hot water for domestic or commercial purposes. [NFPA 54: 3.3.55.7]

503.0 Permits.

It shall be unlawful for any person to install, remove, or replace or cause to be installed, removed, or replaced any water heater without first obtaining a permit from the Authority Having Jurisdiction to do so.

504.0 Inspection.

504.1 - DELETED

504.2 Final Water Heater Inspection. This inspection shall be made after all work authorized by the permit has been installed. The Authority Having Jurisdiction will make such inspection as deemed necessary to be assured that the work has been installed in accordance with the intent of this code. No equipment or part thereof shall be covered or concealed until the same has been inspected and approved by the Authority Having Jurisdiction.

505.0 Water Heater Requirements.

505.1 Location. Water heaters which depend on the combustion of fuel for heat shall not be installed in a room used or designed to be used for sleeping

TABLE 5-1¹ FIRST HOUR RATING

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
	1	2	3	2	3	4	5	3	4	5	6
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

Note:

1 The first hour rating is found on the "Energy Guide" label.

2 Non-storage and solar water heaters shall be sized to meet the appropriate first hour rating as shown in the table.

least 22 inches x 24 inches (560 mm x 610 mm) in size, shall open easily and safely under all conditions, especially snow; and shall be constructed so as to permit access from the roof side unless deliberately locked on the inside.

At least 6 feet (1.8 m) of clearance shall be available between the access opening and the edge of the roof or similar hazard, or rigidly fixed rails or guards a minimum of 42 inches (1.1 m) in height shall be provided on the exposed side. Where parapets or other building structures are utilized in lieu of guards or rails, they shall be a minimum of 42 inches (1.1 m) in height. [NFPA 54: 9.4.3.3]

509.3.4 Permanent lighting shall be provided at the roof access. The switch for such lighting shall be located inside the building near the access means leading to the roof. [NFPA 54: 9.4.3.4]

509.4 Appliances in Attics.

509.4.1 Attic Access. An attic in which an appliance is installed shall be accessible through an opening and passageway at least as large as the largest component of the appliance, and not less than 22 inches x 30 inches (560 mm x 760 mm). [NFPA 54: 9.5.1]

509.4.2 Where the height of the passageway is less than 6 feet (1.8 m), the distance from the passageway access to the appliance shall not exceed 20 feet (6.1 m) measured along the centerline of the passageway. [NFPA 54: 9.5.1.1]

509.4.3 The passageway shall be unobstructed and shall have solid flooring not less than 24 inches (610 mm) wide from the entrance opening to the appliance. [NFPA 54: 9.5.1.2]

509.4.4 Work Platform. A level working platform not less than 30 inches (760 mm) by 30 inches (760 mm) shall be provided in front of the service side of the appliance. [NFPA 54: 9.5.2]

509.4.5 Lighting and Convenience Outlet. A permanent 120-volt receptacle outlet and a lighting fixture shall be installed near the appliance. The switch controlling the lighting fixture shall be located at the entrance to the passageway. [NFPA 54: 9.5.3]