



WATER HEATER REPLACEMENT-STORAGE TYPE

BUILDING DIVISION

Purpose

A permit is required for all water heater installations, including replacement units. Permits can be issued over the counter for replacements only.

Installation

Water heaters shall be installed as per the manufacturer's installation instructions and the current California Plumbing and Mechanical Codes.

Inspection

The inspector will be checking for the following minimum requirements:

1. **Elevated Platform:** Gas fired water heaters located in a garage shall be installed so that burners and burner-ignition devices are located not less than 18-inches above the floor unless listed as flammable vapor ignition resistant. CPC 507.13
2. **Seismic Bracing:** To prevent the water heater from toppling over during an earthquake, it must be secured to the wall in an approved matter. CPC 507.2 Two straps are required and must be located at points within the upper one-third and lower one-third of the water heater and must wrap completely around the water heater and back to the wall. The lower strap must be at least 4-inches above the controls. A third strap is required for water heaters exceeding 52-gallons and the ends of all straps must be secured to a framing stud with a minimum ¼-inch x 3-inches lag bolt with a washer. (Please note that plumbing tape is not permitted as strapping material).
3. **Appliance Vent:** That portion of the venting system which penetrates the ceiling, floor, attic, or roof systems must be of type B, BW, type L, or other listed assembly approved by the Building Official. The appliance vent shall extend in a generally vertical direction with offsets exceeding 45 degrees.
4. **Vent Connector:** That portion of the appliance vent, which is within the same room as the appliance. Vent sections must have a minimum rise of ¼-inch per foot. Clearance from the vent connector to any combustible construction must be at least 6-inches for single wall pipe and 1-inch for double wall pipe.
5. **Clearance to Combustibles:** The clearance from the appliance vent to any combustible construction must be at least 1-inch. To maintain clearances from combustible insulation in attics, a metal sleeve shall be provided around the vent pipe, extending 6-inches above the insulation and maintaining a minimum of 1-inch around the vent. CPC Table 509.7.3.
6. **Vent termination:** Vents must be extended above the roof surface a minimum of 12-inches and terminated in an approved vent cap. The minimum total height of the venting system is 5-feet from the vent collar to the termination. The termination must be a minimum of 4-feet from any opening into the building. CPC 509.6 & Table 509.4 509.6.2
7. **Temperature & Pressure Relief Valve & Drain Line:** All storage type water heaters must be equipped with a listed temperature and pressure relief valve and drain line. The drain line should be equal to the outlet size, but in no case be less than ¾-inch copper or galvanized pipe and must extend from

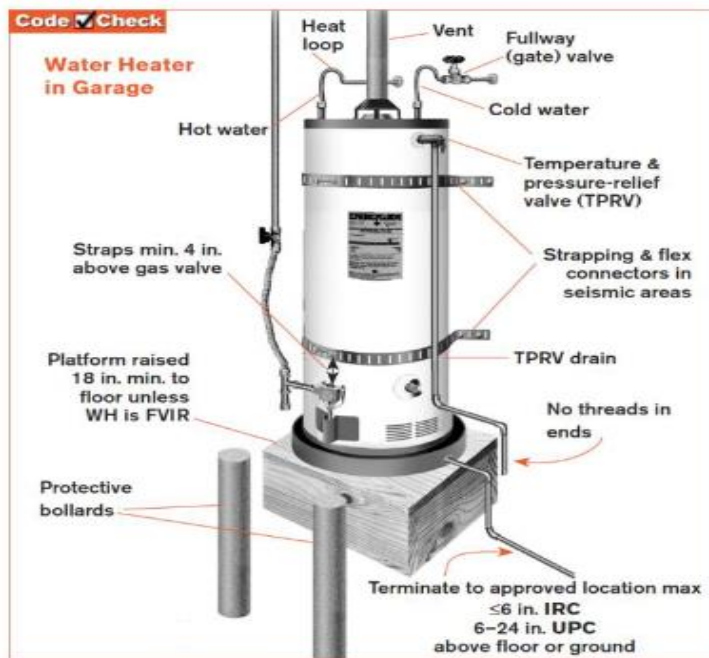


WATER HEATER REPLACEMENT-STORAGE TYPE

BUILDING DIVISION

the valve to the outside of the outlet size, but in no case be less than ¼-inch copper or galvanized pipe and must extend from the valve to the outside of the building. The end of the pipe should not be more than 24-inches or less than 6-inches above the ground and point downward. If you cannot drain to the outside, other locations for termination shall be approved by the Building Official. CPC 504.6 & 608.5

8. Combustion Air: Combustion air shall be provided in accordance with Section 506 of the CPC.
9. Gas Connection: The gas supply must have a shut-off valve adjacent to the water heater. An approved flex connector may be used for the final connection to the water heater. The maximum length for the flex connector is 3-feet. A shut off valve must be located ahead of the flex connector and before the sediment trap (drip leg) per manufactures instructions. CPC 1211.5
10. Noncombustible Collar: A metal collar shall be placed against the ceiling to seal the gap between the gypsum board and the vent.
11. Pipe Bollard: If the water heater is in the path of travel of a vehicle, a protective 3-inch diameter pipe bollard may be required to be installed so as to protect the water heater from damage. The pipe is to be 3-feet high above floor and set into a 2-foot-deep concrete foundation (new construction only).
12. Bonding of Piping: Water and gas pipes shall be bonded. CEC 250.104.



Note: For illustration purpose only