



WATER HEATER INSTALLATION AND

REPLACEMENT COMMUNITY DEVELOPMENT DEPARTMENT •

BUILDING DIVISION

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GENERAL

A PLUMBING PERMIT IS REQUIRED FOR ALL WATER HEATER INSTALLATIONS AND REPLACEMENTS. A FINAL INSPECTION IS REQUIRED AFTER ALL WORK HAS BEEN COMPLETED. THE FOLLOWING ARE WATER HEATER INSTALLATION REQUIREMENTS FROM THE 2016 CALIFORNIA CODES.

SEISMIC BRACING [CPC SECTION 507.2]

Water heaters up to 75 gallons require two seismic straps; one located within the top 1/3 of the water heater unit and one at the bottom 1/3. The bottom strap must be located at least 4" away from the water heater controls. A minimum of three seismic straps are required for water heaters greater than 75 gallons. There are a number of seismic strap kits that are available commercially, however, metal plumbers tape can be used if it completely encircles the water heater and is then attached to a structural framing member at each end. Any platform supporting the water heater must be secured to the structures or the slab.

EXPANSION TANK (CPC 608.3)

Expansion tank is required when the water system is "closed loop". (When the water cannot move back into the water supply system). A system is considered a closed loop when a *water regulator and/or backflow prevention device* such as the *reduced pressure backflow prevention device (RP)* is installed.

VENTING [CPC SECTION 509.6, CMC SECTION 802.6.2]

All single wall and single wall to double wall joints shall be secured with a minimum of three sheet metal screws, rivets or similar positive connections. Single wall vent are prohibited in residential occupancies per CBC 509.7.3. The vent and the water heater must maintain clearance from combustible materials such as wall framing or roofing. Generally the minimum distance is 6" for single wall and 1" for double wall and the water heater check the manufactures listing on the materials. The vent shall terminate a minimum 12" above the roof through flashing at the roof and terminate in a listed and approved vent cap. Vents may require additional supports depending on the material and design.

PRESSURE/TEMPERATURE VALVE [SECTION 505.6, 608.5]

All water heaters have a pressure /temperature (P/T) valve. The valve shall be drained to the exterior and terminate toward the ground maintain between 6" and 24" of clearance from the ground and pointing downward. The diameter of the valve opening (generally 3/4") must be maintained to the termination of the drain. Check the manufacturer's requirements. When approved by the Chief Building Official, such drain may terminate at other locations (i.e., laundry tub, floor sink, or floor drain). No part of such drain shall be trapped and the terminal end of the drain shall not be threaded.

LOCATED IN BEDROOMS AND BATHROOMS [CPC SECTION 505]

Water heater installations in bedrooms and bathrooms shall comply with the provisions of CPC Section 505.

LOCATED IN A GARAGE [CPC SECTION 508.14]

Water heaters located in a garage must be elevated so the pilot light and controls are at least 18" above the garage floor surface. Appliances shall be located or protected so it is not subject to physical damage by a moving vehicle.

LOCATED IN AN ATTIC OR UNDER-FLOOR SPACES [CPC SECTION 508.4, 509.4, CMC SECTION 904.11]

Water heaters located in an attic or under-floor space shall be accessible through an opening not less than the largest component of the appliance, and not less than 22"x30". Passageway to the appliance shall not exceed 20' where the height of the passageway is less than 6'. Passageway shall be unobstructed and shall have solid flooring not less than 24" with a work platform not less than 30"x30" installed with a receptacle outlet and light fixture.

The water heater must be set in a pan constructed of water tight corrosion resistant material. The pan must be fitted with a minimum 3/4" drain that drains to an approved location. The P/T line is not allowed to terminate at this pan or be connected to it.

COMBUSTION AIR MUST BE MAINTAINED [CPC SECTION 507]

Combustion air must be maintained per the California Plumbing Code. One final inspection is required after all work has been completed.

INSULATION [2010 CALIFORNIA ENERGY CODE SECTION 105 (j) 2]

The first 5' of the hot and cold water pipes connected to the water heater shall be insulated with foam plastic pipe insulation. The insulation shall be installed so that it is at least 6" from the sheet metal flue pipe.

BONDING [CMC SECTION 1312.13]

Metallic water and gas pipes within a residence are connected together with electrical bonding wires and then grounded to prevent shock hazards should an energized electrical wire come in contact with the pipe. The bonding will typically take place at the water pipe of the water heater.

SEDIMENT TRAP [CPC 1212.7, CMC 1313.7]

Where a sediment trap is not incorporated as a part of the gas utilization appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical at the time of appliance installation.