

## Installation

Water heaters shall be installed as per the manufacturer's installation instructions and Chapter five of the California Plumbing Code 2001 Edition. The inspector will be looking for the following.

**1. Elevated Platform:** Gas fired water heaters located in a garage. The pilots, burners or heating elements and switches must be at least 18" above the floor.

**2. Seismic Bracing:** In order to prevent the water heater from toppling during an earthquake, it must be secured to the wall in an approved manner. Two straps are required, the strapping must be located at points within the upper one-third and lower one-third of the water heater. The lower strap must be at least 4" above the controls. **Strapping must be a minimum of 1" wide and 18 gauge (not plumbers tape)** and must wrap completely around the water heater then return to the wall. Ends of straps must be secured to a stud with a minimum ¼" x 3" lag bolt with washer.

**3. Appliance Vent:** That portion of the venting system which penetrates the ceiling floor, attic or roof systems must be of type B, BW, or type L, or other listed assembly approved by the Building Official. The appliance vent shall extend in a generally vertical direction with offsets not to exceed 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" per foot.

Clearance from the vent connector to any combustible construction must be at least 6" for single wall pipe and 1" for double wall pipe.

**5. Clearance to Combustibles:** The clearance from the appliance vent to any combustible construction must be at least 1". In order to maintain clearances from combustible insulation in attics, a metal sleeve shall be provided around the vent pipe, extending 6" above insulation and maintaining a minimum of 1" around vent.

**6. Vent Termination:** Vents must extend above the roof surface a minimum of 12" and terminate in an approved vent cap. The minimum total height of the venting system is 5' from vent collar to termination. Termination must be a minimum of 4' from any opening into the building.

**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" 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" or less than 6" above the ground and point downward. If you cannot drain to the outside, other locations for termination may be approved. Drain may **terminate** on garage floor on a case by case basis.

**8. Combustion Air:** If the room or area in which the water heater is located has a volume less than 2000 cubic feet, then you may need to provide additional combustion air from outside. Combustion air grills must

be located either high or low. They must be installed within the upper 12" or lower 12" of the appliance enclosure or room. Contact the Building Division for the required size of the air grills (typically minimum 100 sq-in.)

**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. Maximum length for the flex connector is 3'. A shut off valve must be located ahead of the flex connector.

**10. Non Combustible Collar:** A metal collar shall be placed against the ceiling to seal the gap between the sheetrock and the vent.

**11. Pipe Insulation:** The first 5' of both cold and hot water inlet and outlet piping must be insulated.

**12. Pipe Bollard:** If the water heater is located in the path of travel of a vehicle then a protective 3" pipe bollard may be required to be installed so as to protect the water heater from damage. Pipe is to be 3' above floor and set into a 2' deep concrete foundation and filled with mortar (new construction only).

## Bonding of Piping

Hot, cold water pipes and gas pipe shall be bonded by use of a #8 AWG copper wire.

## **Exterior Locations**

Contact San Dimas Planning Dept. for specific design requirements. (Structure must match house materials and design)

