

Mechanical Permits

Heating and air conditioning appliances shall be of an approved type and shall be designed for use with the type fuel to which they will be connected. A gas-fired appliance may be connected only to the type fuel specified on its label. An appliance may be converted to use another type fuel, provided it is relabeled to indicate that such a conversion has been made by an approved agency. All listed appliances shall be installed in accordance with the conditions of their listing. For unlisted appliances, consult the building division. Carbon Monoxide detectors are now required to be installed with all new construction permits, remodeling/addition permits and at any time that the heating appliance(s) are replaced or upgraded.

Installation

A furnace shall be installed with clearances as provided by the manufacturer. When supported from the ground, the furnace shall be supported on a concrete slab not less than three (3) inches above adjoining grade.

Wood Stoves

Some general rules for wood stoves are:

1. Wood Stoves that are not approved for emission control (pre-1986) are not permitted.
2. Appliances for installation in a mobile home must be mobile home approved and must be installed per listing.
3. Listed appliances must be installed per listing. Check with the building division for special requirements related to installing inserts or unlisted stoves.

Gas Fired Furnaces

Furnaces shall not be installed in bathrooms, clothes closets, or in any room used for sleeping purposes, or any confined space with access only through such room or space.

Venting

Each furnace shall be vented to an Underwriters Laboratory listed type vent, which shall be installed with not less than the minimum clearance specified on its label.

Combustion Air for Gas Fired Furnaces

Two openings each with a minimum of one hundred (100) square inches in area, shall be provided for combustion air. One opening within twelve (12) inches of compartment ceiling and one within twelve (12) inches of the floor. Check with the building division for possible additional requirements. When the volume of the room in which the appliance is installed is greater than fifty (50) cubic feet per 1,000 B.T.U./h of all appliances, outside combustion air is not required.

Combustion Air may be taken from outside the building, from an attic with 30 inches clear height and sufficient volume or from under the floor with unobstructed openings to the exterior, that are twice the area of required openings.

Where such ducts and openings are used, they shall consist of two (2) or more approximately equal area, one (1) or more within twelve (12) inches of the ceiling and one (1) or more within twelve (12) inches of the floor of the enclosure. Combustion air ducts from the building exterior shall be constructed of galvanized steel. *Exception: In some cases, stud spaces may be used, check the building division.*

Ducts

Metal ducts shall be installed in or within four (4) inches of the ground. Metal ducts installed in or under a concrete slab shall be encased in at least two (2) inches of concrete. Factory made air ducts shall not be installed in or on the ground, in masonry or in concrete, except when installed as a liner inside of concrete, tile or metal pipe. Contact the building division for support requirements.

Blower Type Warm Air Furnaces

No furnace shall be installed in any bedroom, bathroom or closet, nor in any enclosed space with access only to such room or space. Appliances shall conform to the conditions of their listing. Clearances to combustibles shall be specified in the listing. Appliances intended for installation in closets or alcoves shall be so listed. A working space of not less than thirty (30) inches in the least dimension shall be provided along the entire front of firebox side of every furnace to service the appliance.

Circulation Air

No circulating air inlet shall be located in the following positions:

1. Within 10 ft of an appliance or plumbing vent outlet which is located less than 3 ft above the circulating air supply inlet.
2. Areas having objectionable odors, fumes or flammable vapors.
3. Areas whose volume is less than 25% of the volume served by the system and where permanent openings to supplemental areas are not provided in accordance with make up air requirements.

4. Areas having a direct fired fuel burning appliance.

Contact the building division for exceptions to the requirements.

Conditioned Air (Supply)

The minimum total area of the conditioned air ducts from a blower-type warm air furnace shall be not less than two (2) square inches for every 1,000 B.T.U. output rating of the furnace. Ducts used for conveying conditioned air shall be of approved noncombustible material. Conditioned air pipes, ducts, boxes and fittings shall be insulated in an approved manner. Ducts and pipes shall be supported by metal straps, and in no case by nailing through the corners of pipes or ducts.

Horizontal and Attic Furnaces

Such furnaces shall be accessible by an opening and passageway as large as the largest piece of furnace, but not less than thirty by thirty (30 X 30) inches. Passageway to attic furnaces shall have continuous flooring not less than twenty-four (24) inches wide, from opening to furnace.

Openings shall not be over twenty (20) feet from furnace. A permanent electrical outlet and lighting fixture, controlled by a switch at the passageway opening, shall be installed near the furnace. The control side of the furnace shall have a working platform not less than thirty (30) inches wide.

Under floor Furnace

A furnace installed under floors shall have clearance from combustible as per its listing. Access shall be sufficient to remove furnace, with a minimum of 36 X 22 inches. Distance from access opening to the working space for the burner shall not exceed twenty (20) feet. Suspended furnaces shall be a minimum of six (6) inches above grade. A furnace supported from the ground shall rest on a concrete slab a minimum of three (3) inches above grade.

A permanent electric outlet and lighting fixture controlled by a switch located at the passageway opening shall be provided at or near the furnace.

Recessed Wall Heater-Vented

Such heater shall be installed in a minimum two by four (2 X 4) inch wall, between studs spaced sixteen (16) inches on center, and must be vented to an approved type "BW" vent assembly. Location shall be as specified by the listing of the appliance.

Ranges

Gas piping to kitchen range shall be installed to conditions of listing- instructions shall remain attached to appliance.

Domestic Clothes Dryer

Domestic clothes dryers shall be exhausted to the outside if in an area that is habitable or in an area containing other fuel burning appliances. Exhaust ducts shall not terminate beneath the building or in an attic. A clothes dryer shall not be connected to a vent connector, gas bent or chimney. Ducts for clothes dryers shall not be put together with sheet metal screws. Ducts shall have a smooth, noncombustible, nonabsorbent surface. Flexible connectors six (6) feet or less may be used to connect dryer to duct.

Appliances in Garages

Appliances generating a glow, spark or flame capable of igniting flammable vapors may be installed in garage, provided the pilots and burners, or heating elements and switches are at least eighteen (18) inches above the floor level. Appliances located in garages must be protected from mechanical damage by being installed behind a protective barrier or located out of the normal path of vehicles.

Liquefied Petroleum Gases

Liquefied petroleum gas-burning appliances, except range top burners, shall be equipped with a listed device or devices which will shut off the flow of gas to the pilot and main burner or burners in the event of ignition failure. All appliances using liquefied petroleum gas shall be installed in accordance with listing requirements of the manufacturer. Liquefied Petroleum Gas installations shall be by a licensed agent.

Inspection

For final clearance on the gas piping system, an air pressure test of ten (10) pounds for fifteen (15) minutes, with no perceptible drop in pressure, is required. (This test shall not be made against shut-off valves.) All gas appliances shall be properly installed and vented. Call for inspection when gauge is installed on gas line and holding the required ten (10) pound pressure, and prior to covering of any of the piping system. Liquefied Petroleum gas piping systems shall be tested at an air pressure test of ten (10) pounds for fifteen (15) minutes, with no perceptible drop in pressure.

Air Conditioning and Cooling Equipment

Air intake openings of any air conditioning or cooling equipment shall be not less than ten (10) feet from any plumbing fixture vent outlet, nor less than ten (10) feet from any fuel burning combustion products vent outlet, unless such outlet is three (3) feet above air intake opening.

Roof or Exterior Wall Mounted Equipment

Heating or cooling equipment located on exterior walls, or roofs are subject to special weather protection, platform and access requirements. Consult your building division for detailed instructions.

Heating Systems

All comfort heating systems, solid or liquid fuel, shall comply with the manufacturers listing for installation. If appliance is unlisted, check with the building division prior to installation.