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## **Protection of Appliances Installed in Garages**

Appliances (gas or electrical) installed in garages or other areas where they may be subjected to mechanical damage shall be protected (see detail back page).

### **CODE REQUIREMENTS**

#### **1. 2010 California Mechanical Code based on the 2009 California Mechanical Code and 2010 California Plumbing Code based on the 2009 Uniform Plumbing Code**

**CPC Section 508.14 Elevation of ignition source.** Equipment which has a flame, generates a spark or uses a glowing ignition source open to the space in which it is installed shall be elevated such that the source of ignition is at least 18 inches above the floor in Group S, Division 3, 4 or 5 and Group U, Division 1 Occupancies. When appliances installed with a Group U, Division 1 Occupancy are enclosed in a separate, approved compartment having access only from outside of the garage, such equipment may be installed at floor level, providing the required combustion air is taken from and discharged to the exterior of the garage. Such equipment shall not be installed in Group H Occupancies or control areas where open use, handling or dispensing of combustible, flammable or explosive materials occurs.

**CMC Section 307.0 and 604.0 Protection from Damage.** Equipment shall not be installed in a location where it is subject to mechanical damage unless protected by approved, substantial barriers.

#### **Equipment Supports and Restraints.**

**CPC Section 508.2 and CMC Section 303.4 General.** Equipment shall be supported by substantial bases or hangers capable to supporting the loads to which they will be subjected as determined by the Building Code. Stationary equipment shall be fixed in position by substantial means which will prevent its incidental displacement. Such restraint shall accommodate both vertical and lateral loads including, where applicable, wind, snow, and seismic as required by the Building Code.

**CMC Section 1014.0 Vibration Isolation.** When vibration isolation of equipment is employed, an approved means of supplemental restraint shall be used to accomplish the support and restraint required by this section.

**CMC Section 303.4. Anchorage of Appliances.** Appliances designed to be fixed in place shall be securely fastened in place. Supports for appliances shall be designed and constructed to sustain vertical and horizontal loads within the stress limitations specified in the Building Code.

Where other portions of this code or provisions of the Building Code require noncombustible construction or supports, noncombustible material shall also be used to meet the requirements of this section.

#### **2. 2010 California Plumbing Code based on the 2009 California Plumbing Code by IAPMO.**

##### **CPC Section 508.14.1 and 2. Protection from Damage.**

All water heaters installed in areas where they may be subjected to mechanical damage shall be suitable guarded against such damage by being installed behind adequate barriers or by being elevated or located out of the normal path of vehicle using any such garage.

**CPC Section 502.2.** In seismic zones 3 and 4, water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower point, a minimum distance of four (4) inches shall be maintained above the controls with the strapping.

- For complete water heater requirements, see the 2010 California Mechanical Code based on the 2009 California Mechanical Code and the 2010 California Plumbing Code based on the 2009 California Plumbing Code.

