

1613.7 Additional seismic requirements.

1613.7.1 Suspended ceilings. Minimum design and installation standards for suspended ceilings shall be determined in accordance with the requirements of Chapter 25 and this section.

1613.7.1.1 Scope. This part contains special requirements for suspended ceilings and lighting systems. The provisions of Section 13.5.6 of ASCE 7 shall apply except as modified here.

1613.7.1.2 General. The suspended ceilings and lighting systems shall not be located more than 6 feet (1828 mm) below the structural floor or roof system above unless the entire system is designed by a licensed engineer or architect.

1613.7.1.3 Design and installation requirements.

1613.7.1.3.1 Bracing at discontinuity. Positive bracing to the structure shall be provided at changes in the ceiling plane elevation or at discontinuities in the ceiling grid system.

1613.7.1.3.2 Support for appendages. Cable trays, electrical conduits and piping shall be independently supported and independently braced from the structure.

1613.7.1.3.3 Sprinkler heads. All sprinkler heads (drops) except fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall be designed to allow for free movement of the sprinkler pipes with oversize rings, sleeves or adaptors through the ceiling tile in accordance with Section 13.5.6.2.2 (e) of ASCE 7.

Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with Section 712 of this Code.

1613.7.1.3.4 Perimeter members. A minimum wall angle size of at least a 2-inch (51 mm) horizontal leg shall be used at perimeter walls and interior full height partitions. The first ceiling tile shall maintain 3/4-inch (19 mm) clear from the finish wall surface. An equivalent alternative detail that will provide sufficient movement due to anticipated lateral building displacement may be used in lieu of the long leg angle subject to the approval of the Superintendent of Building.

1613.7.1.4 Special requirements for means of egress. Suspended ceiling assemblies located along means of egress serving an occupant load of 30 or more shall comply with the following provisions:

1. **General.** Ceiling suspension systems shall be connected and braced with vertical hangers attached directly to the structural floor or roof system above and along the means of egress serving an occupant load of 30 or more and at lobbies accessory to Group A occupancies. Spacing of vertical hangers shall not exceed 2 feet (610 mm) on center along the entire length of the suspended ceiling assembly located along the means of egress or at the lobby.

2. **Assembly device.** All lay-in panels shall be secured to the suspension ceiling assembly with two hold-down clips minimum for each tile within a 4-foot (1219 mm) radius of the exit lights and exit signs.

3. **Emergency systems.** Independent supports and braces shall be provided for light fixtures required for exit illumination. Power supply for exit illumination shall comply with the requirements of Section 1006.3 of this Code.

4. **Supports for appendage.** Separate support from the structural floor or roof system above shall be provided for all appendages, such as light fixtures, air diffusers, exit signs and similar elements.

1613.7.2 Wood diaphragms supporting concrete or masonry walls. In addition to other requirements of this Chapter for lateral-force-resisting systems, wood diaphragms shall comply with the following provisions:

1. **Continuous tie spacing.** The spacing of continuous ties shall not exceed 40 feet (1219 mm). Added chords of diaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties.
2. **Anchorage force.** The maximum diaphragm shear used to determine the depth of the subdiaphragm shall not exceed 75 percent of the maximum diaphragm shear.
3. **Horizontal irregularities.** Chords and drag strut members in diaphragms having horizontal structural irregularities listed in Table 12.3-1 of ASCE 7 shall be designed for forces in Section 12.3.3.4 of ASCE 7.

1613.8 Earthquake recording instrumentation.

1613.8.1 Applicability. The requirements of this section shall apply to buildings for which permits were issued after July 1, 1965.

1613.8.2 General. Every new building over six stories in height with an aggregate floor area of 60,000 square feet (5574 m²) or more and every new building over ten stories in height regardless of the floor area shall be equipped with at least three approved recording accelerographs.

Exception: A building selected by the State of California as part of its Strong Motion Instrumentation Program (Section 2700, Chapter 8, Division 2, *California Public Resources Code*) need not comply with this section until it ceases to be part of the program.

All new buildings that are designed using the nonlinear response history procedure of "Seismic Response History Procedures" in Chapter 16 of ASCE 7 shall be equipped with a structural monitoring system in accordance with standards established by the Superintendent of Building.

1613.8.3 Maintenance. Maintenance and service of the instruments shall be provided by the owner of the building subject to the approval of the Superintendent of Building. Data produced by the instruments shall be made available to the Superintendent of Building on request.