



**BUILDING CODE MANUAL  
COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION  
Based on the 2011 LACBC**

**#142  
808  
Article 1  
10-11-11  
Page 1 of 4**

## **SUSPENDED CEILING SYSTEMS**

Suspended ceiling systems, also known as acoustical ceiling systems, are ceiling assemblies used to support acoustical lay-in panels or tiles. Such systems shall comply with Sections 808 and 2506 of the Building Code, including Section 13.5.6 of the ASCE 7-05 Standard, ASTM C 635, ASTM C 636, and CISCA – “Guidelines for Seismic Restraint for Direct-hung Suspended Ceiling Assemblies.”

Although Item “h” of Section 13.5.6.2.2 of the ASCE 7-05 Standard specifies that “suspended ceilings shall be subject to the special inspection requirements of Section 11A.1.3.9,” Section 1613.1 of the Building Code did not adopt Appendix 11A of the ASCE 7-05 Standard. Therefore, the County has interpreted the codes to NOT require special inspection. In addition, these systems shall comply with all applicable requirements of the Building Code, including fire-resistance-rated construction provisions of Chapter 7.

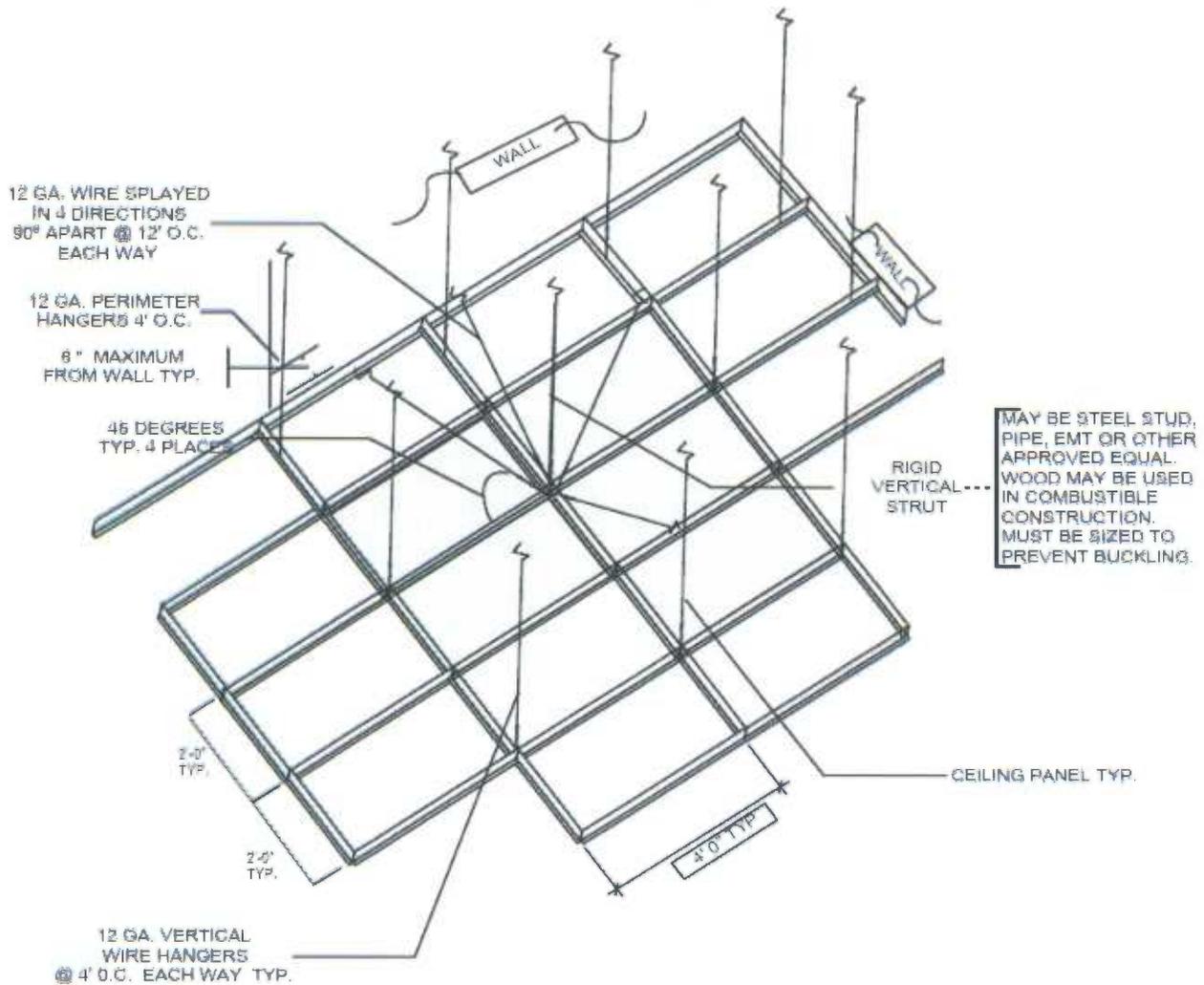
Below are three methods of compliance in Seismic Design Categories D through F:

- 1) Submit complete plans and substantiating design calculations for the proposed suspended ceiling systems. The construction documents shall be prepared by a California licensed architect or registered civil engineer and must demonstrate compliance with Section 13.5.6 of the ASCE 7-05 Standard. The assemblies shall also conform to all of the ASTM standards listed above. OR
- 2) Propose an approved suspended ceiling system demonstrating compliance with the current Building Code requirements. OR
- 3) The suspended ceiling system shall comply with the prescriptive provision as listed below when not part of a fire-resistive-rated assembly:
  - a. Requirements:
    - i. A heavy duty T-bar grid system shall be used as defined in ASTM C 635.
    - ii. The perimeter supporting closure angle shall be 2 inch minimum wide. In each orthogonal direction, one end of the ceiling grid shall be attached to the closure angle (See Attached Wall Molding Requirements Detail), and the other end shall rest on the supporting angle with a 0.75 inch clearance to the wall and shall be free to slide (See Unattached Wall Molding Requirements Detail).
    - iii. Ceiling areas exceeding 144 ft<sup>2</sup> shall have horizontal and vertical restraints of the ceiling to the structural system.
    - iv. Ceiling areas exceeding 2,500 ft<sup>2</sup> shall have full height partitions that break the ceiling up into areas not exceeding 2,500 ft<sup>2</sup>.
    - v. Sprinkler heads and other penetrations shall have a 2 inch oversize ring,

sleeve or adapter through the ceiling tile to allow for free movement of at least 1 inch in all horizontal directions.

- vi. Changes in ceiling plan elevation shall be provided with positive bracing. Luminaries, speakers, ducts and grilles, cables, cable trays, electrical boxes, and conduits shall be supported independently of the ceiling. (In fire-rated assemblies, where independent support wires are used, they shall be distinguishable by color, tagging, or other effective means from those that are part of the fire-rated design. [Section 300.11(A)(1) of the Electrical Code])

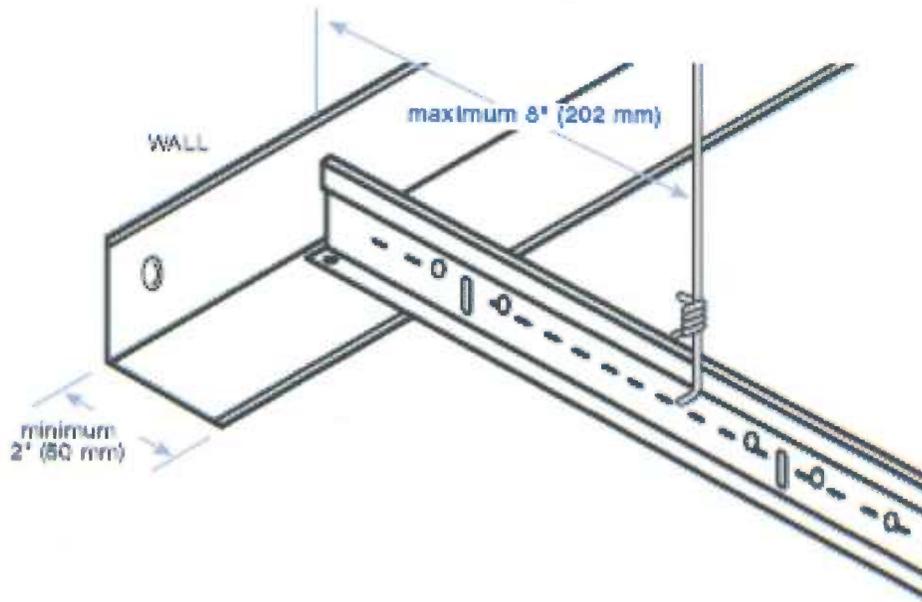
b. Typical Suspended Ceiling Vertical and Lateral Support:



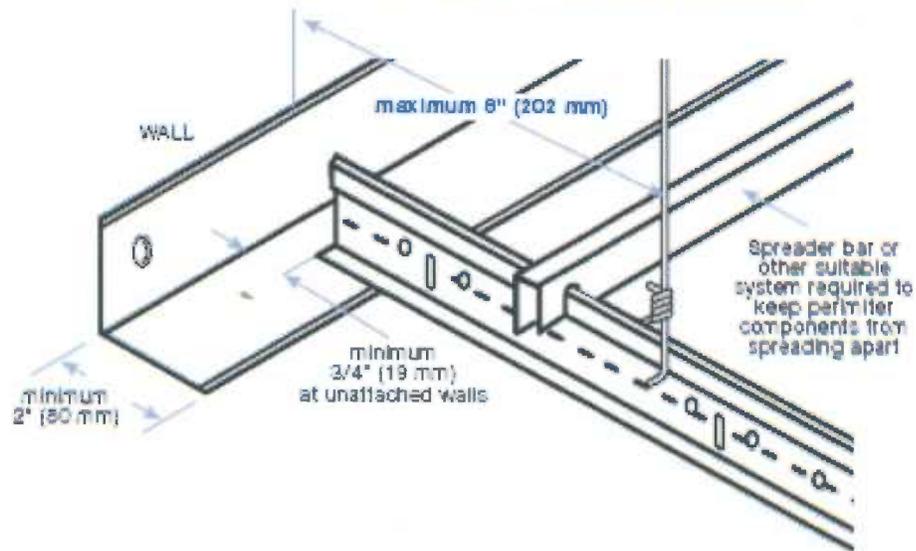
NOTES:

1. VERTICAL STRUT: A STRUT FASTENED TO THE MAIN RUNNER SHALL BE EXTENDED TO AND FASTENED TO THE STRUCTURAL MEMBERS SUPPORTING THE ROOF OR FLOOR ABOVE. THE STRUT SHALL BE ADEQUATE TO RESIST THE VERTICAL SEISMIC COMPONENT INDUCED BY THE BRACING WIRES.
2. THESE HORIZONTAL RESTRAINT POINTS SHALL BE PLACED AT 12 FEET ON CENTER IN BOTH DIRECTIONS WITH THE FIRST POINT WITHIN 6 FEET FROM THE WALL.
3. PERIMETER HANGERS SHALL BE PLACED IN BOTH DIRECTIONS WITHIN 8 INCHES OF THE WALL.

## Attached Wall Molding Requirements



## Unattached Wall Molding Requirements



WRITTEN BY: JONATHAN LAM  
Civil Engineer

REVIEWED BY: JUAN MADRIGAL  
Senior Civil Engineer

RECOMMENDED BY:

APPROVED BY:

  
\_\_\_\_\_  
HASSAN ALAMEDDINE  
Chief Engineer

  
\_\_\_\_\_  
RAJ PATEL  
Superintendent of Building