

# Standard Seismic Applications

For lay-in acoustical panels and direct-hung acoustical tiles.

	IBC Category C <sup>1</sup>	IBC Category D, E, F <sup>2</sup>	UBC 25-2 <sup>3</sup>
<b>Basic Connections, Perimeter, and Lateral Splay Bracing</b>			
Minimum intersection strength limits @ MT / CT <sup>4</sup>	60 lbs	180 lbs	180 lbs
Vertical hanger wire 12-gauge @ 4' o.c.	Required	Required	Required
Connection device from vertical wire to the structure above must sustain min 100 lbs	Not required	Required	Required
Main tee classifications <sup>5</sup>	Intermediate- or heavy-duty	Heavy-duty	Intermediate- or heavy-duty <sup>6</sup>
1 in 6 max plumb of vertical hanger wires	Required	Required	Required
Perimeter vertical hanger wires not more than 8" from wall	Not required unless molding < 7/8"	Required	Required
Grid end/wall clearance	Min 3/8"	Min 3/4"	Some clearance on two non-attached walls, if applicable
Perimeter closure (molding) width	Min 7/8" (or use perimeter wires)	Min 2"	Min 7/8"
Grid connection to perimeter attached on two adjacent walls	Not permitted	Required	Optional
Perimeter tee ends tied together at perimeters	Required	Required	Required
Horizontal restraint (splay wires or rigid bracing) within 2" of intersection and splayed 90° apart at 45° angles	Not required	Required <sup>7,8</sup>	Required <sup>8,9</sup>
Compression posts (struts) 12' o.c. in both directions, starting 6' from walls	Not required	Required <sup>7,8</sup>	Required <sup>8,9</sup>
Splay bracing connection strength 200 lbs or the design load, whichever is greater	Not required	Required	Required
Partition attachment	Allowed only if ceiling is able to move laterally	Bracing independent of ceiling splay bracing	Allowed with bracing
Seismic separation joint	Not required	Required for areas > 2,500 sq. ft. (or full height partition) <sup>9</sup>	Not required
Rigid bracing for ceiling plane elevation changes	Not required	Required	Not required
<b>Light Fixture Attachment</b>			
Light fixture (all types) mechanically attached to grid per NEC 410-16 (two per fixture unless independently supported)	Required	Required	Required <sup>9</sup>
– Surface-mounted fixtures attached to grid	Not required	Not required	Required (including safety wires to vertical wire or structure) <sup>6</sup>
– Pendant-hung fixtures directly supported from structure with 9-gauge wire (or approved alternative)	Required	Required	Required
– Rigid lay-in or can light fixtures			
< 10 lbs – one wire to structure (may be slack)	Required	Required	Lower limit is 20 lbs.
10 to 56 lbs – two wires from housing to structure (may be slack)	Required	Required	Required – lower limit is 20 lbs.
> 56 lbs – supported directly to structure by approved hangers	Required	Required	Required
<b>Service Applications</b>			
<b>Air terminals</b>			
< 20 lbs – positively attached to grid	Required	Required	Required
20 to 56 lbs – positively attached to grid and two 12-gauge wires to structure (may be slack)	Required	Required	Required
> 56 lbs – directly supported to structure	Required	Required	Required
Sprinkler heads and other penetration clearance	Min 3/8" on all sides	Min 2" dia. opening or a swing joint	Not required
Cable trays and electrical conduit independently supported and braced	Not required	Required	Not required
<p><b>Notes:</b> The above information is correct to the best of our knowledge at the date of issuance. Because codes continue to evolve, check with a local official prior to designing and installing a ceiling system. This is only intended as a quick reference. A thorough understanding of IBC 2003 and UBC 25-2 is necessary when designing and installing ceiling suspension systems.</p> <p><sup>1</sup> Refers to CISCA installation recommendations for zones 0-2 via ASCE 7-02. Max ceiling weight: 2.5 psf.  <sup>2</sup> Refers to CISCA installation recommendations for zones 3-4 via ASCE 7-02.  <sup>3</sup> UBC 25-2 continues to be the code adopted by the state of California.  <sup>4</sup> All USG DONN® Brand Ceiling Suspension Systems meet these requirements.  <sup>5</sup> Per ASTM C635.  <sup>6</sup> When intermediate-duty systems are used, No. 12-gauge hanger wires shall be attached to the suspension members within three inches of each corner of each fixture.  <sup>7</sup> Required for ceilings larger than 1,000 square feet.  <sup>8</sup> Where substantiating design calculations are not provided.  <sup>9</sup> Seismic bracing standards generally apply to ceilings larger than 144 square feet.</p>			

