









Suspended ceilings shall comply with ASTM C 635 listed in Chapter 35 and Section 13.5.6 of ASCE 7. In addition, for seismic forces, suspended ceiling shall comply with CISCA 0-2 as follows: (a) Where the ceiling system provides lateral support for nonbearing partitions, the ceiling shall be designed for the prescribed lateral

(b) The main runners and cross runners of the ceiling system and their splices, intersection connectors, and expansion devices shall be designed (or tested where analysis is not possible) and constructed to carry a mean ultimate test load of not less than 180 pounds or twice the actual load, whichever is greater, in tension with a 5degree misalignment of the members in any direction and in compression. In lieu of the 5-degree misalignment, the load may be applied with a 1-inch eccentricity on a sample not more than 24 inches long on each side of the splice. The connectors at splices and intersections all shall be of the mechanical interlocking type.

(c) Each ceiling system manufacturer shall furnish lateral loading systems, indicating the following: i) Maximum bracing pattern and minimum wire sizes. ii) Tension and compression force capabilities of main runner splices, cross runner connections, and expansion devices. All tests shall be conducted by an approved testing agency.

(d) Suspension wires shall not be smaller than No. 12 gauge spaced at 4 feet on center of No. 10 gauge spaced at 5 feet on center along each main runner unless calculations justifying the increased spacing are provided. Each vertical wire shall be attached to the ceiling suspension member and to the support above with a minimum of three turns. Any connection device at the supporting construction shall be capable of carrying no less than 100 pounds. Suspension wires shall not hang more than 1 in 6 out-of-plumb unless counter-sloping wires are provided. Wires shall not attach to or bend around interfering material or equipment. A trapeze or equivalent device shall be used where obstructions preclude direct suspension. Trapeze suspensions shall be a minimum of

(e) The terminal ends of each cross runner and main runner shall be supported independently a maximum of 8 inches from each wall or ceiling discontinuity with No. 12 gauge wire or approved wall support. These wires shall not hang more than 1 in 6 out-of-plumb and must be connected to an adjacent wall or to the structure

(f) Where substantiating design calculations are not provided, horizontal restraints shall be effected by four No. 12 gauge wires secured to the main runner within 2 inches of the cross runner intersection and splaved 90 degrees from each other at an angle not exceeding 45 degrees from the plane of the ceiling. 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 component induced by the bracing wires. These horizontal restraint points shall be placed 12 feet on center in both directions with the first point within 6 feet from each wall. Attachments or the restraint wires to the structure above shall be adequate for the load imposed. Lateral force bracing members shall be spaced a minimum of 6 inches from all horizontal piping or duct work that is not provided with bracing restraints for horizontal forces. Bracing wires shall be attached to the grid and to the structure in such a manner that they can support a design load of not less than 200 pounds or the actual design

(g) Unless perimeter members are a structural part of the approved system, wall angles or channels shall be considered as aesthetic closures and shall have no structural value assessed to themselves or their method of attachment to the walls. Ends of main runners and cross members shall be tied together to prevent their

(h) To facilitate installation, main runners and cross runners may be attached to the perimeter member at two adjacent walls with clearance between the wall and the runners maintained at the other two walls or as

(i) Only intermediate and heavy duty ceiling systems may be used for the support of lighting fixtures. All lighting fixtures shall be positively attached to the suspended ceiling system. The attachment device shall have a capacity of 100 percent of the lighting fixture weight acting in any direction. When intermediate duty systems are used, No. 12 gauge hanger wires shall be attached to the grid members within 3 inches of each corner of each fixture. Tandem fixtures may utilize common wires. Where heavy-duty systems are used, supplemental hangers are not required if a 48-inch modular hanger pattern is followed. When cross runners are used without supplemental hangers to support lighting fixtures, these cross runners must provide the same carrying capacity as the main runner. Lighting fixtures weighing less than 56 pounds shall have, in addition to the requirements outlined above, two No. 12 gauge hangers connected from the fixture housing to the structure above. These wires may be slack. Lighting fixtures weighing 56 pounds or more shall be supported directly from the structure above by approved hangers. Pendant hung lighting fixtures shall be supported directly from the structure above using No. 9 gauge wire or an approved alternate support without using the ceiling suspension system for direct

(j) Ceiling mounted air terminals or services weighing less than 20 pounds shall be positively attached to the ceiling suspension main runners of to cross runners with the same carrying capacity as the main runners. Terminals or services weighing 20 pounds but not more than 56 pounds shall have, in addition to the above, two No. 12 gauge hangers connected from the terminal or service to the ceiling system hangers or to the structure above. These wires may be slack. Terminals or services weighing more than 56 pounds shall be

15 EAST] Boise, 208,







REFLECTED CEILING OFFICES

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