LIVERMORE
CALIFORNIA

Fire Resistive Floor-Ceiling or Roof-Ceiling Protection

2007 California Building Code, Section 712.4.1.2 Membrane Penetrations.

Penetrations of membranes that are part of a fire-resistance-rated horizontal assembly shall comply with Sections 712.4.1.1.1 or 712.4.1.1.2. Where floor/ceiling assemblies are required to have a minimum 1-hour fire-resistance rating, recessed fixtures and penetrations shall be installed such that the required fire resistance will not be reduced. **Exceptions:**

1. Penetrations for non-combustible sprinkler pipe (the annular space created by the penetration must be covered by a metal escutcheon plate).

2. Penetrations by steel, ferrous or copper conduits, pipes, tubes or vents, or concrete or masonry items where the annular space is protected as required by Section 712.4.1.1 or to prevent the passage of flame and products of combustion. The maximum area of openings through the membrane shall not exceed 100 square inches in 100 square feet of ceiling area.

3. Ceiling membrane penetrations of maximum 2-hour fire-resistance-rated horizontal assemblies by steel electrical boxes (and electrical boxes of any material, provided they are listed for use in fire-resistance-rated assemblies) not exceeding 16 square inches in area provided the aggregate area of such openings through the ceiling is not more than 100 square inches per 100 square feet of ceiling area, and the space between the ceiling membrane and the box does not exceed 1/8 inch.

4. Ducts and air transfer openings that comply with Section 716 for smoke and fire control.

5. Listed openings and penetrations tested in accordance with the provisions of ASTM Standard No. E 119-00, rated for the fire-resistive assembly and installed per their listing.

6. Openings enclosed in fire-resistance rated shaft enclosures in accordance with Section 707.

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