

# PRESCRIPTIVE BUILDING STANDARD ER 70<75

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## BUILDING REQUIREMENTS FOR EXISTING RESIDENTIAL BUILDINGS IN THE NOISE ZONE BETWEEN 70 db CNEL AND LESS THAN 75 db CNEL.

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EXCERPT FROM LOS ANGELES COUNTY BUILDING CODE MANUAL 1208, ARTICLE 4, AUGUST 19, 1999, PAGES 12-14

### 1. Exterior Walls.

- a. Exterior walls of rooms shall be modified as follows:
  1. Wood frame walls with exterior wood siding or other lightweight exterior finish shall be provided with a secondary interior stud wall that is supported at the ceiling and the floor and is separated from the surface of the interior wall by at least 1/2-inch. The exposed surface of the secondary wall shall be finished with 5/8-inch gypsum wallboard or plaster.
  2. Wood frame walls with an exterior finish of stucco, brick veneer or other similar materials and with an interior finish that is less than 1/2-inch thick shall be provided with an additional interior layer of 5/8-inch gypsum wallboard.
  3. Wood frame walls with an exterior finish of stucco, brick veneer or other similar heavy materials and with interior finish that is at least 1/2-inch thick do not require modification.
  4. Walls that are constructed principally of load bearing masonry do not require modifications.

### 2. Exterior Windows.

- a. Openable windows in rooms shall be replaced with an openable window that has a laboratory sound transmission class rating of at least STC 40 db and shall have an air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.
- b. Fixed windows in rooms shall be modified by one of the following methods:
  1. Replace the existing window with a window that has a laboratory sound transmission rating of at least STC 40, or
  2. Replace the existing window with 5/8-inch laminated glass that has a laboratory sound transmission rating of STC 40, or
  3. Add secondary removable glazing at the interior or exterior of the existing window. The secondary glazing shall be at least 1/4-inch float glass or laminated glass. The space between the two panes of glass shall be at least 2 inches.
- c. The joint between the wall opening and the new windows required in this Building Standard shall be continuously filled with glass fiber insulation and the exterior cover trim shall be continuously caulked to seal the joint.
- d. Fixed glass shall be set in non-hardening glazing materials.

### **3. Exterior Doors.**

- a. Exterior hinged doors to rooms that are exposed to aircraft noise shall be replaced with a door and seals that have a laboratory sound transmission class rating of at least STC 40 db. A new rabbeted frame shall be provided for each new door to replace the existing frame.
- b. Access doors from a garage to a room within a dwelling shall be replaced with a door and seals that have laboratory sound transmissions rating of at least STC 30 db.
- c. Sliding glass doors to rooms that are exposed to aircraft noise shall be fitted with a secondary sliding glass door installed on the exterior of the existing door and trimmed on all exposed sides with wood trim that is at least 2-inches thick (nominal).
- d. The joint between the wall opening and the new doorframe required in Item No. 3 a, b or c above shall be continuously filled with glass fiber insulation and the exterior cover trim shall be continuously caulked to seal the joint.

### **4. Roofs.**

- a. Accessible attics shall be insulated to achieve a minimum R-30 insulation value.
- b. Attic vents shall be modified as follows:
  - 1. Gable vents or vents that penetrate the roof surface shall be provided with noise control louver vents that meet the noise reduction levels shown in Table 1208 A or transfer ducts that are at least 6 feet in length. The ducts shall be of flexible insulated ducting with a 90-degree bend so that there is no direct line-of-sight from the exterior through the duct into the attic.
  - 2. Eave vents do not require modification.
- c. Roofs with a slope of 2:12 or less and open beam ceiling shall be modified as indicated below only if bearing walls are adequate to support the additional load stresses:
  - 1. Existing roof covering shall be removed to exposed sheathing.
  - 2. Two-by-six rafters at 24-inches on center shall be installed directly above the existing roof construction and supported by existing bearing walls, shall be insulated with R-19 fiberglass batts, and shall be covered with 1/2-inch plywood sheathing.
  - 3. New roofing shall be installed on the new construction that can be adequately supported by the new framing and existing bearing walls.

### **5. Floors.**

- a. Vent openings to underfloor areas of wood framed floors shall be provided with acoustic vent baffles that meet noise reduction levels shown in Table 1208A. Vent baffles shall be fitted with 1/4-inch mesh screen.
- b. Underfloor access doors shall be non-vented plywood or other weatherproof material.

**6. Ventilation.**

- a. A ventilation system shall be provided that will provide at least the minimum air circulation and fresh air supply requirements of the Building Code, in each room without opening any window, door or other opening to the exterior. All concealed duct work shall be insulated by flexible glass fiber ducting that is at least 10 feet long between any two points of connection. Exposed duct work may be sheet metal with 1-inch fiberglass duct liner and shall have a bend in the duct to avoid direct line-of-sight through the duct.
- b. Kitchen cooktop vent hoods shall be replaced with non-ducted recirculating vent hoods with no ducted connection to the exterior.

**7. Fireplaces.**

- a. Each fireplace constructed of masonry units shall be fitted with a damper at the top of the chimney that is operated from the firebox and shall have glass doors across the front of the firebox.

**8. Wall and Ceiling Openings.**

- a. Openings in the shell of the residence that degrade its ability to achieve an interior CNEL rating of 45 db or less when all doors and windows are closed are prohibited. Any access panels, pet doors, mail delivery drops, air conditioning, or other openings must be designed to maintain the 45 db CNEL or less standard in the room to which they provide access.

**TABLE 1208A**

**Octave Band Sound Transmission**

<u>Center Frequency, HZ</u>	<u>Loss</u>
125	4
250	5
500	6
1,000	9
2,000	10
4,000	12