



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

#49  
1207  
Article 1  
12-03-09  
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**SOUND TRANSMISSION CONTROL – BETWEEN EACH DWELLING UNIT AND BETWEEN DWELLING UNIT AND PUBLIC AREAS**

**APPLICABILITY**

Section 1207 requires Group R Occupancies, except detached single-family dwellings, to conform to the Sound Transmission provisions, which includes Airborne Sound Insulation and Impact Sound Insulation.

Airborne Sound Insulation and Impact Sound Insulation shall apply between each dwelling unit within a building and between dwelling unit and interior public or service area, except that Impact Sound Insulation is not required for floor-ceiling assemblies over non-habitable space. Interior public or service area shall include but not limited to corridors, garages, mechanical rooms, public laundry rooms, recreation rooms, public toilet facilities and any other interior public areas and non-habitable space shall include garages, mechanical rooms or storage areas.

**AIRBORNE SOUND INSULATION STANDARDS**

The Airborne Sound Insulation standards, which are equal to a Sound Transmission Class (STC) rating of 50, are contained in Section 1207.7 of the Building Code and this BCM. The following details for walls and floor-ceiling assemblies are applicable to sound transmission control between each dwelling units and between dwelling units and interior public or service areas:

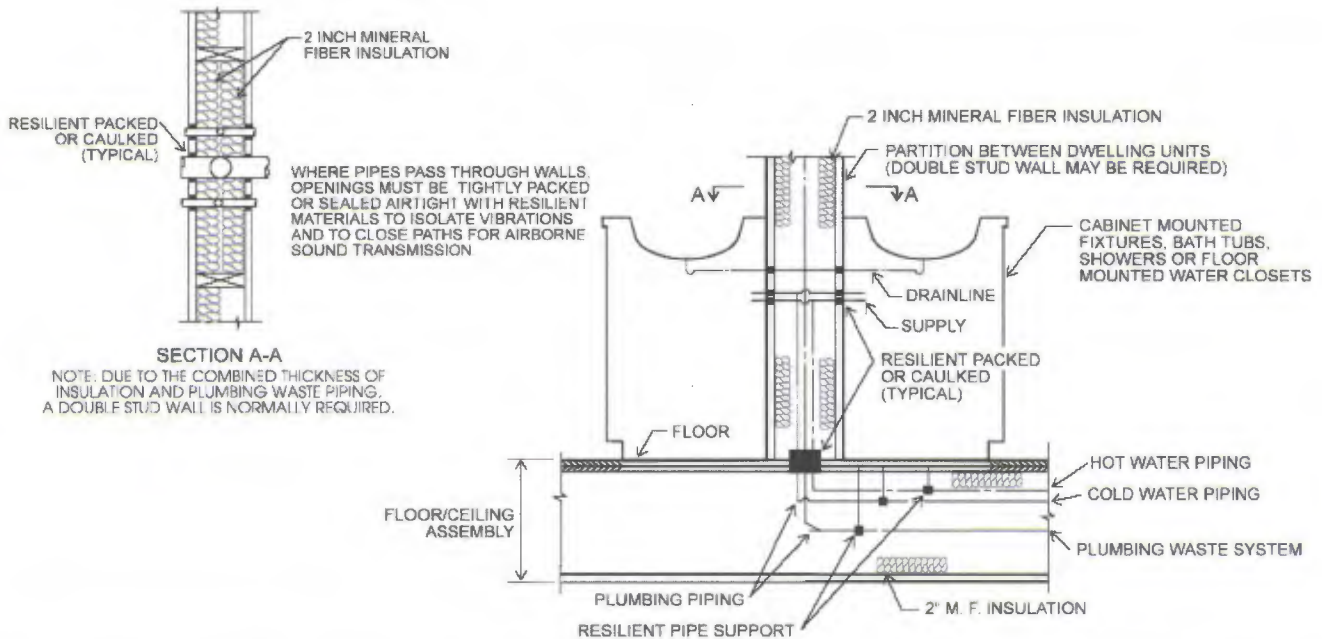
- 1. Penetrations of sound-rated assemblies.** The standards are not intended to prohibit properly-insulated penetrations of the sound-rated assemblies. All rigid conduits, ducts, plumbing pipes, and appliance vents located in sound-rated assemblies shall be isolated from the building construction by means of resilient sleeves, mounts, or a minimum 1/4" thick approved resilient material. Other penetrations may be permitted provided they are individually insulated in a manner sufficient to maintain the required sound transmission rating of the assembly.
- 2. Sound-rated assembly approvals.** Systems as listed in the "Catalog of STC and IIC Ratings for Wall and Floor/Ceiling Assemblies" as published by the Office of Noise Control, California Department of Health Services, or the "Fire Resistance Design Manual" by the Gypsum Association, are acceptable. Similar data from other nationally-recognized sources will also be acceptable.
- 3. Sealant at garage separation.** Where a residential area is located above a garage, penetrations through the fire-rated floor shall be sealed with material in such a manner as to maintain the fire-rating.

4. **Exterior balconies.** Exterior balconies will not be considered corridors and need no sound separation from the residential units.
5. **Roof air conditioning equipment.** Ventilation or air conditioning equipment located on the roof of a building shall not be considered a service area and need not be separated from the residential area below. If the equipment is located in a penthouse, the separation shall be provided.
6. **Carpet inspection.** On floor-ceiling assemblies which require the installation of carpet or similar surface material, the required carpet and padding shall be indicated on the plans and must be installed before final inspection is requested.
7. **Intersection, sound partition and floor.** The joint at the intersection of a wood or steel stud separation partition and the floor must be acoustically sealed with a permanently resilient material. An acceptable product is United States Acoustical Sealant.
8. **Entrance Door, STC 30.** A 1¾-inch solid core door with acoustic seals on the entire perimeter shall be considered to be acceptable where a door with a STC rating of 30 is required.
9. **Bathtub access door.** A tub access door will be permitted in the partition separating the bath from a corridor if the tub access door is constructed as required for entrance doors in accordance with Item 8 above.
10. **Electrical outlet boxes.** Electrical outlet boxes shall be limited to a maximum dimension of six inches.
11. **Electrical outlet boxes, ceiling.** Electrical outlet boxes will be permitted in a ceiling assembly provided that they are sealed on the back and sides with 1/8" resilient sealant and insulated on the back with a minimum of 2-inch thick mineral fiber insulation.
12. **Electrical outlet box separation.** Electrical outlet boxes located on opposite wall surfaces shall be separated horizontally by 24 inches. The boxes shall be sealed on the back and sides with 1/8" resilient sealant and insulated on the back with a minimum of 2-inch thick mineral fiber insulation.
13. **Telephone, television, intercom outlets.** Telephone, television, intercom and similar outlets will be permitted provided that they have boxes installed as required for electrical outlet boxes.
14. **Sound producing devices.** Sound producing devices such as speakers or fans will not be permitted in the sound assembly except that an exhaust fan may be located in the bathroom ceiling provided the entire joist space in which the duct and fan are located is filled with mineral fiber insulation.
15. **Conduit, cables and gas piping.** Electrical and communication flexible conduit cables and gas piping need no isolation or insulation except at the point of penetration of a wall or



ceiling surface. The penetration point shall be sealed with approved permanently-resilient sealant.

- 16. **Plumbing waste lines.** Toilet waste lines may be rigidly attached to the floor at the point where they penetrate the flooring. The joist space where this occurs shall be filled with mineral fiber insulation to 12 inches beyond the floor penetration.
- 17. **Plumbing piping insulation.** The State Noise Insulation Standards require that piping, other than gas piping, passing through joist/stud space be surrounded by approved insulation. This requirement will be considered to be met if there is a minimum of two inches of mineral fiber insulation installed on both sides of the piping for the full width of the joist/stud space in which the piping is located. (See illustration below.)
- 18. **Piping passing through rated floors.** Where piping which is located in a wall passes through a floor-ceiling assembly, the joist space within 12 inches of the pipe shall be filled with mineral fiber insulation in order to maintain the integrity of the floor ceiling assembly. (See illustration below.)



- 19. **Wall-mounted toilets and lavatories.** Wall mounted lavatories and toilets will not be permitted on sound-rated walls as proper insulation cannot be maintained. Lavatories should be a pullman type on a floor mounted cabinet.
- 20. **Field test.** A field test shall not be required by the Division unless approved by the Superintendent of Building.
- 21. **Isolation.** Piping and ducts (except ducts made of glass fiber or air cell) within sound-separation assemblies to be isolated from building construction (at supports, hangers and anchors) by minimum 1/4-inch thick approved resilient material. Rug padding or similar material is acceptable.

22. **Sealing.** Penetrations through sound separation assemblies to be sealed with approved resilient material.
23. **Lining.** Metal supply air ducts, metal circulating air ducts and metal garage ventilation ducts within sound separation assemblies to be lined with approved duct lining. One-half inch fiberglass or rockwool insulation with a minimum density of 1.5 pounds per cubic foot is acceptable.
24. **Vents.** Required unobstructed air space around appliance vents shall not be sealed or insulated.
25. **Combustion air, kitchen and bath exhausts.** Combustion air, kitchen and bath exhaust ducts within sound separation assemblies to be wrapped with Type C insulation shown in Table 6-D of the Mechanical Code.

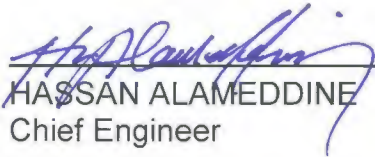
Supersedes BCM 35.01 dated 07-30-89

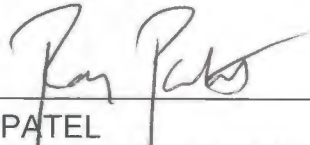
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