ADMINISTRATIVE BULLETIN

NO. AB-026 : 

DATE : December 21, 1984 (Updated 01/01/14 for code references

SUBJECT : Plan Check; Inspection

TITLE : Noise Insulation Enforcement Procedures

PURPOSE : Enforcement of State mandated noise insulation requirements for new residential buildings

REFERENCES : 2013 San Francisco Building Code Section 1207
California Health and Safety Code, State Housing Law, Section 17922.6, 17922.7

DISCUSSION : There has been some confusion and variations among Department personnel on the enforcement of Title 24 requirements for noise insulation. This bulletin consolidates current Department procedures and policies on the subject, and supersedes all previous interpretations and procedures.

The State regulations deal only with insulation against airborne noises such as caused by stereos and loud conversations (the STC rating), and against impact noises such as caused by walking or scraping a chair on a hard floor surface (the IIC rating). The criteria for compliance consists solely of meeting the prescriptive requirement of 50, or the field test requirement of 45.

There are many other sources of noise which could be significant irritants to building occupants, but which the regulations do not cover. DBI does not follow through on complaints about such noise sources. Examples include appliance noises, such as from garbage disposals, dishwashers and washing machines; mechanical equipment noises, such as from garage door openers, elevators and compressors; and plumbing system noises, such as from water hammer, flushing toilets and running water.

When there is doubt as to whether the completed building complies with the STC and IIC ratings, the Department can require the owner to obtain and pay for field testing to verify values of 45 of higher before a CFC is issued. Inspectors must discuss a situation with the Chief Inspector before requiring testing.

If a complaint is made to DBI over alleged non-compliance with STC or IIC requirements in a new building, DBI may require the owner to have field testing performed, but only after the complainant posts a bond to cover the cost of testing. In the event the test results show compliance (45 of higher), the cost of the testing must be paid by the complainant. If the tests show non-compliance, the owner will be required to take measures to increase the ratings to 45, and to pay for the testing and retesting.

Field testing is performed to applicable provisions of ASTM E90, E413, and E492. The testing agency and procedures must be pre-approved by DBI.
APPLICABILITY
The noise insulation requirements apply only to residential use buildings for which permits were applied after August 22, 1974, i.e. to Form 1 and 2 applications. They do not apply to buildings constructed before 1974 in which new units are created through alterations, additions or changes of use.

REQUIREMENTS
1. Wall and floor-ceiling assemblies which separate living units or guest rooms from each other, or from common areas of the building such as hallways and garages, must meet a Sound Transmission Class (STC) of 50.
2. Floor-ceiling assemblies must meet an Impact Insulation Class (IIC) of 50.

PLAN CHECKING PROCEDURE
The Plan Reviewer shall do and/or obtain the following:
1. Check that every party wall and party floor-ceiling on the floor plans are referenced to cross-sections which clearly show the construction of the assemblies. Give specific attention to areas with dropped ceilings and luminous ceilings.
2. Check the Catalog of STC & IIC Ratings, prepared by the State of Office of Noise Control, the Fire Resistance Design Manual, prepared by the Gypsum Association, and/or other standards, to see if a comparable wall assembly has an STC of 50 or higher. If an assembly has been accepted by the Department through the product approval process, check the approval or its file for possible STC ratings. Where no comparable assembly is found, the plan reviewer may estimate the STC rating by comparing the assembly against a listed assembly which appears to have slightly more mass and/or insulation features, and with another assembly which has less. In this manner, it is often possible to extrapolate an STC for a listed assembly. Before doing so, checkers should have studied the listings in the Catalog of STC & IIC Ratings the Fire Resistance Design Manual, or other standards, sufficiently to understand how mass and/or insulation features affect the STC ratings. Where such estimates cannot be made with a fairly high degree of confidence, the plan reviewer should ask the designer to either revise the plans to use a listed assembly with an STC of 50 or higher, or to provide test reports for the shown assembly which justify ratings of 50 or higher.
3. Floor-ceiling assemblies should be checked in a manner similar to Step 2 for an IIC rating of 50 or higher. If the IIC is achieved through the use of carpet and padding, the plans must be annotated to indicate which areas require them, and that the installation of carpets is mandatory.
4. The plans must be annotated to require the following:
   - The bottom plate in party walls must be caulked.
   - Penetrations or openings in party walls and floorceilings for piping, electrical switches and outlets, recessed light fixtures, recessed cabinets, bathtubs and ducts must be sealed, lined, insulated, or otherwise treated to maintain the required ratings.
   - Dwelling unit entrance doors from interior corridors, together with their perimeter seals, must attain an STC of 30 or higher.
5. Check that electrical switches and outlets in party walls are not installed back-to-back in the same stud space. Check that recessed light fixtures are not installed in party floorceilings unless such devices are boxed in with materials equivalent to the surface materials, and further that the joints in such boxes, and openings for wiring, are caulked. Check that recessed medicine cabinets have not been installed in party walls. Check that the bottom plate in party walls are caulked. For bathtubs located adjacent to party walls, check that sheetrock or wall covering extend below the top edge of the tub down to the floor.
6. When buildings on adjacent lots have common courts or light wells, and both buildings have windows opening onto them, the windows must be located at least 3 feet from the common property line (i.e. 6 feet between edges or faces of windows). Alternatively, special acoustical treatment may be provided which will attain STC 50 (or 45 if field tested).
INSPECTION PROCEDURE

The Building Inspector in BID shall do the following:

1. Pay specific attention to the construction of party walls and party floor-ceilings during the frame inspection to see that materials, sound blankets, dimensions, clearances, etc. are as shown on the sections of the approved plans. Check that luminous or dropped ceilings will not be installed in party floor-ceilings unless they are shown on the approved plans.

   If changes were made from the approved plans, the Inspector may accept the as-constructed assembly only if he or she can find a very similar assembly listed in the Catalog of STC & IIC Ratings, prepared by the State Department of Health Services Office of Noise Control or the Fire Resistance Design Manual, prepared by the Gypsum Association. Failing that, the inspector should make a sketch of the as-built assembly and refer it to the plan checker for review. Meanwhile, the inspector shall not approve the frame inspection. If the contractor does not want to be delayed by such a review, or if the plan checker concludes the as-built assembly will not meet an STC or IIC of 50, the Inspector should inform the contractor of the option to alter the construction to comply, or to test the completed building for ratings of 45. If the contractor decides to test, he or she must notify the Inspector in writing. Inform the contractor that if the testing shows non-compliance, the cost of correction would likely be much higher at that stage than at the frame stage.

2. Check that electrical switches and outlets in party walls are not installed back-to-back in the same stud space. Check that recessed light fixtures are not installed in party floor-ceilings unless such devices are boxed in with materials equivalent to the surface materials, and further that the joints in such boxes, and openings for wiring, are caulked. Check that recessed medicine cabinets have not been installed in party walls. Check that the bottom plate in party walls are caulked. For bathtubs located adjacent to party walls, check that sheetrock or wallcovering extend below the top edge of the tub down to the floor.

3. Interior hallway doors are required to be 20 minutes rated (i.e. solid core). Thus they may be presumed to meet the STC 30 rating. However, check that the perimeter seals are in place before final inspection.

Originally signed by:

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