MILLER GOODALL
ACOUSTICS AND AIR QUALITY

Sound Insulation Testing

At Miller Goodall, we understand the importance of sharing our knowledge and progress with you every step of the way, working in partnership to ensure your project progresses as smoothly and successfully as possible. To this end, we have produced this download, which we hope you will find helpful.

What criteria does my development have to achieve?
The performance requirements that need to be met depend on whether the dwelling is a new-build or formed by a material change of use (i.e. a conversion). There is also a difference if there are rooms for residential purposes (e.g. hotel rooms, student accommodation etc) rather than dwelling-houses or flats.

Generally speaking though, the minimum airborne sound insulation performance for new-build party walls and floors (and sometimes stairs) is 45 dB $D_{nTw} + C_{tr}$ and for conversions is 43 dB $D_{nTw} + C_{tr}$. The requirement for impact sound insulation on new-build floors is a maximum L'_{nTw} of 62 dB; for conversions the maximum value is 64 dB L'_{nTw}. **Note-** for airborne sound insulation, the performance requirement is a *minimum* value i.e. the higher the better; for impact sound insulation the performance requirement is a *maximum* value i.e. the lower the better.

How many tests do I need?
The number of tests required depends on the number of adjacent dwellings, the specific room-to-room adjacencies and the types of construction used.

ADE recommends as a minimum that one set of tests is undertaken for every ten dwellings of the same type and same construction. The number of individual tests in a set of tests varies but is typically no more than 6 tests in total, consisting of:

- Two airborne tests on party floors (one bedroom-to-bedroom, one lounge-to-lounge)
- Two impact tests on party floors (one bedroom-to-bedroom, one lounge-to-lounge)
- Two airborne tests on party walls (one bedroom-to-bedroom, one lounge-to-lounge)

Which rooms need testing?
It is not necessary to test internal walls and floors within a property. There are also certain limitations on the rooms that may be tested, for example, only habitable rooms are tested e.g. living rooms and bedrooms. Bathrooms do not have to be tested. Furthermore, tests are not normally carried out on corridor walls or stairwells although they should nevertheless be designed so that they would be capable of meeting the ADE performance requirements. Impact tests are not necessary when the receiver room is commercial rather than residential. Some Building Control Bodies (BCBs) may also require an airborne test on the party wall between the flat and an existing adjacent property, in which case access will be required to that adjacent property. However, most BCBs accept that it may be difficult to obtain access to a property not owned by the developer and so will not insist on a test. They will, however, expect to see evidence that the necessary remedial work on the party walls has been undertaken.

What site conditions are needed for successful testing?
In order to complete sound testing we will need;

- A 240 volt mains supply, either operational inside or with sufficient extension cable to reach all rooms where testing is being carried out.
- A quiet site, i.e. no site noise or building noises during the period of the tests. Other tradesmen working in the same building and around site can render the test invalid. Problems have been found in the past with, for example; drills, hammering and other impacts, sanding, vacuum cleaners, doors being opened and closed, alarm systems under test, outdoor noises from site vehicles, compressors, pumps, mixers, grinders and saws, and impact noise from paving and gardening equipment.
- The building to be vacated during the tests; the tests are remotely controlled, with sudden bursts of high sound levels which require hearing protection to be worn. This can also startle any other persons within the building who are not involved with the testing.

If you're unsure about how many tests you think you need, or which walls or floors require enhanced constructions to meet the ADE performance requirements, give us a call and we will be happy to talk you through the process. Contact Miller Goodall on 01204 596166 or email info@millergoodall.co.uk.

Miller Goodall Ltd
Ashworth House, Deakins Business Park,
Blackburn Road, Egerton, Bolton, BL7 9RP
Company Registration No. 5201673

ANC ACOUSTICS & NOISE CONSULTANTS

Constructionline
A UK GOVERNMENT CERTIFICATION SERVICE