

Resistance to the Passage of Sound—Acoustic Testing Requirements**Purpose.**

BCA technical guidance notes are for the benefit of its members and the construction industry, to provide information, promote good practice and encourage consistency of interpretation for the benefit of our clients. They are advisory in nature, and in all cases the responsibility for determining compliance with the Building Regulations remains with the building control body concerned.

This guidance note is based upon information available at the time of issue and may be subject to change. The Approved Documents should be consulted for full details in any particular case.

Introduction.

This guidance note is designed to advise on proper implementation of pre-completion testing (PCT) or use of robust details as a method of demonstrating compliance. In order to promote consistency in interpretation of the guidance given in Approved Document E rev 2004 (ADE). It is recommended that where PCT is required to demonstrate compliance with E1, early notification is given to the developer, either by an informative note included in the plan check or by a separate written advice note, drawing the developer's attention to the need for an appropriate test regime.

Suggested informative note:

"Prior to completion, the appropriate sets of sound insulation tests must be carried out in accordance with section 1 of the approved document to part E. Testing organisations should have appropriate third party accreditation (UKAS or ANC registration).

Relevant properties to be tested need to be agreed with building Control at an early stage of the development."

Review.

It is important to be aware, that it is for Building Control Bodies (BCB's) to determine for each development, which properties are selected for testing and that testing should be carried out more frequently at the beginning of the development.

BCB's should expect to see PCT results in the approved manner of reporting as detailed in paragraph 1.41 of AD E.

Test requirements are defined by the number of property groups and the type of constructions.

Property groups are defined as houses, flats, or rooms for residential purposes. BCB's are required to determine sets of tests for each property group that has been identified on the site. In addition BCB's must determine sets of tests for each sub group. A sub group is a wall or floor formed by each different method of construction.

The construction of flanking elements e.g. walls, floors and cavities are also important. Where there are significant differences between flanking details, further sub grouping may be necessary. E.G. where a different block is used on the internal leaf of the external wall on ground floor and upper floors for structural purposes.

It is not always clear in AD E where testing should be carried out. Tests should be carried out between any room or space that shares a common area of separating wall or floor E.G. between bathrooms if there is no alternative. Preferred test areas are between the main habitable rooms of properties.

Note: there are additional requirements put on testing agencies when the volume of sample rooms is less than 25m³, In these cases small volumes should be recorded in the test reports. It does not say don't test.

Testing should not be carried out into communal areas because of the effect of interconnecting doors. For each sub group identified, one set of tests would normally comprise:

- two airborne tests for walls
- Two airborne and two impact tests for floors

This is applicable even where there is only one separating party wall or floor.

Sampling Rate.

One set of tests to be carried out for every 10 plots identified for each sub group. E.G. 8 plots would require one set of tests, 11 plots would require 2 sets of tests, 90 plots would require 9 sets of tests.

Dealing with failure.

The values given in AD E are the minimum values and already include an allowance for measurement error. There is therefore no scope for negotiating further reduction in performance standards.

Action following test sample failures.

A set of tests is failed if any of its individual tests of airborne or impact sound insulation do not show sound insulation values equal to or better than those set out in tables 1a and 1b of AD E.

BCB's need to be satisfied that failures are corrected and re-tested. Also the rate of sampling should be increased to take into account other areas and properties of the development. It would not be acceptable for a retest certificate to be provided for the failed area unless the developer had globally adopted the remedial treatment for all other areas.

Robust Details Ltd - Route to Compliance.

It should be noted that these are not `deemed to satisfy` requirements. It is therefore essential to ensure correct procedures are followed. Robust Details (RD) are only appropriate for new dwelling houses and flats, in all other circumstances sound testing will be required.

Notification of intention to use RD must be given 48 hours prior to commencement of work.

The notice must include:

1. The part or parts of the building in respect of which the design detail is to be used.
2. The design detail concerned
3. The unique license number issued by RD in respect of the specified use of that design detail.

Where RD is used BCB's have a responsibility to ensure that the construction is in accordance with the design as registered. This will include collection and recording of the site check lists. If notification is late or does not specify design details correctly sound insulation testing will be required as described above .

If notification is valid but the work is not carried out in accordance with the appropriate design, or check lists are not completed correctly, then sound testing will be required.

Dealing with Listed Buildings and Conservation Areas.

There are `test and declare` requirements that apply to special situations where the local authority conservation officer would be involved in assessing the extent of building work possible to ensure the preservation of historic building features. E.G:

- If the doors in a building are listed there may be restrictions on trimming doors to lay a floating floor system.
- The ornamental architraves and decorative plaster cornice work may prevent the installation of a suspended acoustic ceiling in an historic building.

The onus is on the developer to test what sound insulation performance can be practically achieved in consultation with the conservation officer and declare the result to all potential purchasers by posting the results in a conspicuous place.

There is no lower limit for the level of sound insulation, BCB's should ensure the notice has been posted and that the purchaser has read it.

Residential to Commercial.

BCB's should be aware that the minimum performance standards in AD E only apply to residential-to-residential separation. A higher standard of sound insulation may be required where commercial property is adjacent to a space used for normal domestic purposes or rooms for residential purposes. Specialist advice may be required to establish if a higher standard of sound insulation is required. Pre-completion testing is mandatory.

Determination on HMO`s ref 45/3/195 dated 30/10/2008.

In order for a room or suite of rooms to meet the definition of `rooms for residential purposes` given in Regulation 2(1), the intended use must either be one of the listed establishments (I.e. in a hostel, hotel, boarding house, hall of residence or residential home), or must have a substantially similar use.

As a result of the above determination where rooms are not rooms for residential purposes, requirements of E1 and therefore PCT can not be applied to a house in Multiple Occupation, such as dwellings occupied by a group of students under a joint tenancy agreement, where locks are not fitted to internal doors.

Summary.

Any home owner is entitled to carry out a test on their party wall or floor if they are dissatisfied with the level of performance experienced. By following this guidance note, the BCA Technical Group hope to remove any risk of criticism being directed at BCB`s if those tests fail to achieve the minimum performance standards.