BUILDING REGULATIONS APPROVED DOCUMENT E, ROBUST DETAILS AND BREEAM

Approved Document E details the Building Regulations requirements relating to resistance to the passage of sound. All new dwellings and those formed by material change of use are subject to the requirements. It is the duty of the developer to demonstrate compliance with Requirement E1 through pre-completion testing of walls and floors .

The Robust Details scheme provides an alternative method for demonstrating compliance. The scheme certifies constructions that have been found to perform consistently well, and can thus be assumed to provide the required performance standards without pre-completion testing.

BREEAM credits are available where the minimum performance standards of Requirement E1 are exceeded. The client must employ a suitably qualified acoustician at an early design stage to provide advice, or any targeted credits will be unattainable. The credits are awarded once compliance has been demonstrated via pre-completion testing or via use of Robust Details.

What are the Requirements of Approved Document E (ADE) ?

There are four requirements, which are referred to as Requirement E1, E2, E3 and E4. These are outlined below:

Requirement E1 – Protection Against Sound from Other Parts of the Same Building and Adjoining Buildings

This requirement applies to dwellings and rooms for residential purposes (including hotels, hostels, boarding houses, halls of residence and residential homes - but not hospitals).

Walls and floors separating these dwellings from other parts of the same building and from adjoining buildings must be designed and constructed in such a way that they achieve the stated minimum performance standards.

The performance standards are **mandatory**. Compliance is demonstrated by on-site pre-completion testing or via the use of Robust Details (see overleaf for details).

Requirement E2 – Protection from Sound Within a Dwelling

This requirement applies to internal walls within a dwelling, but does not apply to walls containing a door, walls separating bedrooms from an associated en-suite bathroom or toilet, or existing walls and floors in a building which is subject to material change of use.

Walls and floors within dwellings must be designed to meet the minimum performance standards given in ADE. The performance standards are given in the form of laboratory ratings rather than on-site testing results; therefore pre-completion testing of internal walls and floors is not required.

Requirement E3 – Reverberation in Common Parts of Buildings Containing Flats or Rooms for Residential Purposes

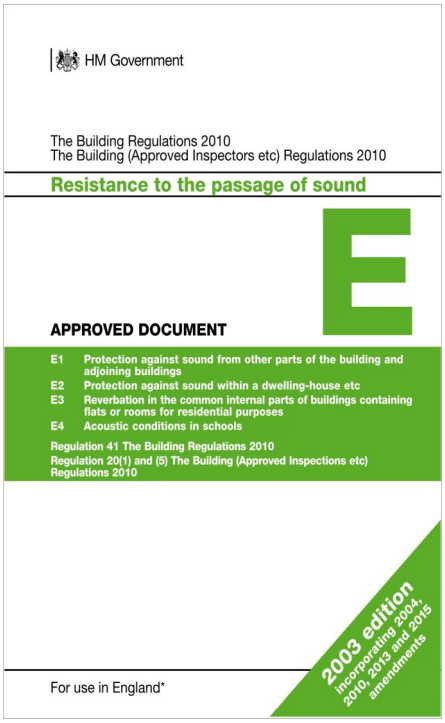
This requirement applies to corridors, hallways, entrance halls and stairwells which provide direct access to dwellings.

The requirement involves the provision of acoustically absorbent material in the common areas - the intention being to prevent excessive build-up of sound and so reducing the noise transmitted to adjoining residential rooms.

Building Control will expect evidence that the requirement has been satisfied.

Requirement E4 – Acoustic Conditions in Schools

This requirement covers internal noise levels, sound insulation between spaces and reverberation in school buildings. The normal way of satisfying this requirement is to meet the standards laid out in BB93.



Pre-Completion Testing (PCT)

Building Control should stipulate at least one set of tests for every ten dwellings, assuming no test fails. The sound insulation criteria have built in allowances for measurement uncertainty, so if any test does not achieve the criteria by any margin the test has failed.

If a test fails the Developer will need to determine the cause. It will then be necessary for the Developer to undertake appropriate remedial treatment, to the satisfaction of Building Control.

Robust Details

The Robust Details scheme provides an alternative method for demonstrating compliance. The scheme certifies constructions that have been found to perform consistently well, and can thus be assumed to provide the required performance standards without pre-completion testing.

It is important that all separating walls/floors and their associated junctions and flanking conditions are constructed entirely in accordance with the Robust Details, otherwise PCT may still be required. Only certain combinations of separating walls and floors are allowed.

Every dwelling built using Robust Details must be registered with Robust Details Ltd and a flat registration fee paid.

It still remains the Developer's responsibility to ensure every dwelling achieves the performance requirement stated in ADE. In the event non-compliance is alleged, Robust Details Ltd will not be liable, thus Robust Details only reduce the Developer's risk.

BREEAM

BREEAM credits are available if walls and floors between dwellings and/or rooms for residential purposes achieve better than the minimum performance standards of Requirement E1. The client must employ a suitably qualified acoustician at an early design stage to provide advice, or any targeted credits will be unattainable. The credits are awarded once compliance has been demonstrated via pre-completion testing or via use of Robust Details.

The available credits are as follows:

One Credit : 3dB better than E1
Three Credits : 5dB better than E1
Four Credits : 8dB better than E1

UKAS Accreditation

ADE states that sound insulation testing should be carried out by a test body with appropriate 3rd party accreditation. Test bodies conducting testing should preferably have UKAS accreditation for field measurements.

Hann Tucker Associates are a UKAS Accredited Testing Laboratory (No. 4083) for undertaking sound insulation testing for the requirements of ADE.

As a cost effective solution to our clients, we are also UKAS accredited to undertake Air Tightness Testing in dwellings in conjunction with Pre-Completion Sound Insulation Testing.

Hann Tucker Associates, the leading independent UK acoustic consultancy, can provide all the necessary advice and assistance on Building Regulations Approved Document E by using the specialist knowledge and expertise gained since 1971. We are UKAS accredited for field measurements including the undertaking sound insulation testing.

ANC Acoustics & Noise Consultants

Institute of Acoustics sponsoring organisation

UKAS TESTING 4083

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