

Background and Principles

Approved Document E (2003) states in Paragraph 1.30, Section 1 that testing should be based on **"...at least one set of tests for every ten dwelling-houses, flats or rooms for residential purposes in a group or sub-group."**

Section 1 of Approved Document E (2003) provides guidance on pre-completion testing programmes. Displayed below is the relevant paragraphs from ADE (2003) regarding testing in dwelling-houses and flats:

Sets of tests in dwelling-houses

1.19 Normally, one set of tests should comprise two individual sound insulation tests (two airborne tests):

- A test of insulation against airborne sound between one pair of rooms (where possible suitable for use as living rooms) on opposite sides of the separating wall.
- A test of insulation against airborne sound between another pair of rooms (where possible suitable for use as bedrooms) on opposite sides of the separating wall.

Sets of tests in flats with separating floor but without separating walls

1.20 Normally, one set of tests should comprise six individual sound insulation tests (four airborne tests, two impact tests):

- Tests of insulation against both airborne and impact sound between one pair of rooms (where possible suitable for use as living rooms) on opposite sides of the separating floor.
- Tests of insulation against both airborne and impact sound between one pair of rooms (where possible suitable for use as bedrooms) on opposite sides of the separating floor.

Sets of tests in flats with separating floor and separating wall

1.21 Normally, one set of tests should comprise six individual sound insulation tests (four airborne tests, two impact tests):

- A test of insulation against airborne sound between one pair of rooms (where possible suitable for use as living rooms) on opposite sides of the separating wall.
- A test of insulation against airborne sound between another pair of rooms (where possible suitable for use as bedrooms) on opposite sides of the separating wall.
- Tests of insulation against both airborne and impact sound between one pair of rooms (where possible suitable for use as living rooms) on opposite sides of the separating floor.
- Tests of insulation against both airborne and impact sound between one pair of rooms (where possible suitable for use as bedrooms) on opposite sides of the separating floor.

Paragraph 1.8 of Approved Document E (2003) states that “testing should not be carried out between living spaces, corridors, stairwells or hallways.”

Paragraph 1.25 also states “where the layout has only one pair of rooms on opposite sides of the entire area of separating wall or floor between two dwelling-houses, flats or rooms for residential purposes then the number of airborne and impact sound insulation tests set out in paragraphs 1.19 to 1.21 may be reduced accordingly.”

Performance Standards

Section 0 of Approved Document E (2003 Edition) to The Building Regulations 2000 requires separating walls and floors to meet the following criteria:

Dwelling-house and flats – performance standards for separating walls, separating floors, and stairs that have a separating function (new build standards)

from Table 1a & 1b of Approved Document E	Dwelling Houses & Flats		Rooms for Residential Purposes	
	Walls	Floors	Walls	Floors
$D_{nT,w} + C_{tr}$ dB	≥45	≥45	≥43	≥45
$L'_{nT,w}$ dB	-	≤62	-	≤62

Dwelling-house and flats – performance standards for separating walls, separating floors, and stairs that have a separating function (material change of use standards)

from Table 1a & 1b of Approved Document E	Dwelling Houses & Flats		Rooms for Residential Purposes	
	Walls	Floors	Walls	Floors
$D_{nT,w} + C_{tr}$ dB	≥43	≥43	≥43	≥43
$L'_{nT,w}$ dB	-	≤64	-	≤64

Section 0 of Approved Document E (2003 Edition) to The Building Regulations 2000 requires each purpose built separating wall airborne sound insulation test result to be equal to or greater than 45 dB $D_{nT,w} + C_{tr}$. Section 0 of Approved Document E (2003 Edition) to The Building Regulations 2000 also requires each separating floor airborne sound insulation test result to be equal to or greater than 45 dB $D_{nT,w} + C_{tr}$ and each separating floor impact sound transmission test result to be equal to or less than 62 dB $L'_{nT,w}$.

Section 0 of Approved Document E (2003 Edition) to The Building Regulations 2000 also requires each material change of use (conversion) separating wall airborne sound insulation test result to be equal to or greater than 43 dB $D_{nT,w} + C_{tr}$. Section 0 of Approved Document E (2003 Edition) to The Building Regulations 2000 also requires each separating floor airborne sound insulation test result to be equal to or greater than 43 dB $D_{nT,w} + C_{tr}$ and each separating floor impact sound transmission test result to be equal to or less than 64 dB $L'_{nT,w}$.

Required Test Conditions for Pre-Completion Testing (PCT)

Test Requirements

In order to carry out sound insulation testing (PCT) of walls and/or floors in buildings, the following conditions are required. Where any of the conditions cannot be achieved, please advise the consultants before the day of the tests. We kindly ask that at least 24 hours notice is required for a cancellation.

- Windows are complete with locks in place and closeable []
- Window trickle vents are in place or temporarily blocked up for testing []
- Room and front doors are in place and closeable []
- Power, TV/satellite, telephone sockets etc. on party wall are in place if appropriate []
- All wall surfaces in rooms to be tested are complete []
- Floors and ceiling surfaces are complete []
- Cornice and skirting boards are in place []
- Carpets or timber laminates have NOT been laid in rooms where floors are to be tested []
- 240v power sockets are live or 110v is available in each test room (confirm which). []
- Smoke alarm detectors must not bleep during tests (preferably deactivated) []
- Rooms to be tested must be clear of building materials []
- Site staff must be kept away from rooms under test. On the source side, the noise levels are very high and ear protection is required. On the receiver side, any extraneous noise adversely affects the results. []

Supplementary Information

We currently have £1 Million Professional Indemnity Insurance and £5 Million Public Liability Insurance cover. All test engineers carry valid Construction Skills Certification Scheme (CSCS) cards and will attend site with appropriate PPE.