

the use of Aircrete

CONFORMITY TO PART E AND ROBUST DETAILS FOR ENGLAND AND WALES

Following industry consultation, changes to Part E of the Building Regulations were introduced in July 2003 in order to improve the standards of sound insulation between and within individual dwellings and in certain multi-occupancy buildings. Aircrete's intrinsic acoustic efficiency makes it a particularly appropriate material to use for internal and external walls in order to comply with these new requirements.

The main considerations in Part E are:

- E1 Protection against sound from other parts of the building and adjoining buildings.
This deals with the performance aspects of separating walls and floors.
- E2 Protection against sound within a dwelling - walls and floors.
This deals with the performance aspects of internal walls and floors.

There are two other conditions, E3 and E4, which cover reverberation in communal areas and acoustic control in schools.

METHODS OF COMPLIANCE

There are several ways in which compliance with the requirements of Regulation 1 may be demonstrated:-

SEPARATING WALLS AND FLOORS

The Approved Document sets out the performance standards that separating walls and floors and certain internal walls and floors should attain. In the case of the separating elements, site testing (Pre-completion testing) may be required.

A number of separating wall and floor constructions are described in Approved Document E (2003 edition) which, if built correctly, will conform to the performance standards. However, these elements will require site testing of at least 1 in 10 dwellings.

The details given in the Approved Document are not exhaustive and the use of alternative constructions is permitted, but these will also be subject to site testing. For further information, please contact your aircrete manufacturer or refer to their website using the addresses given overleaf.

INTERNAL WALLS AND FLOORS

Internal walls between bedrooms or WCs and other rooms and internal floors are also required, under Regulation E2, to meet a specified performance standard set out in the Approved Document. These elements will not require site testing as they may be either constructed to provide a specified weight per m², or certified by the manufacturer providing laboratory evidence supporting their performance.

ROBUST DETAILS

Developed as an alternative to site testing for new build houses, flats and apartments, a series of enhanced and approved details for separating walls and floors that have been assessed to exceed the performance requirements of Part E. These constructions are shown in the Robust Details Manual, produced by Robust Details Ltd (RDL). Whilst using this solution negates the need for pre-completion testing, builders must first register and pay a fee to RDL for each plot. (www.robustdetails.com).

PRE-COMPLETION TESTING

It is the responsibility of the person carrying out the building work to ensure that appropriate sound testing is completed. Building Control Officers should consult with developers to determine the properties selected for testing, which should be no less than 1 in 10. The cost of testing is to be borne by the developer.



Aircrete blocks are highly suited for use as separating walls due to their inherent acoustic insulation.

FACTSHEET 8

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The following table summarises the main requirements with Part E for internal and separating walls and floors and indicates possible solutions.

APPROVED DOCUMENT E PERFORMANCE REQUIREMENTS

STRUCTURAL ELEMENT	PERFORMANCE REQUIREMENT		SOLUTION	SITE TESTING REQUIRED
	Airborne DnTw+Ctr	Impact LnTw		
NEW BUILD DWELLINGS				
Separating walls	min 45dB		1) Robust Details E-WM-6; E-WM-7; or 2) use an Approved Document construction or alternative method (Refer to manufacturer)	NO YES
Separating floors	min 45dB	max 62dB	1) Robust Details E-FC-3; E-FC-4 (Aircrete flanking wall); or 2) use an Approved Document construction or alternative method (Refer to manufacturer)	NO YES
Internal walls*	R _W = 40dB		(Refer to manufacturer)	NO
Internal Floors**	R _W = 40dB		(Refer to manufacturer)	NO
NEW BUILD: ROOMS FOR RESIDENTIAL PURPOSES***				
Separating walls	min 43dB		(Refer to manufacturer)	YES
Separating floors	min 45dB	max 62dB	(Refer to manufacturer)	YES
Internal walls*	R _W = 40dB		(Refer to manufacturer)	NO
Internal Floors	R _W = 40dB		(Refer to manufacturer)	NO

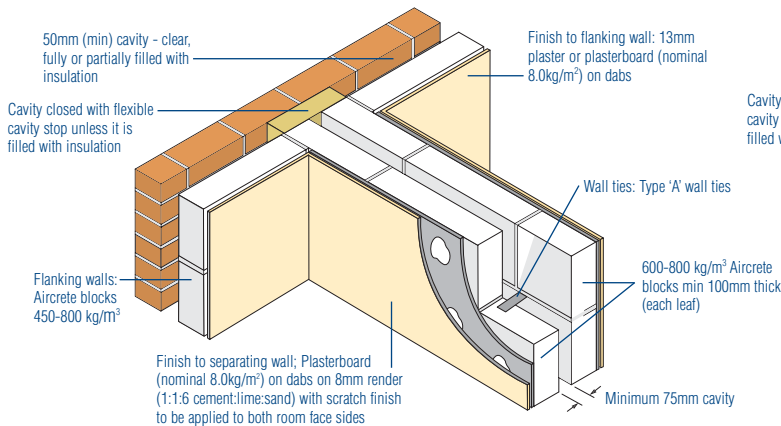
* Refers to walls between a bedroom or a room containing a WC

** Refers to the entire floor between two storeys in a dwelling.

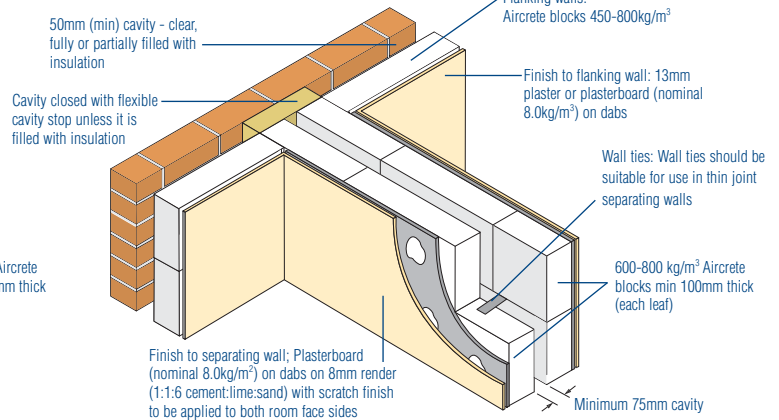
*** Any of the Approved Document constructions mentioned above may be used but these will still be subject to site testing.

AIRCRETE CONSTRUCTIONS FOR WHICH ROBUST DETAILS HAVE BEEN APPROVED

E-WM-6 separating wall (conventional blockwork)



E-WM-7 separating wall (Thin Layer blockwork)



NOTE: These Robust Details may only be used subject to registration and fee payable to Robust Details Ltd.

FURTHER INFORMATION

For more detailed information on compliance with Part E, product selection and detailing, please refer to the manufacturers websites below:

The following literature may also provide useful further information, and can be obtained directly from the manufacturers or downloaded from their websites:

H+H Celcon: Celcon Solutions to Part E

Thermalite: Part E - Resistance to the Passage of Sound

Topblock: Acoustic Guide: Blockwork Solutions to meet Part E

Alternatively you may wish to contact the manufacturer's technical department on the numbers below.



H+H UK LTD
Celcon House, Ightham,
Sevenoaks, Kent TN15 9HZ.
Tel: 01732 886333 Fax: 01732 886810
Technical Advice: 01732 880580
Sales Office: 01732 886444
www.hhcelcon.co.uk



Tarmac Topblock Limited
Millfields Road, Ettingshall,
Wolverhampton WV4 6JP.
Tel: 01375 656210
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Sales Office: 0845 606 2468
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