CONCRETE BLOCK ASSOCIATION

Separating Walls – Accoustic Performance

Data Sheet 7
October 2017

Uniclass
L3221 :A4
EPIC
F611 :X221
CI/SfB
Ff2 (Ajv)

Introduction

The Building Regulations require a wall, which separates dwellings to resist the passage to sound. This data sheet gives guidance on the specification of blocks for separating walls, which if built correctly, meet the requirements indicated.

Wall Types

Three basic masonry wall types can be identified which provide levels of sound insulation which meet Building Regulation requirements:

- Aggregate concrete block solid walls
- Aggregate concrete block cavity walls
- Walls with an aggregate concrete block solid core and associated freestanding lightweight panels.

The resistance of the first wall type to the transmission of airborne sound depends primarily upon mass. In the second wall type it depends primarily on mass, but also on isolation (provided by the cavity). In the third type, sound insulation is achieved partly by the mass of the masonry core and partly by the isolation provided by the freestanding lightweight panels.

Factors Affecting Sound Transmission

Effective insulation against airborne sound depends, in most instances, on mass and airtightness, and aggregate concrete blocks suitable to achieve the required wall masses for separating walls are widely available.

The weight of a wall is determined by the density and thickness of the materials used. The design, detailing and workmanship of the separating wall are all of paramount importance in achieving good performance.

The specification of the flanking wall, particularly the mass but also the disposition of openings, is of considerable importance in achieving good levels of sound insulation.

Regulations

The regulations of England & Wales in Approved Document E call for the pre-completion testing of separating walls on a sampling basis. The method of rating performance also now includes a spectrum adaptation term Ctr designed for traffic noise, which places a disproportionate emphasis on low frequency performance. Approved Document E no longer contains prescriptive solutions, but guidance on what should perform adequately. Constructions, which have been shown from long experience to perform well are detailed overleaf. These would be subject to pre-completion testing in England & Wales.

Alternatively, a system of Robust Details may be used, for which a registration needs to be made prior to use and which, if followed, avoids the need to for pre-completion testing. This has been established by Robust Details Ltd (www.robustdetails.com).

The Building Standards for Scotland give example constructions for separating walls in 'Example construction and generic internal constructions' which is for use with Technical Handbook to Section 5 of the Building Standards. These example constructions show reliable constructions but which require post completion testing. Other constructions may also be used and these also require post completion testing.

Alternatively, Robust Details are available for use in Scotland which do not require post completion testing.

For both the England & Wales acoustic regulations and those for Scotland, the regulatory thermal requirements impinge on the acoustic regulations, as it has been found that cavity separating walls provide a heat loss mechanism and have to be edge sealed and/or insulated to address this.

Good Practice Points

Airtightness – Direct air paths must be avoided. Careful detailing and good workmanship are required.

Wall Ties – With cavity walls, the minimum number of flexible ties consistent with stability should be used.

Services – Pipes, conduits etc, must not pass through the wall. Chasing, particularly back to back, must be avoided.

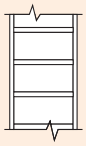
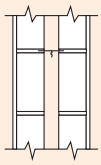
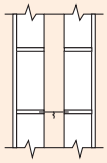
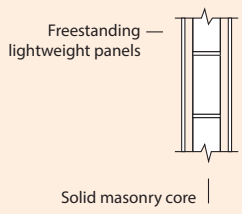
Junctions – Careful detailing at junctions with flanking walls, floor slabs and ceilings should be ensured. The separating wall should be extended into the roof space without reducing the thickness or otherwise changing the block specification.

Concrete Block Association, The Old Rectory
8 Main Street, Glenfield LE3 8DG
Tel: 0116 232 5165
www.cba-blocks.org.uk

CONCRETE BLOCK ASSOCIATION

Separating Walls – Accoustic Performance

England & Wales Approved Document E 2003 incorporating 2004 and 2010 amendments

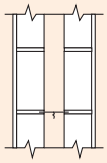
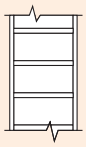
	Wall Configuration (for pre-completion testing)	Finish	Wall Mass (minimum)
	**SOLID (blocks laid flat)**		
	Dense Aggregate Blocks	Plaster	415kg/m^2
	**50mm CAVITY**		
	Dense Aggregate Blocks	Plaster	415kg/m^2
	**75mm CAVITY**		
	Lightweight Aggregate Blocks	Plaster or drylining if wall stepped or staggered	300kg/m^2
	**FREESTANDING LIGHTWEIGHT PANELS**		
	Dense Aggregate Blocks	Lightweight panels (20kg/m^2 each) or 2 layers of plasterboard	300kg/m^2 (dense aggregate blocks)
	Lightweight Aggregate Blocks	Lightweight panels (20kg/m^2 each) or 2 layers of plasterboard	150kg/m^2 (lightweight aggregate blocks)

Independent Guidance & Technical Expertise

CONCRETE BLOCK ASSOCIATION

Separating Walls – Accoustic Performance

England & Wales Robust Details

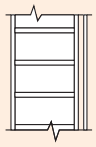
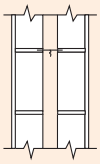
	Wall Configuration (without pre-completion testing)	Block Specification	Finish	RD Notation
	2 leaves 100mm solid blocks with 75mm cavity	Separating wall block density 1850 – 2300kg/m³	13mm plaster	E-WM-1
		Separating wall block density 1350 – 1600kg/m³	13mm plaster	E-WM-2
		Separating wall block density 1850 – 2300kg/m³	8mm parge & drylining	E-WM-3
		Separating wall block density 1350 – 1600kg/m³	8mm parge & drylining	E-WM-4
		Separating wall block density 1350 – 1600kg/m³	Drylining	E-WM-17
	2 leaves 100mm solid blocks with 100mm cavity	Separating wall block density 1350 – 1600kg/m³	8mm parge & drylining	E-WM-11
		Separating wall block density 1850 – 2300kg/m³	Plaster	E-WM-18
		Separating wall block density 1350 – 1600kg/m³ or 1850 – 2300kg/m³	8mm parge & drylining (with Monarfloor Bridgestop in cavity)	E-WM-19
		Separating wall block density 1350 – 1600kg/m³	Drylining (with Isover Party Wall or Round the House Roll in cavity)	E-WM-20
		Separating wall block density 1350 – 1600kg/m³	Plaster	E-WM-21
		Separating wall block density 1350 – 1600kg/m³	Drylining (with Knauf Party Wall Slab or Superglass Party Wall Roll in cavity)	E-WM-22
	215mm solid blockwork wall (raft foundations only)	Separating wall block density 1850 – 2300kg/m³	15mm dense plaster and drylining	E-WM-9

See RDL handbook http://www.robustdetails.com for full details of these and proprietary Robust Details including specification of flanking elements and details of filling cavity wall RDs with mineral wool to achieve a notional U-value of 0 W/m²K

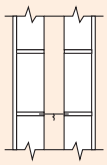
CONCRETE BLOCK ASSOCIATION

Separating Walls – Accoustic Performance

Scotland Technical Handbook Section 5 2011

	Wall Configuration (for pre-completion testing)	Finish	Block Density
	**SOLID (blocks laid flat)**		
	Dense Aggregate Blocks	Sand/cement plaster & drylining one side. Other side to have an independent wall lining	1850kg/m^3 (min)
	**75mm CAVITY**		
	Dense Aggregate Blocks	Sand/cement plaster & drylining to both sides.	1850kg/m^3 (min)

Scotland Robust Details

	Wall Configuration (for pre-completion testing)	Block Specification	Finish	RD Notation
	2 leaves 100mm solid blocks with 100mm cavity	Separating wall block density 1350 – 1600kg/m^3	8mm parge & drylining	V-WM-11
		Separating wall block density 1350 – 1600kg/m^3 or 1850 – 2300kg/m^3	8mm parge & drylining (with Monarfloor Bridgestop in cavity)	V-WM-19
		Separating wall block density 1350 – 1600kg/m^3	Drylining (with Isover RD Party wall roll in cavity)	V-WM-20
		Separating wall block density 1350 – 1600kg/m^3	Plaster	V-WM-21

mpa British Precast

See RDL handbook http://www.robustdetails.com/scotland for full details of these Robust Details including specification of flanking elements and details of filling cavity wall RDs with mineral wool to achieve a notional U-value of 0 W/m^{2}K

Independent Guidance & Technical Expertise