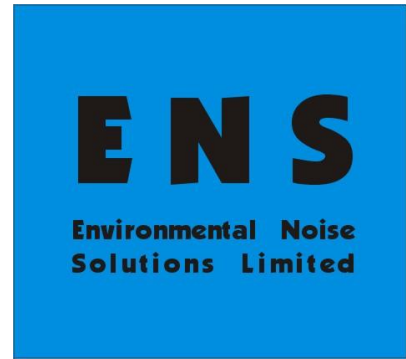




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Proposed Residential Development 32 Station Road, Batley, WF17 5SU

Acoustic Design Advice

For: KOBBSY Ltd

6th October 2026

Ref: ADA-12749-26-001-v1 32 Station Road, Batley

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1 Introduction

Environmental Noise Solutions Ltd (ENS) has been commissioned by KOBBSY Ltd to provide acoustic design advice offered in relation to the proposed residential development at 32 Station Road, Batley, WF17 5SU.

Development proposals are for the conversion of the existing 4-storey building to form 8no. apartments.

The review has been requested to address the requirements of Building Regulations - Approved Document E 'Resistance to the Passage of Sound' (ADE 2003).

For apartments formed by material change of use, the performance requirements of ADE 2003 are:

- Airborne sound insulation of separating walls no less than $43 \text{ dB } D_{nT,w} + C_{tr}$
- Airborne sound insulation of separating floors + stairs no less than $43 \text{ dB } D_{nT,w} + C_{tr}$
- Impact sound insulation of separating floors + stairs no greater than $64 \text{ dB } L'_{nT,w}$

Planning approval for the change of use was granted by Kirklees Council in May 2026, subject to conditions. Condition 9 relates to the transfer of noise as follows: 2026/62/90408/E

"9. Before the development is brought into use written evidence to demonstrate that the airborne sound insulation performance of the party floors/walls/ceiling of the development is of a minimum of 55dB $D_{nT,w} + C_{tr}$ shall be submitted to and approved in writing by the Local Planning Authority. If it cannot be demonstrated that the aforementioned airborne sound insulation performance has been achieved, a scheme incorporating further measures to achieve the sound insulation performance shall be submitted to and approved in writing by the Local Planning Authority. All works comprised within those further measures shall be completed and further written evidence to demonstrate that the aforementioned sound insulation performance level has been achieved shall be submitted to and approved in writing by the Local Planning Authority before the development is first brought into use.

Reason: To protect the amenity of occupiers of the proposed development from noise or disturbance from nearby noise generating premises to accord with the aims of Policies LP24 and LP52 of the Kirklees Local Plan and Chapters 12 and 15 of the National Planning Policy Framework."

The above condition was recommended by Kirklees Council Environmental Health on 8th April 2026, who stated that the condition was applicable; *"For use where proposed commercial and residential share a party structure (floor / ceiling or wall etc)".* As such, it is understood that Condition 9 applies to walls/floors between residential and commercial spaces only. As there are no commercial premises attached to the development, the criteria set out in Condition 9 is not applicable. Therefore, the ADE performance requirements outlined above are adopted throughout the development.

Following a recent site visit, it is understood that:

- The existing external walls of the building are solid masonry
- Existing internal walls at the development are typically lightweight stud walls.
- The existing separating floors are of basic timber construction (floorboards, joists and original plaster ceiling)

The advice contained in this report has been prepared with reference to the development plans provided by KOBBSY Ltd. The advice offered relates to the acoustic design only and does not consider compliance with other parts of the Building Regulations.

In preparing acoustic design advice for this project, ENS has undertaken to eliminate hazards and reduce risks, as far as is reasonably practicable, in accordance with the requirements of the Construction (Design and Management) Regulations 2015 in so far as they relate to the acoustic design service provided.

This acoustic design advice has been prepared for KOBBSY Ltd for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties making reference to the report should consult ENS and KOBBSY Ltd as to the extent to which the findings may be appropriate for their use.

2 Requirement E1 – Separating Floors

2.1 Timber Separating Floors

The existing timber separating floor constructions will not achieve ADE 2003 compliance and will therefore require upgrading.

The recommended solution is to install an independent plasterboard ceiling below the existing timber joist floor.

Existing floor boards should be in good repair and all gaps in the existing floorboards and at the perimeter wall junctions should be sealed. Where floorboards are replaced, 22 mm t&g flooring grade chipboard should be used.

Existing ceilings may be retained/made good and upgraded with a single layer of 12.5 mm FireLine plasterboard (as shown in Figure 2.1). Alternatively, where new ceilings are required, the existing timber joists should be underdrawn by 2no. layers of 12.5 mm FireLine plasterboard.

The direct-fixed ceiling should be upgraded with a metal frame ceiling consisting of (see Figure 2.1):

- A suspension system consisting of a concealed grid metal frame (e.g. British Gypsum Casoline, or equivalent) system incorporating **acoustic hangers** to create a (minimum) 150 mm void
- 2 layers of 12.5 mm FireLine or SoundBloc plasterboard with staggered joints
- 100 mm mineral wool insulation (min. density 10-60 kg/m³) above the ceiling

Figure 2.1: Proposed Metal Frame Ceiling Construction

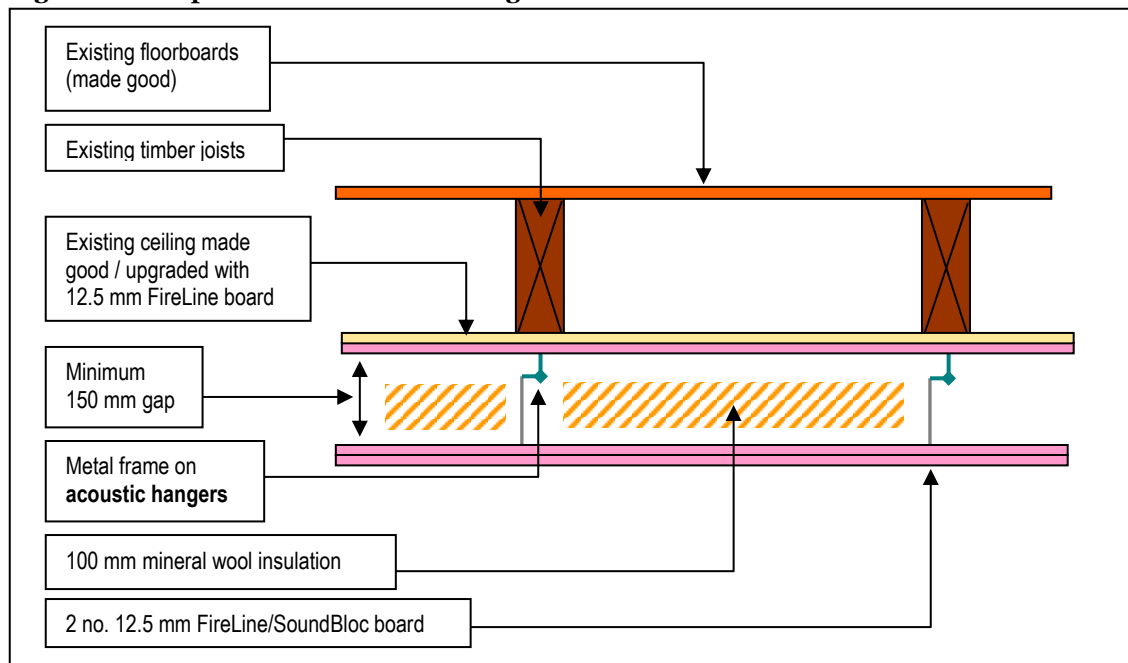
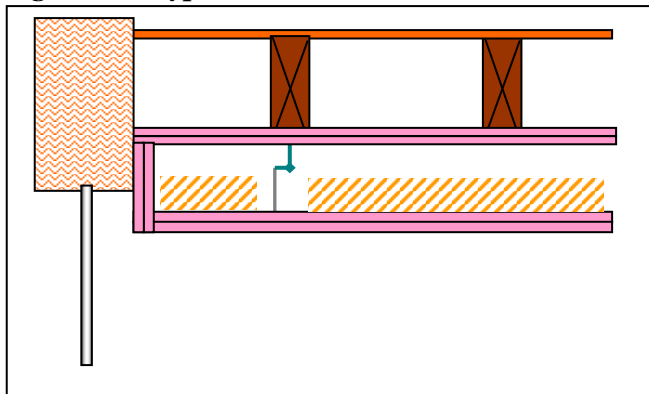


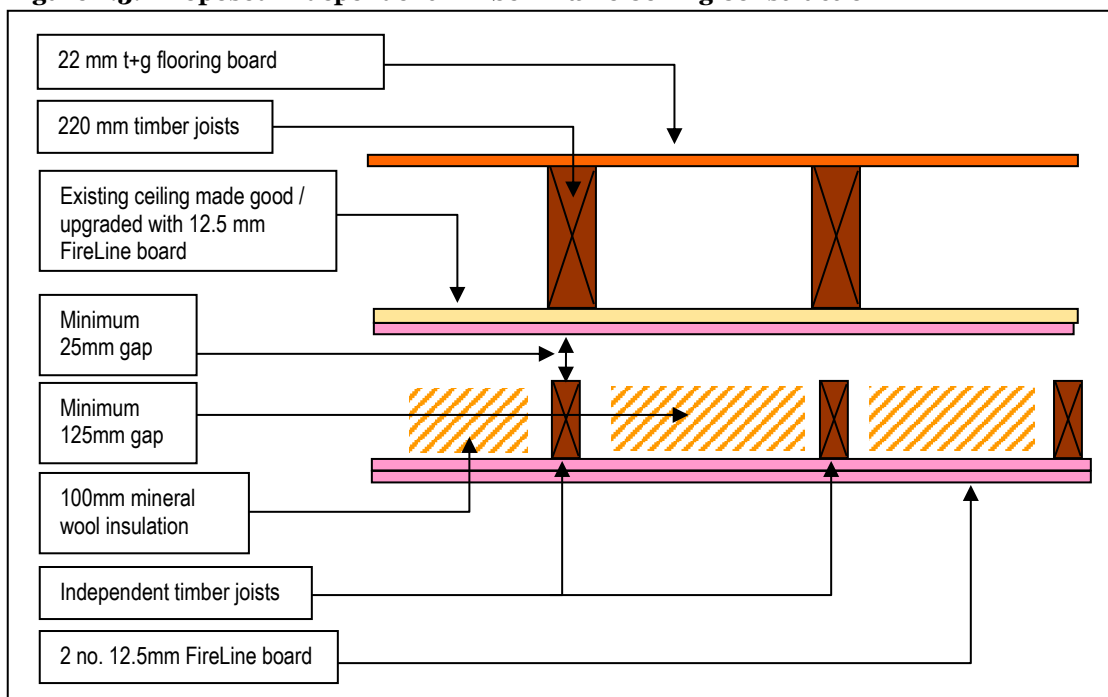
Figure 2.2: Typical Pelmet Detail



The acoustic hangers are used to resiliently attach the ceiling frame strap hangers to the underside of the joists (this will require the hangers to be reversed such that they are fixed to the underside of the joist through the existing ceiling rather than fixed to the side of the joists as is traditional). Acoustic hangers are available through suppliers such as British Gypsum or Arthur Hough.

Alternatively, independent timber joists may be used with mid-span support from acoustic hangers (see Figure 2.3).

Figure 2.3: Proposed Independent Timber Frame Ceiling Construction



Downlighters may be installed in the ceiling at no more than one light per 2 m² of ceiling area in each room and at centres not less than 0.75 metres into openings not exceeding 100 mm diameter or 100 x 100 mm. These should be backed with an acoustic/fire hood.

If well-built, with flanking transmission adequately controlled, this construction will readily achieve compliance with Building Regulations ADE 2003.

2.2 Separating Stairs

With regard to cupboards underneath/above stairs, ADE 2003 requires the following measures:

- The underside of the stairs should be lined with 1 x layer of 12.5 mm FireLine board with mineral wool insulation (min. density 10 kg/m³) above the lining
- The cupboard wall should comprise of 2 x layers of 12.5 mm FireLine board
- The cupboard should be provided with a small, heavy, well-fitted door

3 Requirement E1 – Separating Walls

3.1 New Lightweight Separating Walls

It is understood that new build stud partitions are proposed at the development. An appropriate construction is as follows:

- 2 x 12.5 mm SoundBloc/FireLine plasterboard
- 75 mm timber stud
- 50 mm gap between studs, with 50 mm mineral wool in the cavity
- 75 mm timber stud
- 2 x 12.5 mm SoundBloc/FireLine plasterboard

This construction would typically be expected to satisfy the airborne sound insulation performance standard in ADE 2003 assuming a good level of workmanship and appropriate junction detailing.

The following points should be noted:

- The frames of the twin stud separating walls should be independent
- Mineral wool insulation in the cavity should be a minimum of 50 mm thick and 10 kg/m³ density (Rockwool Flexi, or equivalent, would be appropriate)
- Wall linings should be applied with taped / caulked staggered joints
- Any gaps at the perimeters of partitions should be well sealed using flexible or acoustic sealant

Preferably, there should be no sockets in separating walls, but if required they should not be back-to-back and the rear of the socket should be lined with 2 layers of dense plasterboard (or use Hilti CP 630 Putty Pads).

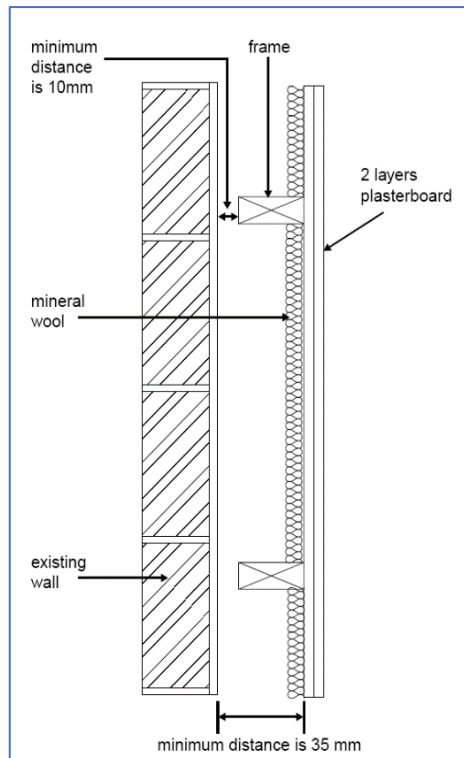
3.2 Existing Lightweight Corridor Walls

Where existing timber stud walls will form a separating function between apartments and corridors, these walls should be upgraded by providing an IWL to one side – see Appendix 1 for locations of upgraded walls. The specification for the IWL is detailed below.

The specification for the IWL is as follows (see Figure 3.2):

- The IWL should consist of at least 2 layers of 12.5 mm FireLine board (or equivalent) with staggered joints
- There should be a gap of at least 10 mm between the supporting frame (timber or metal) and the face of the existing wall and a gap of at least 35 mm between the plasterboard and the existing wall
- Mineral wool, minimum density 10 kg/m³ and minimum thickness 35 mm, in the cavity between the plasterboard and the existing wall

Figure 3.2: Independent Wall Lining



The perimeter of the lining should be sealed with tape or sealant.

Alternatively, existing lightweight corridor walls can be replaced with new stud walls to the same spec as separating wall, as outlined in Section 3.1.

4 Requirement E2 – Internal Walls

Requirement E2 of ADE 2003 states that **new build** internal walls and floors should be constructed to achieve a laboratory airborne sound insulation performance of 40 dB R_w . This construction requirement applies whether or not the performance can be achieved in reality (e.g. with open stairwells etc.).

For **new build** internal walls, this requirement applies to internal walls between a bedroom, or a room containing a water closet, and other rooms (but does not apply to walls containing a door or a wall which separates an en-suite toilet from the associated bedroom). It also does not apply to existing walls in a building which is subject to a material change of use.

An example construction is as follows:

- 2 x 12.5 mm Gyproc Wallboard
- 70 mm 'C' stud
- 2 x 12.5 mm Gyproc Wallboard

Alternatively, a single layer of plasterboard can be fixed to each side if 25 mm mineral wool insulation is placed in the cavity.

Additionally, a variety of metal frame wall options are available that achieve 40 dB R_w .

In order to retain the acoustic properties of the separating floors, any internal walls at ground and first floor should be taken up to the suspended ceiling, not the direct-fixed ceiling.

5 Junction Detailing

5.1 Flanking Noise

Flanking noise is unwanted sound that transmits between spaces indirectly (i.e. going over or around) rather than directly through the main separating element. This can allow unwanted sound transmission between spaces despite a high level of sound insulation performance from the main separating element. However, flanking noise can be minimised by the use of appropriate junction detailing.

5.2 Separating Wall Base Details

At basement level, new lightweight separating walls should be built off the concrete slab, and not any thermal/resilient layers.

For remaining lightweight separating walls at the development, it should be ensured that floorboards do not run continuously beneath the new separating walls (see Figure 5.1 and 5.2).

Where timber joists are **parallel** to the separating wall, a timber joist should be located beneath the separating wall in order to control flanking sound transmission via the floor zone.

Where timber joists are **perpendicular** to the separating wall, full-depth timber noggins should be installed beneath the separating wall (see Figure 5.2 and 5.3).

Note: Timber noggins can be installed from the underside if the existing direct-fixed ceiling is to be replaced.

In either case the floor zone underneath the separating wall should be packed with mineral wool insulation; the principal is to block the sound path underneath the separating wall.

Figure 5.1: Separating walls – timber floor detail (joists parallel)

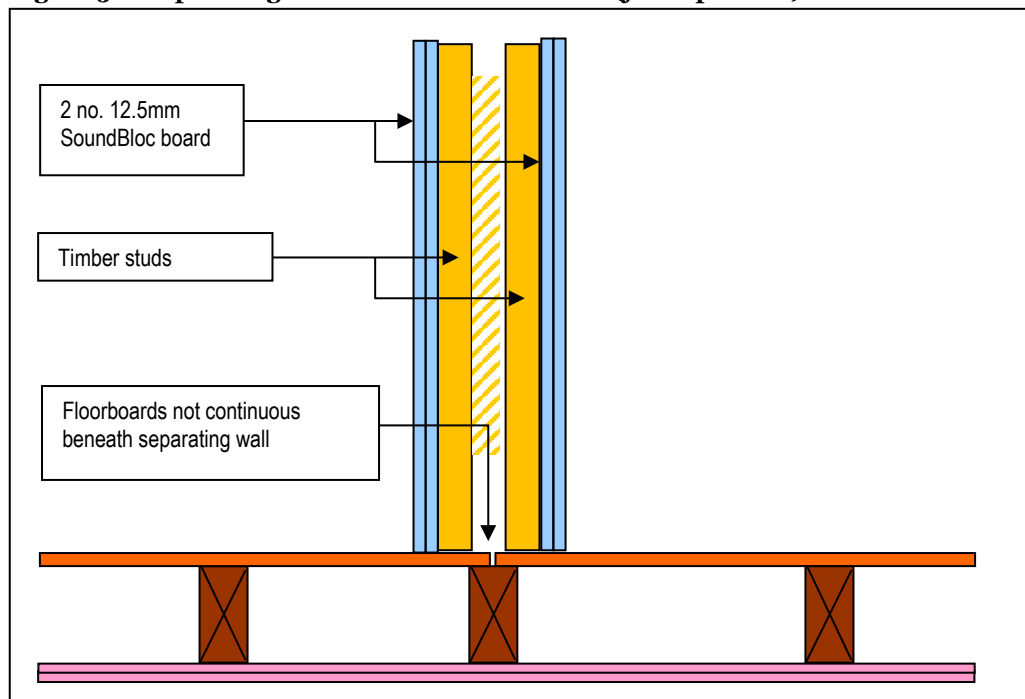


Figure 5.2: Lightweight Separating walls – base detail (joists perpendicular)

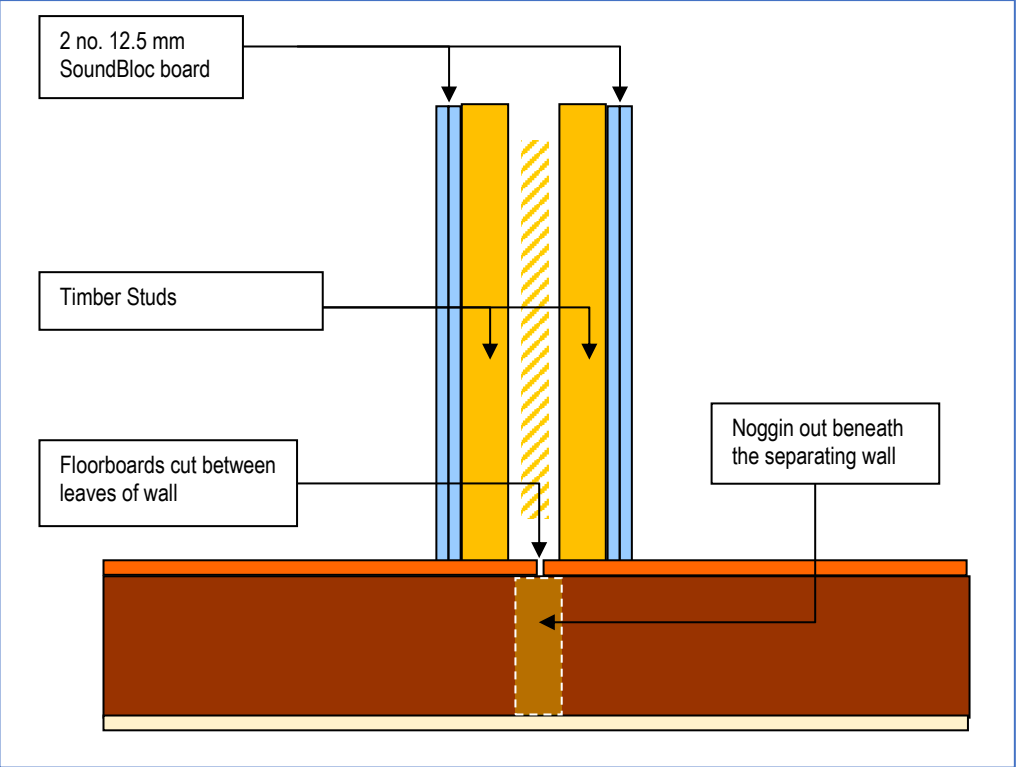
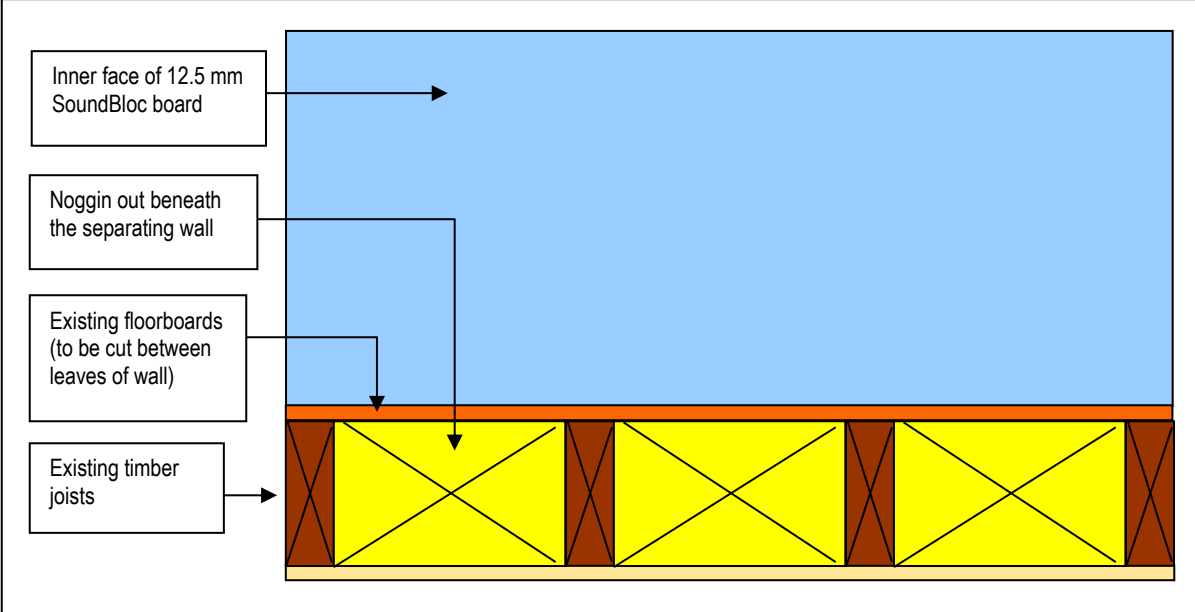


Figure 5.3: Separating walls – timber floor detail (joists perpendicular)

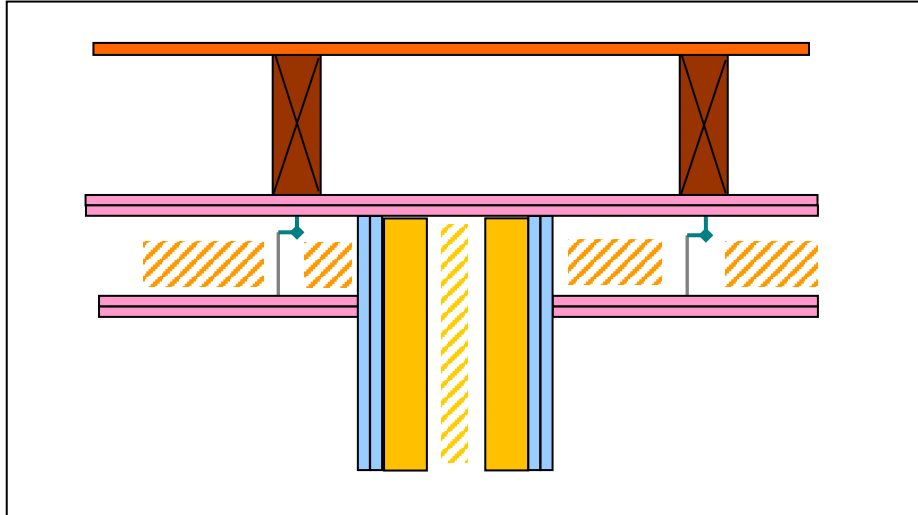


5.3 Separating Wall Head Details

Basement, Ground, First Floor Levels

At basement to first floor levels, the head of the wall should be taken up to the direct-fixed ceiling, with the suspended ceiling installed on either side of the wall (see Figure 5.4).

Figure 5.4: Separating Wall Head Detail



Second Floor

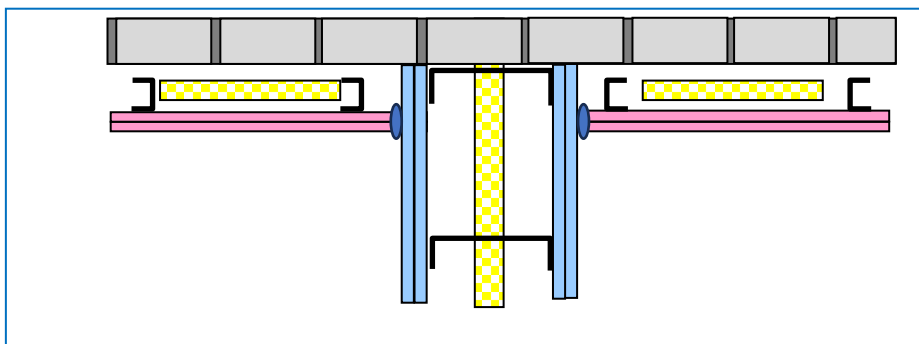
The second floor currently has a high vaulted ceiling with exposed timber beams. It is understood that a new plasterboard ceiling is to be provided to the underside of the existing timber beams.

On this basis, new lightweight separating walls should be taken up to the direct-fixed FireLine plasterboard, with a metal frame ceiling (comprising min. 100 mm void and 1 x 12.5 mm FireLine plasterboard) dropped in either side of the separating wall.

5.4 Separating Wall to Perimeter Wall Junctions

It is understood that external masonry walls will have an insulated plasterboard lining for thermal reasons.

At the junction of lightweight separating walls with masonry walls, the wall junction must be with the masonry and not any wall lining (see Figure 5.5).

Figure 5.5: Junction of Lightweight Separating Wall and Masonry Wall

At the junction of lightweight separating walls with existing lightweight corridor walls, the separating wall should first be taken through to the existing wall. The existing corridor wall should then be upgraded with an IWL (see Section 3.2).

6 Service / Structural Penetrations

6.1 Services and Chimneys

Service pipes through separating floors (e.g. SVPs) should be lagged with a minimum of 25 mm unfaced mineral wool quilt around the pipe and boxed in with two layers of plasterboard. The pipe should be enclosed for the full height (i.e. floor to soffit). All voids around the pipe as it passes through the separating element should be sealed.

In the case of separating walls, service penetrations should be avoided where possible, but if required ENS should be notified in order to provide appropriate details.

To control vertical and horizontal noise transmission, any existing chimney breasts/flues should be blocked up.

7 Entrance Doors to Rooms

In order to conform with ADE 2003, entrance doors to rooms should be specified that have good perimeter sealing and a minimum mass per unit area of 25 kg/m^2 or a minimum sound reduction index of 29 dB R_w .

With regards to the provision of a 29 dB R_w door set, this acoustic performance can be achieved by a well fitted solid doorset where the door is sealed effectively around its perimeter in a substantial frame with an effective stop. A 30 minute fire doorset (FD30) can be suitable. Timber FD30 doors often have particle core or laminated softwood cores with a mass per unit area $\approx 25 \text{ kg/m}^2$ and a thickness of $\approx 44 \text{ mm}$. Frames for FD30 doors often have a $90 \text{ mm} \times 40 \text{ mm}$ section with a stop of at least 15 mm . Compression or wipe seals should be used around the door's perimeter along with a threshold seal beneath. A drop-down or wipe type threshold seal is suitable.

8 Requirement E3 – Reverberation

Requirement E3 of ADE 2003 requires that the common internal parts of buildings which contain rooms shall be designed and constructed in such a way as to prevent more reverberation around the common parts than is reasonable. E3 applies to corridors, stairwells, hallways and entrance halls which give direct access to the rooms.

For common entrance halls, corridors or hallways giving direct access to bedrooms, Requirement E3 states that an area equal to or greater than the floor area is covered with a Class C absorber or better. It is normally convenient to cover the ceiling area with the additional absorption.

Class C absorbers come in many forms, but the most typical are:

- Perforated ceiling boards (such as Gypsum Quattro 41) or
- Suspended ceiling tile (such as Armstrong Ultima) or

In summary, a Class C ceiling should be provided to the communal stairwell.

It may also be appropriate to consider ‘thinner’ proprietary solutions, such as Echosorba tiles <http://www.soundsorba.com/acoustic-products/sound-absorption/echosorba/>, which are only 30 mm thickness. This tile may be bonded directly to plasterboard.

For reference, the control of reverberation of common areas in conversions is not necessarily requested by the Building Control Officer. The purpose of this section is to highlight the requirement for acoustic treatment of circulation corridor ceilings. It is not subject to pre-completion sound insulation testing.

Appendix 1A – Annotated Ground Floor Plan (Basement and Ground)



Appendix 1B – Annotated Ground Floor Plan (First and Second)

