



17 January 2023

Dear [REDACTED]

Old Post Office, Station Road, Rossett

Approved Document E Sound Insulation Advice

1.0 INTRODUCTION

Peninsular Acoustics Ltd. has been appointed by Mr Ahmet Guven to provide sound insulation advice for the Old Post Office, Station Road, Rossett to satisfy planning condition no. 5 imposed on the development under planning application ref. ROS P/2021/0874.

Planning Condition no. 5 is as follows:

5. No part of the development shall commence until a scheme of noise insulation and attenuation measures between the ground floor and first floor residential accommodation (in compliance with Building regulations guidance: part E - resistance to the passage of sound) has been submitted to and approved in writing by the Local Planning Authority. The measures as are approved shall be fully implemented in strict accordance with the scheme prior to first occupation / use of the development and shall thereafter be retained as such.

This correspondence sets out the recommended site works with the aim of satisfying the requirements of Approved Document E (2003 edition incorporating 2004 and 2010 amendments) of the Building Regulations 2010 ("Part E"). By complying with the requirements of Part E, planning condition no. 5 can be deemed to have been satisfied.

A site visit was undertaken on Tuesday 10th January to review the existing building structures and form an opinion on advice.

The following drawings have been used for this assessment:

- Drawing no. 893/1 dated July 2021 'Existing Ground Floor Plan'
- Drawing no. 893/2 dated July 2021 'Existing First Floor Plan'
- Drawing no. 893/3 dated August 2021 'Existing Front and Rear Elevations'
- Drawing no. 893/4 dated August 2021 'Existing Side Elevations'
- Drawing no. 893/5 dated December 2022 'Proposed Ground Floor Plan'
- Drawing no. 893/6 dated December 2022 'Proposed First Floor Plan'



2.0 APPROVED DOCUMENT E

Approved Document E (ADE) requires all residential dwelling-houses and flats formed by a material change of use to provide the sound insulation performances between party walls and floors in.

Table 1: Table 1a of Part E

Separating Element	Airborne sound insulation (Minimum values)	Impact sound insulation (Maximum values)
Walls	43 dB $D_{nT,w} + C_{tr}$	-
Floors and stairs	43 dB $D_{nT,w} + C_{tr}$	64 dB $L'_{nT,w}$

These performance requirements relate to separation between residential dwellings. The separating floor in the Old Post Office is between a restaurant and an apartment.

Paragraph 0.8 of Part E states:

'The performance standards set out in Tables 1a and 1b are appropriate for walls, floors and stairs that separate spaces used for normal domestic purposes. A higher standard of sound insulation may be required between spaces used for normal domestic purposes and communal or non-domestic purposes. In these situations the appropriate level of sound insulation will depend on the noise generated in the communal or non-domestic space. Specialist advice may be needed to establish if a higher standard of sound insulation is required and, if so, to determine the appropriate level'

It is proposed to increase the airborne sound insulation performance target to at least 50 dB $D_{nT,w} + C_{tr}$ (e.g. at least 7 dB improvement on Part E requirements). A higher target would be desirable and high attention to detail and workmanship may enable a greater performance than the assumed performance relating to the design advice in this report.

Given that the use beneath the separating floor is not sensitive to noise intrusion, the impact sound insulation targets are not regarded as important and relevant for compliance with Part E.

In addition to the above requirements, Part E states that all internal walls and floors separating rooms with WCs and bedrooms from other spaces should be specified such that their laboratory sound insulation performance is at least R_w 40 dB.

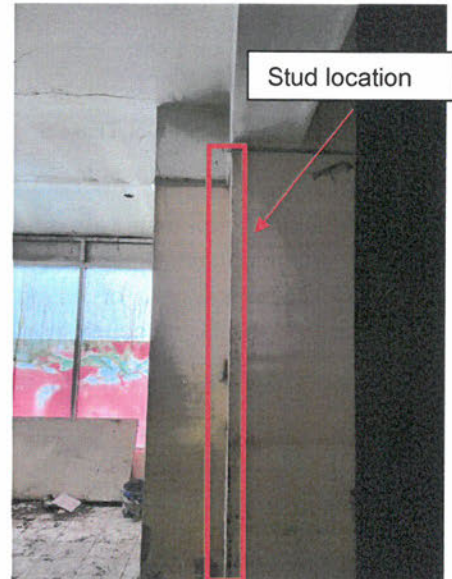
All apartment entrance doors should be specified such that their laboratory sound insulation is at least R_w 29 dB.

There are no common communal areas that require consideration of compliance with Requirement E3 of Part E.



The store wall and store door should be constructed as follows:

- Studs of depth to suit the height of the wall, ensuring that they protrude into the room slightly (as shown on the right)
- Install two no. 15mm dense plasterboard layers (e.g. British Gypsum SoundBloc) onto the studs
- Incorporate a solid core timber door blank of minimum 54mm thickness and ensure it is well fitted to the frame, with positive closure around the door perimeter



3.4 Separating Wall between Restaurant Dining Area and Apartment Entrance

There is a small area of separating function between the apartment entrance hall which leads to the stairs and the restaurant itself.

It is recommended that the following separating wall construction is installed:

- Two 15mm layers dense plasterboard
- Twin 50mm timber studs separated by minimum 10mm to provide 140mm between the inside face of the plasterboard layers
- 50mm mineral wool within the cavity
- Two 15mm layers dense plasterboard

One of the stud frames has been installed already (see photo). It is recommended that another is installed to the side of this to create the twin framing.

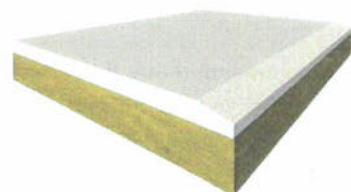


3.5 Junction Requirements

3.5.1 Junction Between the Separating Floor and the External or Load-bearing Wall

It is recommended that all external walls at ground floor and first floor, either side of a floor separating the non-residential space and apartment, are lined with a laminate of plasterboard and mineral wool (e.g. Fassa Bortolo Gypsotech Duplex Rock Wool board).

The board must comprise a bonded mineral wool. Foam or PIR insulated plasterboard will not suffice.





6.0 CONCLUSIONS

It is proposed to refurbish the old post office on Station Road, Rossett to create a restaurant at ground floor and improve the existing apartment at first floor level.

Planning permission was granted with a condition imposed relating to sound insulation between the restaurant and apartment.

Peninsular Acoustics have undertaken a site visit and reviewed the possible construction options.

Advice has been provided aimed at satisfying the requirements of Approved Document E.

Provided there is a high quality to the workmanship and the proposed construction advice is followed, the requirements of Approved Document E should be satisfied.

Yours Sincerely,



