

AD 287: Acoustic detailing: Steel columns in masonry separating walls

General guidance on acoustic detailing of steel-framed multi-storey residential buildings is provided in SCI publication P336 but no details are given for the integration of columns within masonry separating walls. The current issue of the Robust Details Handbook does not cover such details. This AD remedies the omission by providing typical details for solid and cavity masonry walls and demonstrates that satisfactory acoustic detailing of steel columns within separating walls can be achieved in multi-storey residential construction.

Background

Part E of Schedule 1 of The Building Regulation for England and Wales require that separating walls and separating floors in residential buildings “*provide a reasonable resistance to the passage of sound*”. Approved Document E defines acoustic performance standards that are deemed to comply with the requirements of the Building Regulations. It explains that there are two methods of demonstrating compliance:

- a) Carry out on-site tests to measure the acoustic performance of separating walls and floors, to confirm that the performance standards in Approved Document E are met.
- b) Use Robust Details (RDs), as published in the *Robust Details Handbook*, throughout the building. Before construction the developer must also register the site with Robust Details Limited, who administer the RD scheme.

Steel columns in masonry separating walls

Robust Details of steel columns in masonry separating walls are not included in the *Robust Details Handbook* because there is currently insufficient evidence from on-site tests. In fact, in Appendix A of the Handbook there is a blanket statement that reads “*steel columns built into masonry separating walls are not permitted*”. This statement has been taken out of context by some readers – it should not be taken as a prohibition but only as a statement that such a detail is not covered by any of the details in the current issue of the Handbook.

Although steel columns in masonry separating walls do not have RD status, this does not mean that steel columns in separating walls cannot be used to produce buildings that fully satisfy the requirements of Approved Document E and the Building Regulations. Viable details that can be expected to meet the performance standards are shown in Figures 1, 2, 3 and 4. These Figures show details for solid masonry walls and cavity walls. However, on-site testing would be required to demonstrate compliance with Approved Document E.

It is hoped that when there are sufficient results demonstrating satisfactory acoustic performance (at least 30 on-site tests are required by Robust Details Limited to obtain Robust Detail approval), details will be included in a future issue of the Handbook.

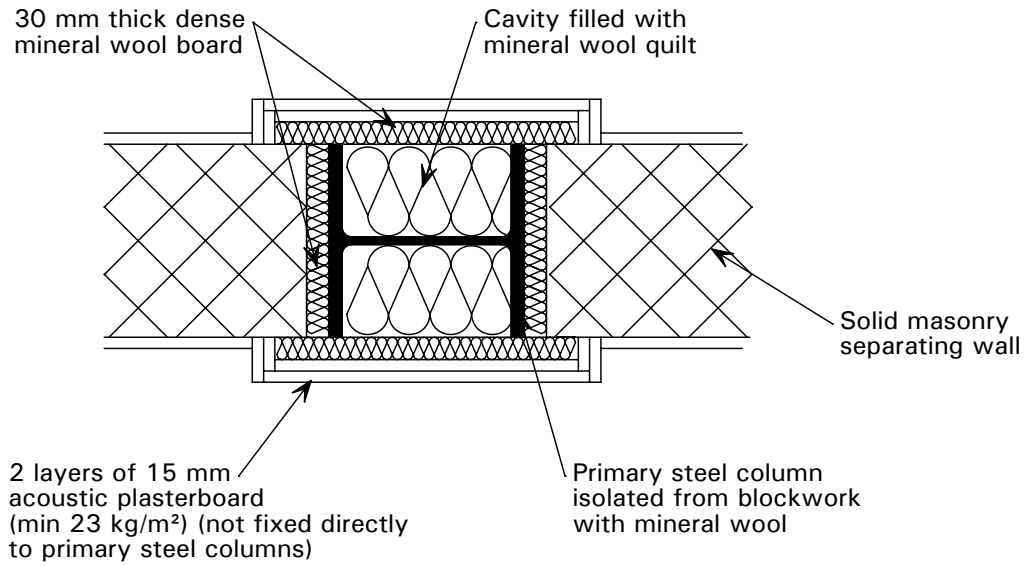


Figure 1: Steel column in solid masonry separating wall (based on detail in P322)

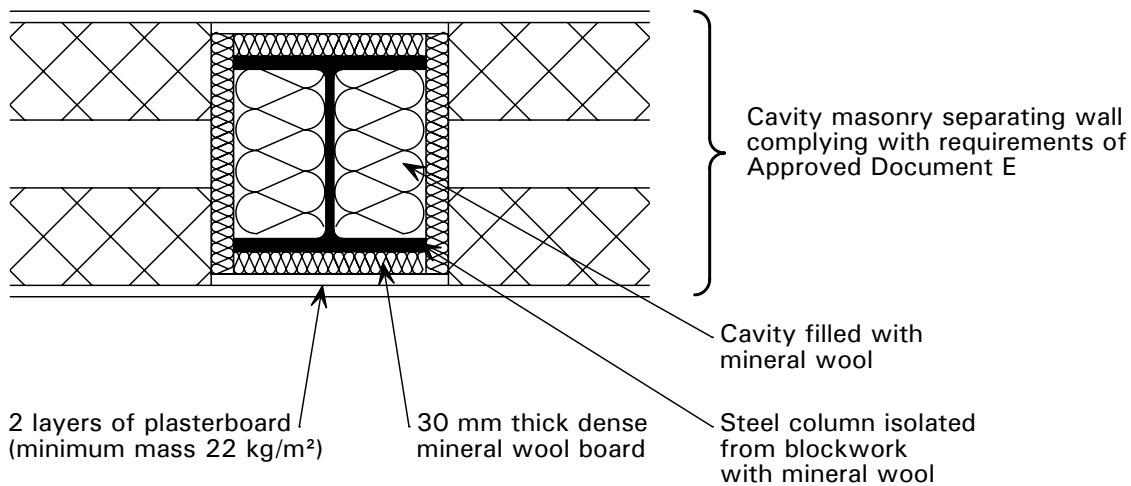


Figure 2: Steel column in cavity masonry separating wall

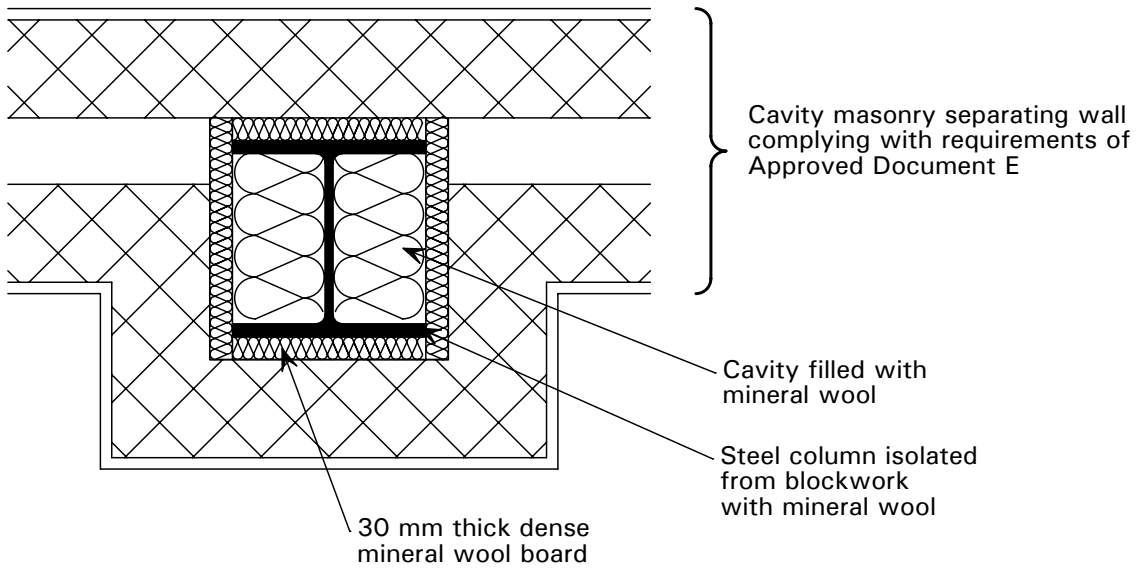


Figure 3: Steel column in cavity masonry separating wall (one leaf stepping round column)

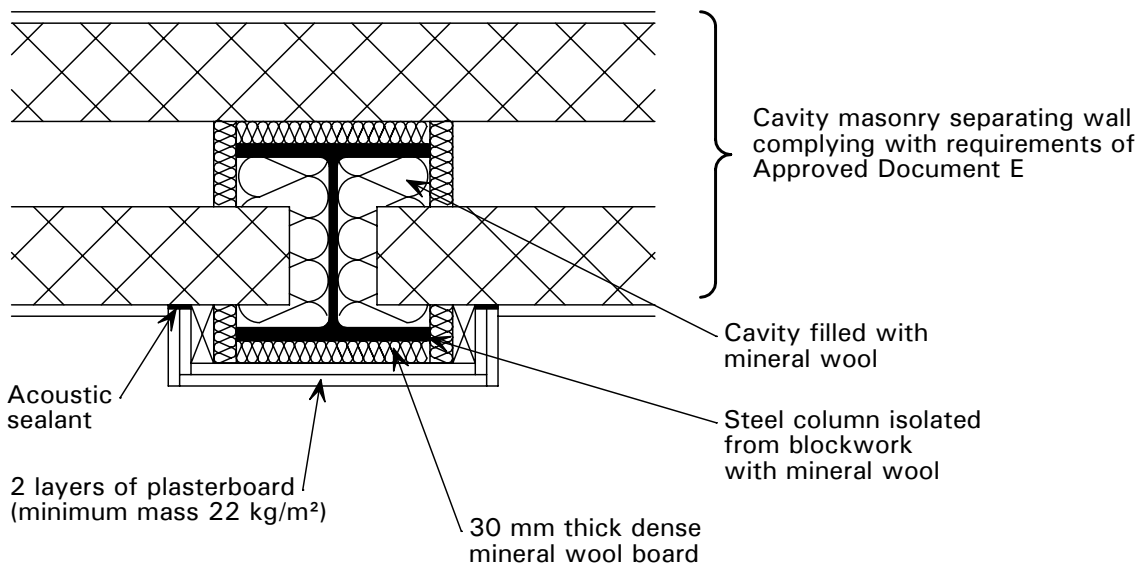


Figure 4: Steel column in cavity masonry separating wall (one leaf discontinuous because of column)

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