



Affordable Structural Builders on Understanding Structural Openings

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Making an opening in a load bearing wall is perfect if you want to adapt the living space in your home. The wall you may want to demolish however, may be load bearing and supporting masonry above. This may be a brick load or even the floor joists so a few precautions ought to be adhered to. In a typical layout of a dwelling with two reception rooms, rear and front, the rear room joists usually run from the external walls, rest on the intermediate wall dividing dining room and living room, and then another set of timbers would run from the intermediate dividing wall to the front elevation external wall.

Should you find that the wall you want to remove is in fact load bearing then it will need to be supported before any structural adjustments can be undertaken.



This will usually be done (domestically) by using acrow props and strong timber needles. Alterations can be made in a similar fashion on larger commercial projects, however, stronger supports may be required by using super props. For this article though, we will assume that any structural alteration is to a domestic dwelling.

Some loads may not be from masonry by the way, they could also be from timber partitions above the wall you want to take out. In the same fashion the load must be supported both before and after any alteration is taken out and checks must be carried out to establish what load the wall is carrying.

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So OK, we've made the opening and the structure has been temporarily supported. This is great at the moment but nobody wants to leave ugly looking steel props in the middle of the room forever so it will be necessary to provide a more permanent support method. This structure will need to be supported by using a concrete or steel lintel which may be of either concrete or steel construction depending on the engineers specifications for the job.

A structural engineer helps us choose the right support for the job and the beam size should never under any circumstances be guessed or assumed. Structural engineers are paid to calculate loads to ensure that the building work to be carried out is going to be in line with current regulations and even more importantly to ensure that the proposed work is going to be safe.

Your local building control officer will want to be informed of any alterations you intend to carry out to ensure all work conforms to current building regulations. You should also be issued with a 'completion certificate' when the work has been satisfactorily completed.

Before taking any brickwork away, the required opening in the wall is marked out and a hammer and bolster used to remove any plaster on the wall. This way it will be known what is being taken away also ensures there are no hidden pipe or cables that may cause an obstruction. The new beam to be inserted will rest on a minimum of 150mm bearings and provisions will have been allowed for this when marking out. After the structure is propped and secured, the opening can be made by using a disc cutter at the openings boundary or by using hammer and bolster.

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With most of the work out of the way now, it is time to fit the new RSJ or lintel in place. The RSJ will be fitted onto 150mm minimum bearings with a stiff 3:1 sand and cement mix. We ensure the bearings are sound for the RSJ will sit on and and adequate help or apparatus is sought to lift the new steel RSJ in place. A safe working platform is constructed to carry out the operation and the beam is packed up tight with slate afterwards to ensure it is tight to the brickwork above.



The support across props will stay in until the next day to let the mortar set. Only after this can the props be taken away and in doing so, any holes are filled with bricks and slate and pointed up as required. The plaster work is made good afterwards and any plasterboard encasement of the steel beam is done with fireline plasterboard.

The building control officer will want to inspect all works etc, before re-plastering. Following the final inspection a completion certificate can be issued by the council.

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