

What we learned when externally insulating our house

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We externally insulated our Victorian solid brick, semi-detached house in the Summer of 2008. We had wood fibre (Diffutherm) insulation boards attached to the outside of the bricks and then a lime base coat, including mesh and a silicate top coat of render.

These are some notes from our experience.

Things to do before the contractors arrive

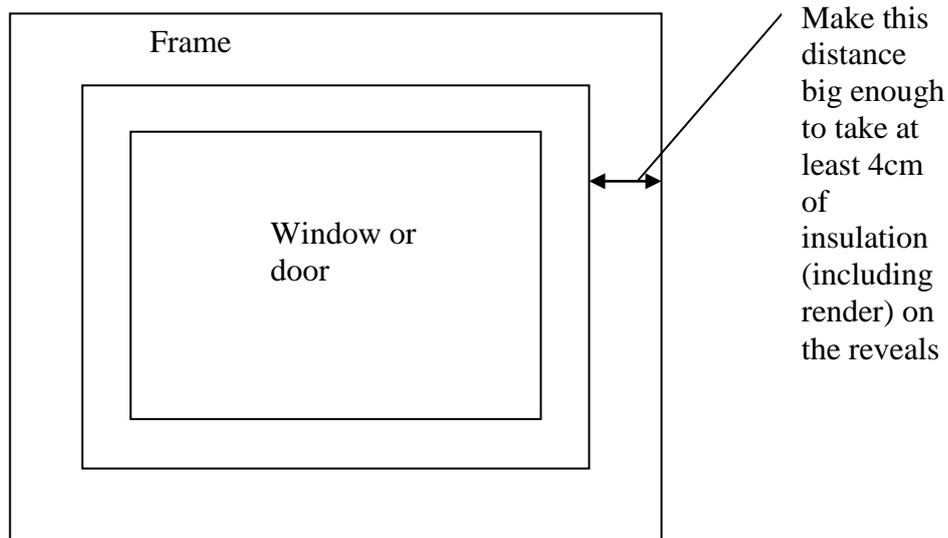
Consider getting a project manager to deal with all the stuff below!

Plan the project at least 6 months in advance. We did a Gantt chart to show what was going to happen when and what the priorities were.

Think about the timing of the project. It needs dry spells of at least 3 days for the base coat and 3 days for the top coat (to include drying times before and after application). If you don't get these dry spells the job will be delayed. This will result in penalties on the scaffold hire contract.

You will probably need to plan to be without gas (if you are moving the gas box), toilet (if you are moving the soil pipe), etc for up to 6 weeks. Some parts of the process will be very noisy – eg. Drilling holes for the insulation board fixings.

Replace any single-glazed windows or doors or rotten frames. It is a lot easier to do this before the insulation is in place. When putting in new frames, consider building the frame out from the front surface of the wall to the thickness of the insulation – so that the frame will be flush with the outside surface of the insulation once the insulation is in place. This will avoid having a cold reveal around the frame and will give you a deep windowsill inside your house rather than outside. If you decide not to build out the frames, consider fitting thicker frames so that the reveals can be insulated. See below:



When glazing; specify super low-E glass and argon gas filled double or triple-glazed units at least 24mm thick.

Choose the insulation and render materials you want to use before you choose your contractor. We decided to go with a wood-based insulation, a lime base coat and a silicate top coat because we wanted to have a system that was breathable so that any damp in the walls could get out.

If you do choose breathable materials you need to remove any non-breathable paint or render that is on the old walls before putting the insulation on. We used a scabber to remove the masonry paint.

Choose a contractor who has experience of the insulation materials you want to use and who has experience of small jobs (many contractors focus on massive building projects).

Err on the side of over-communication with the contractor. Make drawings of how you want things to look. For example, how do you want the top soffit rail to look? What do you want them to do around bay windows?

Decide well in advance what colour you want the top coat to be. If you want soffit rails and window oversills to match the top coat you will need to get a RAL code from the render manufacturers to give to the soffit/sill manufacturers.

Decide what you are going to do about anything that is attached to the outside of your house. We took off all the downpipes, soilpipes etc and extended them all out by the thickness of the insulation. We also had a gas man to take off the gas meter box and extend that similarly.

Think about adding in rainwater harvesting systems to your downpipes before re-fitting them.

You may need to extend the exhaust pipe of your central heating boiler to accommodate the thickness of insulation. Ditto toilet & tank overflow pipes.

If your house has wooden soffit rails at the top of the walls, remove them before the insulation goes on. This way the insulation can go right up to the roof line and you avoid having a cold spot at the top of the wall.

Check whether your roof overhang is large enough to accommodate the thickness of the insulation plus renders. If it is not large enough we were given 2 options;

- extend the roof (take off the edge slates, extend the rafters and re-slate)
- get the contractor to quote for a top soffit that will attach to the wall before the insulation goes on and provide a drip-tip over the insulation.

We chose the second option and fitted our gutters on top of the soffit rail at the end of the job.

Cut off any protruding window sills. Otherwise the insulation will have to be cut out to fit around the sills and you end up with a cold spot under the windows.

Think about how you are going to deal with any cables on your house. Power and phone companies will detach cabling free of charge in advance if you give them 2 months' notice. You then need to re-attach them to the outside of the insulation at the end of the job. We decided to bury our phone cables under the insulation. The contractor then drilled through them and it cost us £400 to sort out.

Contact electrical supply company with good notice to sheath the electrical cables – this is essential safety for having scaffolding up.

If you are going to bury a TV aerial cable coming down from the roof, think about how you can prevent water ingress around cables coming in at the top. We put a downward loop in the cable and took it up under the end of the top soffit rail above the insulation.

If your house is terraced or semi-detached think about neighbour relations;

- tell them when it is going to happen
- negotiate where the insulation will start and end and what the joint will look like

Our contractor required us to arrange the scaffolding ourselves. We arranged a meeting of the contractor and the scaffolder several weeks before the work was due to start. It is obviously essential that all scaffolding allows for the thickness of the insulation. If we knew then what we know now we would have requested:

- the scaffolder to put down sheets or boards to protect the patio/paths around the house before they put up the scaffolding. This way the insulation contractors are less likely to splash render onto the paths and patio.
- the scaffolder to make sure that the wooden blocks that go under the feet of the scaffolding are far enough away from the wall to allow room for the insulation to be fitted.
- the scaffolder provide access to all tricky areas that need insulating.

We had some trees close to the house that the scaffolders asked us to cut back to make room for the scaffolding. We found a way of roping the trees back which minimised the damage to the trees.

Things to do while the scaffolding is up / contractor is on site

Keep checking. Ideally walk around the whole job every day – maybe twice a day.

Consider what other jobs would be easier while the scaffolding is up. We did some maintenance and repair work on our roof and chimney. Different contractors don't like to share scaffolding. We needed to do some negotiating on dates, etc.

Our contractor required us to deal with any waste. We decided not to hire a skip and managed to recycle almost all the waste created. The insulation material (Diffutherm) can be burned in a woodburning stove. Stretchy plastics went to the supermarket recycling bin. Pallets and empty render buckets were freecycled. Hiring a skip could cost up to £400 and needs a council licence if it is on the road. It was several days' work to process all the waste.

The contractor will put up base rails (for the insulation to sit on) and soffit rails (at the top) before the insulation goes on. Make sure the contractor does a good job of corners and joints. We had to pay our roofer to follow them round and put lead flashings on top of some of the joints that we felt were not waterproof.

When the insulation is attached and before the base coat render goes on, you can fill any gaps in the insulation with waste insulation or foam fill.

If any render (especially top coat) spills on paths or patios, it is LOT easier to remove while it is still wet.

While the render is still wet consider replacing gutters temporarily so that, if it does rain there is less risk of water running down the render and damaging it.

If the top coat render does get damaged you can repair minor damage by dabbing render on with a sponge.

Things to do after the contractors have finished but before the scaffolding comes down

Run a bead of low-modular silicone around anything that protrudes through the insulation or wherever the insulation ends (ie. window/door frames, a neighbour's house). This seals any gaps that may appear as the materials settle.

Refit all gutters, downpipes, soil pipes., etc. When refitting things on top of the insulation, fill any drill holes with silicone before putting screws in and seal any metal fittings (eg downpipe brackets) to the wall with silicone – this reduces the chances of rust stains running down the insulation..

If you are attaching anything heavy to the wall (we re-used our cast-iron down pipes) you will need to use long frame fixings that go right through the insulation and into the brick/stone beneath.

The contractor asked the scaffolders to cover the scaffolding with a mesh that reduces wind and rain damage to the drying render. At the end of the job the scaffolder normally puts this mesh in landfill so we agreed with the scaffolder that we would take it off when the render was dry. We now use it to cover the brassicas and fruit bushes at the allotment!

After it is all dry, the contractor will measure for windowsills and will order them (ours are powder-coated aluminium). You can fit the sills yourself or pay the contractor to do it. Tricky windows, like a bay, are probably best left without sills.