

EXTERNAL STRAWBALE RENDERING

Experience – The Great Teacher

In this second instalment of a three-part series, Alan and Fiona give a blow by blow account of how they rendered the outside of their strawbale house, and how they'd do it differently if they did it again.

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WHEN we aren't experiencing a drought, our two-storey strawbale home will be exposed to driving rain from the south and west. Given the height and exposure of the walls it was very difficult to protect them from rain. As a result we chose to render the outside of our home with lime and sand and use a clay render for the interior.

To protect the bales from the weather we rendered the

outside of the house first.

All the timber that was to be covered with render we coated with a straw and glue mix. The render alone doesn't stick to the wood.

The sprayer uses compressed air and can be quite explosive at times. We thought that we had covered enough vulnerable areas of the rammed earth walls both inside and out but they needed to be entirely covered. You also get the render on your clothes and gloves so anything you brush against also gets covered in render. The lime render also stained — when you washed it off it left a whitish mark



Coating timber in preparation for render.



Part way through the render process.



Cross-hatching the first coat.



Attaching a layer of fibreglass mesh.



Hessian prevents the render from drying too quickly.



Thinner areas of render were yellowish.

where it had been. Lime is caustic and messy. Everything should be covered. Eye and hand protection is essential.

Once the walls were all rendered we cross-hatched the surface with the pitch fork so the next layer would stick well.

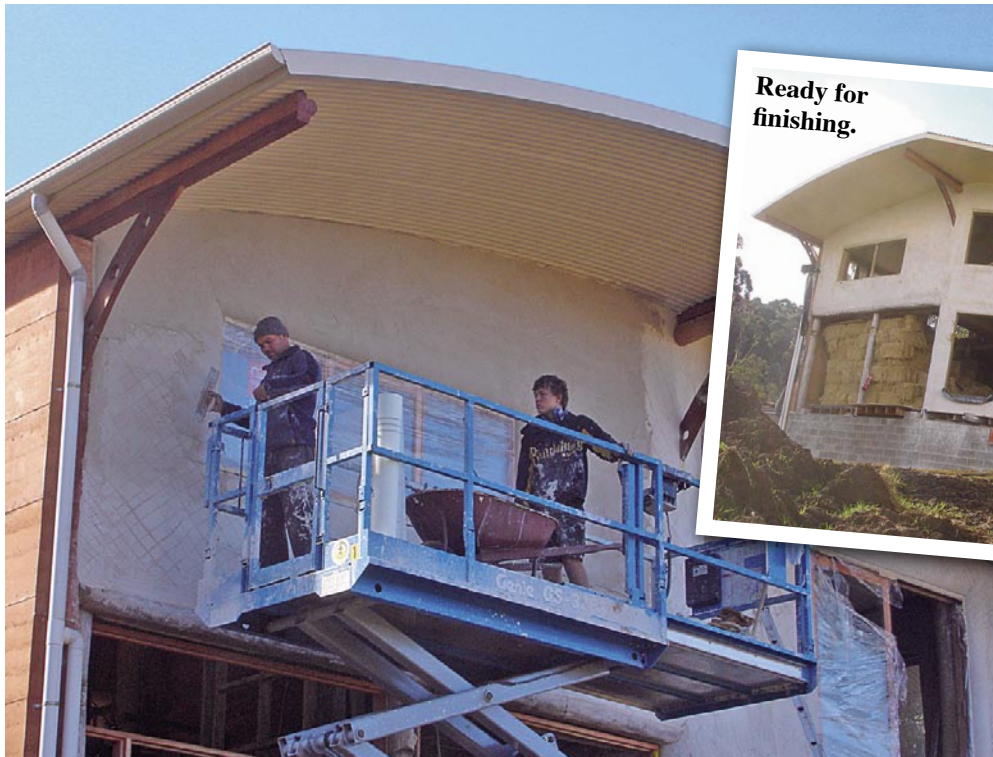
We then sprayed another layer of render, dragging large 'levellers' over it to identify the high and low points and filled the low points with cob (the better you do this the easier the next steps).

We placed fibreglass mesh around all openings and worked it into the render. Then we covered the whole wall with the fibreglass mesh and worked it in. The fibreglass prevents cracking and facilitates screw fixing.

We hung hessian from the scaffold to shield against sun and rain. The render must be constantly wetted in the early days to allow calcification to proceed slowly.

We later found that we would need a further coat of render on the outside because the initial coats hadn't been thick enough in some places and the straw was too close to the surface. Frank Thomas, of Yesterday-Today-Tomorrow Straw Bale Construction, was able to tell this because some sections of the render were stained slightly yellow (from the straw). You can see this in the above picture.

This was a result of a couple of things. When we'd done the walls, we hadn't positioned the bales in



**Trowelling
the finish
coat.**

line well enough before we put on the tensioning wires. Once the wires were on, the persuaders didn't make the bales move much. We found we had bales that were up to 5 cm out of alignment. We couldn't trim them enough with the chainsaw.

We should have put enough cob in the low points to bring them up level with the higher points — we didn't. We didn't realise that the fluid shape (which Fiona particularly liked) of the surface was too fluid.

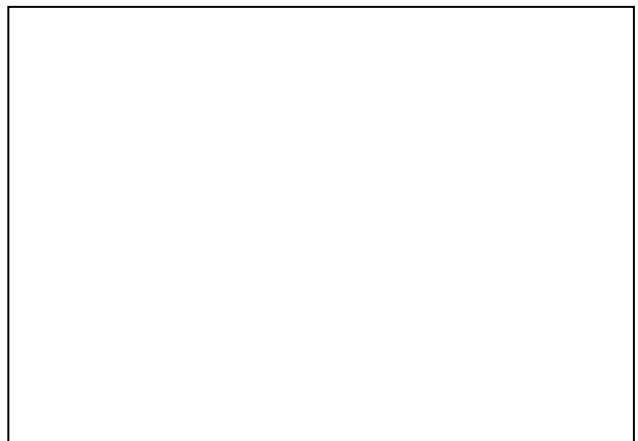
The moral of the story is to spend more time at the start getting everything REALLY vertical before putting on the tensioning wires. We would also change the design slightly at between-storey level to allow the bales to be pushed fully in more easily (bales can be changed in length easily, but not in width — width is more important in design than length).

Finishing coats

The extra spray coat and the finishing coat were put on in a continuous period of two weeks. This included an interlude before the final coat when the windows were fitted into their boxes to allow the render to be made up to the frames. The windows were all masked with cling wrap, which was left on until all processes were finished and then cut away where still exposed.

For the first coats the scaffold had still been in place, making access easy but got in the way of trowelling. For the final coats we used a scissor hoist, working around the building in sections.

The finish coat was entirely hand applied and extensively trowelled and floated; a very labour intensive and tiring activity. The corners of openings were carefully bull-





Rear view before final colouring.



Front view showing plastic form achievable with strawbale construction.

nosed and silicon beads were run down all edges against windows and roof.

Final finishing was with a sponge float to polish the surface. The result is a beautifully moulded surface ready for a colouring coat of pure silicate paint that

will still allow the render to breathe. This is yet to be done.

• **Yesterday–Today–Tomorrow Straw Bale Construction**
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