

Fixtures, Fittings and Services

Straw is a very different material from others we are used to working with in the twentieth century, such as cement or timber. It is natural, breathable, flexible, non-toxic, low in embodied energy, safe and fun to work with. Once it has finished its usable life as a building material it will go back to the Earth as part of the natural cycle of nature without creating any waste, damage or pollution. So in designing with straw it is sensible to use other natural materials as well, as like goes with like. Therefore you will find roofs and floors insulated with sheep's wool or recycled paper, solid floors made of limecrete and insulated with recycled glass or blown clay, and roofs covered with cedar shingles or planted with sedum. Once you start thinking about a natural system of building instead of an unnatural one you begin to see how possible it all is.

When installing other aspects of the building, such as the services, plumbing and electrics, or the roof covering, these are done in much the same way as you would expect in a conventional house, but with thought given to the way the building needs to breathe and be flexible, minimising the environmental impact of manufactured materials.

Before you start plastering, it's important to think about the final look and feel of the house. Now is the moment when you can become sculptural with your building, and it needs to be worked on in readiness for the plaster.

Alcoves, niches and truth windows

All self-build strawbale houses have creative touches unique to that building. Once you realise you can, it's hard not to put your own personal touch on a house. You might want to have a nice little alcove to hold your toilet roll, for instance, or an inset shelf in the study. And most straw buildings have a truth window somewhere (a picture somewhere on the wall that's hinged instead of hung, so that when you open it you can see the straw behind), because once they're finished you can't really tell they're made of straw.

Internal fittings

Cupboards, shelves, light switches and sockets, bathroom facilities, etc. can all be fixed by using a sharpened pin of hazel (about 200mm x 32mm; 8" x 1¼" diameter) knocked into the body of a bale, which provides fixings for screws or nails. These fixing points need to be placed before internal plastering, but can be added at a later stage if necessary. They should protrude from the bale wall by the thickness of the plaster, about 30mm, but excess can be cut off later, and they can be located after plastering by simply attaching a screw into the end beforehand. It may be useful to add a series of pins in a horizontal line, and attach a timber to all of them before fixing cupboards, etc. on to this; this method is particularly useful for skirting boards as it gives a straight edge to work your plaster to. Alternatively, vertical battens can be attached to the base plate and wall plate, from which shelves can be hung. In a framed construction, the framing posts can be used as well.

Electricity and plumbing

Here there are no real differences in installation between straw bale and conventional buildings. Electricity cables should be encased in PVC-free conduit sheathing to give extra protection against the (as-yet-unresearched) theoretical risk from heat generated by electric cables sited in a super-insulated wall such as straw. By using a specialist tool like the back of a claw hammer(!), channels can be made in the straw to take the conduit, which is buried in

the straw, covered with a wide strip of hessian, and plastered over. Fixings can be placed wherever required by knocking in a short length of sharpened hazel, just like a giant Rawlplug, and clips, back boxes, cooker hoods, etc. can be attached to these. It's probably a good idea to encase back boxes, etc. in clay or lime as an extra fire protection.

As far as possible, water-carrying pipes should be designed to be fixed in internal, non-straw walls, to minimise the risk of water seepage to the straw in the event of a leak. Water-carrying pipes that pass through straw walls should contain no joints, and be encased in larger plastic pipes for the full width of the wall, just the same as for any other type of wall. An advantage of the deep straw walls is that soil stacks and other non-water carrying pipes can be buried in them and taken up through the roof, instead of the usual unsightly series of grey pipes we often see at the backs of houses. Do not put anything metal into the straw or plaster and render, as there is a slight possibility that warm water vapour passing through the wall could condense on the cold metal, but if you do, wrap it in pipe lagging to protect the straw from it.