

# UNFIRED CLAY DAY AT DAIRY FARM BARN SHOTESHAM PARK ESTATE

On a sunny Autumnal day in late September a couple of dozen enthusiasts gathered together at the above Grade II\* listed building for some hands-on experience in the use of unfired earth as a building material.



The area to the south of Norwich is full of buildings constructed of “clay lump” and also many timber framed buildings that retain their “wattle and daub” walls, because in this area particularly, there are large deposits of chalky boulder clay. This is ideal for building walls; the only energy required coming from the labour required to dig it out of the ground and then to form it into a muddy consistency, which can either be formed

into blocks, or to fill in the panels between the upright posts of a timber framed structure such as the thatched barn where we assembled.

The day began with the mixing up of a suitable daub mixture using water and straw in the mix, slopping this into a wooden frame and then the daub is scraped level before being tipped out of the mould and left to dry.



With lots of labour it is possible to make dozens of these blocks in one day. After a few weeks of drying, they are then ready to be used.



We had also constructed a large timber framed panel to reproduce at a small scale the basic form of a full-sized building. Participants were then able to have a go at fixing the clay daub in between the hazel wattles tied into the frame.

Understanding the basics of these techniques it is possible to understand how to repair buildings constructed in this way. Several owners of such buildings were present and gained lots of useful information and practical advice from the workshop.



In order to demonstrate how such repairs may be carried out, two of the participants who are builders familiar with earth materials began to repair a few holes in the daub on the barn itself, which had eroded since repaired by a group of enthusiasts in the early nineteen nineties. It was during that work over a few weekends, that it was agreed an organisation was needed to promote sustainable earth construction and EARTHA (the East Anglia Regional Telluric Houses Association) was inaugurated. See [EARTHA.org.uk](http://EARTHA.org.uk).

The second half of the day was devoted to discussing and observing how this unfired material might be modernised to suit the needs of the future construction industry bearing in mind environmental pressures to reduce carbon emissions and at the same time reduce the considerable costs of the energy required to

produce bricks, cement and steel. These being the main materials commonly used today.

So, we looked at a variety of unfired clay blocks manufactured by existing brick companies and discussed the implications of building regulations on the industry as well as technical details concerned with inherent strengths and insulating properties.

And then it was time to see a full demonstration of our Chairman Malcolm Carrington's new prefabricated product "BETTABLOCK". These blocks are comprised of a specific mixture of clay/ chalk/sand and arrive at site on the back of a trailer together with a vehicle equipped with a suitable hoist to lift and place the blocks in the correct position. The blocks are large and have good moisture permeability as well as good acoustic benefits (because of their



mass), they also create a barrier to radiation from electrical sources and of course they are fully sustainable being completely recyclable. Like all unfired earth blocks a plinth of a water resistant material like concrete is required to raise the first layer above the damp proof course and this was demonstrated on the day. This showed clearly how quickly a wall can be constructed on site using BETTABLOK. At the end of the day participants went home to spread the word. Hopefully the construction industry will take note if they are to reach Net Zero