



# EARTHA

*East Anglia Earth Buildings Group*

## WHAT IS EARTHA?

For all those who have a passion for, and want a greater understanding of Earth Building and the two principal forms of clay construction: wattle and daub and clay lump. Since 1994, EARTHA has been active in....

Establishing a network of people from various professions and trades who have an interest in the study, maintenance and promotion of earth buildings in the East of England.

Providing a forum for discussion of issues relating to earth building in the East of England.

Providing advice on the repair and maintenance of earth buildings.

Establishing links with groups and individuals working with earth buildings in other parts of Britain and abroad.

Publishing information that covers all aspects of the construction, repair and maintenance of earth buildings - including composite structures, daubs, renders and plasters.

Encouraging and supporting training in the field of earth building and associated skills.

Encouraging the revival of appropriate earth building techniques for new building construction and investigating the potential of the material for low energy and low environmental impact buildings.

Compiling technical information to assist specifiers and builders in the use of clay lump and other earth-based materials

'ONE HALF OF THE WORLDS POPULATION.... APPROXIMATELY 3 BILLION PEOPLE ON SIX CONTINENTS....  
LIVES OR WORKS IN BUILDINGS CONSTRUCTED OF EARTH'

## PRACTICAL TRAINING

EARTHA holds demonstrations and hands-on workshops throughout the region during the warmer months, covering both wattle and daub and clay lump. The group of professionals you see here took advantage of a Clay Lump Training day to learn and perfect techniques.



## NEW BUILD

Discover how centuries old techniques join the past to the future. EARTHA's New Build Project will outline guidance on new-builds in clay and, in particular, clay-lump. Building in clay will be an advantage in planning sustainability terms in the future. Buildings Control criteria can be applied to highlight any conflicts or pitfalls.



## QUESTIONS AND ANSWERS

Here are some questions that invariably crop up, but you can find more on the EARTHA website, and just email us if you have more questions of your own. The answers will be published on the site for the benefit of all EARTHA members.

### ***Is there a problem in using cement on Clay Lump and Wattle and Daub buildings and it is likely to cause long-term structural failure?***

The use of cement renders on earth structures can create potential for structural failures. It is viewed as a defect in a structural survey. Cement and Earth react at different rates to changes in temperature, causing cement renders to crack and delaminate from the clay wall. As water penetrates the render, it will not be able to evaporate through the cement and can accumulate in the base of the walls. If this happens the straw in the blocks will rot away, reducing their strength. Eventually, the blocks will reach a point of saturation and will fail. This process is easily masked in buildings that have been rendered inside and out.

### ***Is it OK to have an Injected DPC in a clay lump structure?***

It may not be necessary to have a DPC in a Clay Lump Structure if it is properly constructed and maintained. The reasons for any damp problems should be ascertained and understood before any remedial action is taken. The majority of damp problems are caused by incorrect maintenance and/or inadequate drainage. If a DPC is provided, it should be within the masonry plinth, never in, or immediately below, the clay lump wall.

### ***Where can I buy some Clay Lump Blocks?***

Please refer to Services Offered by EARTHA Members on the EARTHA website

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### ***Is it possible to get planning permission for a new Clay Lump building?***

Yes. There is no reason why permission would be refused because the walls are of clay-lump or any other form of construction. More pertinent is that there is more understanding amongst Building Control Surveyors that clay-lump can be accepted under the building regulations. Clay will undoubtedly become accepted as an 'eco material' in the future.

***We are starting the conversion of a clay lump barn into what will become our home. At present it is rendered with haired lime mortar and coated with (probably) tar. The render is not in good condition and over the years has been patched, sometimes with cement render. It will probably have to be completely replaced. We want the final finish to be black, as it is at present. We are proposing to render with haired lime mortar and finish with a micro-porous black paint. Would this be a good way to do the job, and if it is, what brand of micro-porous paint would you recommend?***

It would be a shame if all the existing render is removed. Try to keep at least one wall as it is. Two walls would be better. These are usually the north and the east walls that get weathered least. It will be both an economy and a conservation. The cement render should be removed. The best and least expensive micro porous paint is tar. Find out more on the EARTHA website.

Email Questions to: [info@eartha.org.uk](mailto:info@eartha.org.uk) To see answers in more depth, please visit [www.eartha.org.uk](http://www.eartha.org.uk)

# EARTHA

*Earth Architecture & Conservation in East Anglia*



## BOOKS ON EARTH CONSTRUCTION

- HARRISON, Ray. *EARTH - The Conservation and Repair of Bowhill Exeter: Working with Cob*. James and James, London 1999
- Houben, Hugo and Guillaud - Hubert. *Earth Construction A Comprehensive Guide*. Intermediate Technology, London, 1994
- HURD, John and GOURLEY, Ben - *Terra Britannica. A Celebration of Earthen Structures in Great Britain and Ireland*. James and James, London. 2000
- McCANN, John - *Clay and Cob Buildings Shire Album 105*. Shire Publications Ltd, Princes Risborough, 2004
- MINKE, Gernot - *Earth Construction Handbook*. Wit Press, Southampton 2000
- NORTON, John - *Building with Earth a Handbook*. Intermediate Technology, London 1997
- PEARSON, Gordon T - *Conservation of Clay and Chalk Buildings*. Donhead, Shaftesbury 1992
- SCHOFIELD & SMALLCOMBE, Jane & Jill - *Cob Buildings A Practical Guide*. Black Dog Press, Lewdon Farm, Crediton, Ex 17 4QQ. 2004
- WALKER, Bruce, McGREGOR, Christopher - LITTLE, Rebecca. *Earth Structures and Construction in Scotland*. Historic Scotland 1996
- WALKER, P. Keeble, R. Martin, J. Maniatidis, V. *Rammed Earth: Design and Construction Guidelines*, Building Research Establishment bookshop, Bracknell 2005
- WARREN, John - *Conservation of Earth Structures*. Butterworth and Heinemann, Oxford, 1999
- WOOLLY, T. *Natural Building*, The Crowood Press Ltd. Ramsbury 2006
- WILLIAMS-ELLIS, Clough and EASTWICK-FIELD - John and Elizabeth. *Building in Cob, Pise, and Stabilized Earth*. Country Life Limited, London, 1947 Reprinted Donhead, Shaftesbury, 1999

## JOIN EARTHA

EARTHA, the East Anglia Earth Buildings Group, promotes the proper use of earth in building. As an EARTHA member, you will be added to the mailing list and receive details of events by post or email. Subscription to the EARTHA mailing list is by a single payment of £10 for individuals and £20 for organisations. EARTHA, Colin Williams - Membership Secretary and Treasurer, 27 Richmond Place, Lyng, Norwich, Norfolk. NR9 5RF. Email: [colin@wckdesign.co.uk](mailto:colin@wckdesign.co.uk)

If you would like a membership form, please email us at: [info@eartha.org.uk](mailto:info@eartha.org.uk)

Or you can get a membership form online at [www.eartha.org.uk](http://www.eartha.org.uk)



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