



# FINISHES for EARTH WALLS

## Preparation of the clay:

Generally rather use earth with medium clay content but not too silty (otherwise you will get a lot of dust). Ideally crush lumps before soaking. Soak clay in plenty of water over night or longer. Then give it a real good stir, either with your feet or a paint stirrer on an electric drilling machine. If you are going to apply thin coats of finished product, it is advisable to pour the sloppy mix through a 5mm mesh sieve to remove lumps and stones. A good consistency when soaked is thick and sloppy but still pourable.

## Preparation of the adobe brick wall:

Brush down the walls with a stiff broom to remove loose bits. When working, wet the wall down thoroughly with a hose nozzle or a spray-bottle. Prepare the wall as you go, so that the surface is still wet when you apply the finish. Do approx. 1 to 2 m<sup>2</sup> at a time.

## Preparation of other surfaces:

Smooth surfaces of other materials, such as fired brick, concrete or jib board, need to be roughened by applying a key coat. This can either be a cement splatter coat or a coat of acrylic paint and sharp sand (ask for mismatched paint it doesn't matter what the colour is).

Verena Maeder  
& Carlo Wiegand

Main Road  
Wakapuaka  
RD1 NELSON

New Zealand

(03) 545 0240  
021-036 3938

[contact@solidearth.co.nz](mailto:contact@solidearth.co.nz)  
[www.solidearth.co.nz](http://www.solidearth.co.nz)

## **Earthplaster**

*This mortar can be used to patch holes or to plaster the entire wall.*

1 volumetric part soaked mud  
3 volumetric parts 3mm sand  
shredded straw or other fibres (optional)  
additives for effects, such as mica, paua, ...  
water as required

For a thick plaster build up the layers at no more than 20mm each. Generally use a "rougher" plaster with fibres for the first layer and leave the surface textured for better grip. Then apply the top coat and smoothen with a trowel. Hessian can be embedded into the top coat for reinforcement and skimmed off with 3mm plaster. The top plaster has to be worked with the trowel in a semi soft stage to seal the surface.

For a thin coat add more water to the mortar and rub it onto the wall in round movements using your hands (wear rubber gloves). This is only possible on earth surfaces.

Clean mortar that has fallen to the ground can be reused.

For exterior plasters (only in sheltered areas!) you can achieve a somewhat more water resistant plaster by adding

Paper pulp or soaked paper flakes (insulation)  
Casein glue (made of casein and borax salt or lime)

Surface must be kept breathable if there is moisture coming from interior!  
For sculptures you can use linseed oil and beeswax polish as a waterproofing

## **Earthwash**

*A wash is similar to a paint to give the wall the earth colouring you want – its not suited for repairs.*

soaked mud with low clay content  
plenty of water  
borax-casein glue (optional, see recipe at bottom)  
earth pigments (optional)

Stir the soaked mud well ideally with a paint stirrer (on drilling machine) and pour the thick creamy slurry through a 3mm sieve.  
Then dilute with water until it has about the consistency of milk.  
Use a soft brush to apply onto the wall. Rub the mud well into the surface with circular or straight vertical movements.  
If you experience fine cracks appearing after drying either use more pressure when applying or stabilize with a little bit of lime (1:50)

## **Earth-lime-casein wash**

*This is a more wipe resistant and dust proof earth wash.*

0.1 parts casein powder **or**  
1 parts quark  
2 parts lime putty  
5-10 parts soaked mud

The mixture should have the consistency of milk. Apply 2-3 thin coats with a soft brush.

## **Lime-casein whitewash**

*This is a wipe resistant and dust proof whitewash recommended for interiors and some extent exteriors. It dries in a very bright white. If you add pigments you will end up with pastel colours. Make trials first and remember the amount of pigments you used.*

1/10 of casein powder  
1-3 parts lime  
2 parts water  
1/20 part boiled linseed oil (optional)  
pigments (optional)

The mixture should be of thin consistency and be applied with a soft brush or broom. You build up the colour applying several coats (3-5). Do not work in too dry and hot conditions.

## **Translucent casein powder and borax wash (stabilizing glue)**

*This wash lets the earth wall shine through and just adds a satin glow to it. It seals the surface and makes it harder, wipe resistant and dust free. It is completely breathable and our preferred method.*

150g casein powder  
50g borax powder  
water

Soak the casein powder over night in about 5lt of cold water (make sure the powder dissolves properly without forming lumps). Next day, dissolve borax in 1lt of boiling water, let cool and stir into casein. Mix well (paint stirrer on electric drill) and top up with 7-10lt of cold water. Apply with soft brush or roller onto dry earthen surface, 2 coats for best results.

### **Lime-casein paint**

0.4 parts casein powder **or**  
4 parts quark  
1 part lime  
15 parts pigments

With a little water stir the pigments into a thick pulp (roughly 0.3 liters per 1kg of pigments). Mix the quark with the lime and let it stand for at least 10min. Afterwards mix the two ingredients together and add water to achieve a suited consistency for painting. Its better to apply several thin coats than one thick one.

### **Earth-cow manure wash**

*Traditional wall finishing that makes the earth walls more resistant. Cow manure is a natural source of casein and contains small fibres which act as reinforcement. The colour of the wash is brownish.*

1 volumetric part of soaked mud  
1 volumetric part of fresh cow manure  
plenty of water  
**or**  
1 part limeputty  
4 parts cow manure (soaked for 3 days)  
8 parts soaked mud  
plenty of water

The mixture should be runny. Brush onto the wall and rub it in with a sheepskin. Its better to apply thin coats than one thick one. Apply onto dry wall with a soft brush.

### **Flour-earth paint**

*Traditional recipe for a satin gloss earth paint.*

5 parts fine clay/ potters clay  
Fine silica sand (optional)  
1 part white flour paste  
Optional additives to experiment: vegetable oil, milk powder

Preparation of the flour paste: one part each of flour and water. Mix and get all lumps out. Add 5 parts boiling water and stir continuously. Cook until the mixture gets translucent.  
Mix in the remaining ingredients and dilute to milk shake consistency.  
Apply onto dry wall with a soft brush.

### **Beeswax polish**

*Polish for earth floors or timber. Apply to earth tiles that have been hardened with boiled linseed oil.*

1 part beeswax  
3 parts vegetable turpentine

Melt the wax in a fireproof container in the oven or on low heat. When it is completely dissolved add the turps and stir well. Let cool down and stir from time to time. Store in an airtight container that stands up to the solvent!