



# RAMMED EARTH CONSTRUCTIONS

*Winner of multiple Building Awards from Old Master Builders, Living Smart Noosa/Old Government & Sunshine Coast Environment Council*



From country cottages and suburban homes to art galleries and wineries, stabilised rammed earth creates beautiful and unique buildings, whilst at the same time providing a swathe of benefits to meet the varied demands of home owners, artists, industry, architects and engineers.



## Stabilised Rammed Earth

Rammed earth is a method of building walls whereby a selected mixture of earth, sand and aggregate is compacted in layers between forms. Each layer is approximately 15 cm (6 in) deep. As each form is filled, another form is placed above it, and the process begins again. This is continued until the desired wall height is achieved. A wider range of soils are suitable when a small amount (approx 6%) of cement is added to the mix. The result, known as 'stabilised rammed earth', is an extremely durable and attractive masonry product with numerous benefits.

## Benefits

**FIRE PROTECTION:** Earth doesn't burn. If your home is threatened by fire, you won't have to worry about the rammed earth walls catching fire or collapsing. It is an ideal building material in leafy suburbs and rural areas. CSIRO tests on a 250mm rammed earth block wall achieved a 4 hour fire resistance rating. A 150mm wall achieved a rating of 3 hrs 41 minutes. The walls we build are even stronger, being 300mm thick and of monolithic rather than block construction (so they have no vulnerable mortar joints).

**PEST PROOF:** Termites, pests and other vermin can't eat rammed earth. There are no hidden wall cavities for them to live in or travel through. There is no framing timber in the walls for them to attack or use to travel up to roof timbers.

**TEMPERATURE CONTROL:** The external walls in our rammed earth buildings are 300mm thick, providing excellent protection from temperature fluctuations. This thermal mass means you'll be snug in winter, cool in summer.

**DURABLE:** The CSIRO states that an earth wall built to their standards should *"have an unlimited life as it would be immune to the destructive action of fire, termites and the weather"*. All our walls meet the CSIRO standards. We've been building walls since 1989, and during that time have developed excellent earth mixes and techniques. These have been tested in scientific laboratories for erosion and strength with outstanding results. Our extensive experience in soil selection and our high level of quality control provide exceptionally strong and durable walls.

**LOW MAINTENANCE:** The walls need very little maintenance once finished. During the building process, we include a water repellent additive especially formulated for rammed earth, and at the end of the process we apply a water repellent to the external faces of the walls. Both these repellents serve as additional protection to the already very water resistant nature of the highly compressed rammed earth itself. After the walls are complete, they need little attention. They do not need painting, rendering or plastering (although you can apply these finishes if you want, just as for any masonry wall).



**COST EFFECTIVE:** Unlike other masonry, rammed earth walls don't need core filling or reinforcing. They are solid right through. Nor do they need plastering or painting, saving costs when you build – and for years. The walls won't get dented or marked and need repainting or touching up over the years to come. Once they're up, they're finished.

**SOUND BARRIER:** 300mm of solid earth, the width of our external, load bearing walls, provide an excellent sound barrier and fantastic acoustic qualities. CSIRO tests show a sound transmission rating of 50+ decibels for a 250mm rammed earth wall. It is particularly useful between sleeping and entertaining areas, and to exclude outdoor noise. It provides a 'solid', serene feeling that simply can't be replicated in a lighter framed building.

**LOAD BEARING:** Rammed earth walls are load bearing and provide substantial bracing.

**HEALTHY & ENVIRONMENTALLY FRIENDLY:** Rammed earth is non-toxic, non-polluting and 'breathes', making healthy, more people-friendly buildings. It is very low in embodied energy, and extremely comfortable to live in.

**STYLISH:** Rammed earth is a natural product which blends with the environment and natural building materials particularly well. Yet it also looks stunning with man-made materials such as iron and corten steel – a combination used in several award-winning buildings.

**VERSATILE:** Variations in texture, colour and finish are possible, and elements such as artworks, relief details, circular windows, arches, alcoves and feature stones can be incorporated. We can use different colour soils within a single wall to create feature effects. In an award-winning project, we incorporated a commissioned artwork into an art gallery wall (photo below).



- Fire & pest proof*
- Low maintenance*
- Sound barrier*
- Cost effective*
- Healthy*
- Strong & Durable*
- Thermal mass*
- Load bearing*
- Eco-friendly*
- Rock solid*
- Unique*
- Temperature stability*

## Scope of work

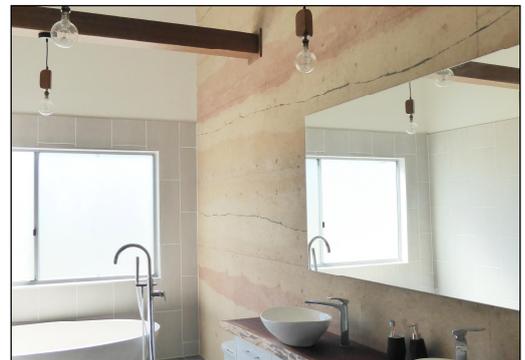
We subcontract to other builders and owner builders to build rammed earth walls for residential or commercial projects, and take on some full building projects. Our CEO John Oliver is a fully licenced builder and carpenter.

With almost 30 years of hands-on experience in rammed earth construction in Queensland and northern NSW, John has developed a deep understanding of the material and the local climatic conditions.

Past clients are our best salespeople, and are usually more than happy to provide references.

Some past commercial projects include the multi-award winning Garangula Art Gallery, Blackwater Swimming Pool, Australia Zoo's Animal Hospital, and the University Qld/Spicer's Wildlife Facility.

We provide a consultancy and repair service for rammed earth/pise buildings, whether historic, modern or in the design stage.



**RAMMED EARTH CONSTRUCTIONS**, PO Box 1323, Maleny Qld 4552. Tel: (07) 5494 2154 Fax: (07) 5494 2163  
 Email: info@rewalls.com.au QBSA Lic No. 1014512 NSW Lic No. 15303C ABN 13 011 023 448 Est. 1989

[www.rammedearthconstructions.com.au](http://www.rammedearthconstructions.com.au)