

RAMMED EARTH CONSTRUCTIONS

Winner of multiple Building Awards from Qld Master Builders, Living Smart Noosa/Qld 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). Your home's exposure to fire and heat is radically reduced.

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 CSIRO 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 used by engineers to comply with building regulations. Our mixes have been tested in scientific laboratories for erosion and strength, with outstanding results. Our experience in soil selection and our modern methods of construction 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 specially 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, in the same way you can apply these to a brick wall).



COST EFFECTIVE: Unlike other masonry, rammed earth walls don't need core filling or reinforcing. Nor do they need gyprocking, plastering or painting, saving you costs when you build — and goes on saving on costs 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, saving on building costs.

HEALTHY & ENVIRONMENTALLY FRIENDLY: Rammed earth is non-toxic, non-polluting and 'breathes', making safer, 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 core-ten 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, alcoves and feature stones can be incorporated. We have used different colour soils within a single wall to create 'wild walls' for feature effects, and have also incorporated a commissioned artwork into an art gallery wall.



- Fire & pest proof*
- Low maintenance*
- Rock solid in a storm*
- Great sound barrier*
- Cost effective*
- Healthy*
- Strong & Durable*
- Excellent thermal mass*
- Load bearing*
- Eco-friendly*
- Unique*
- Excellent temperature control*



Scope of work

Rammed Earth Constructions is both a full-construct building company for projects of all sizes and also a subcontractor for rammed earth walls. We are full-construct contractors in the Sunshine Coast Hinterland and Sunshine Coast, Queensland, and we also subcontract for rammed earth walls to owner builders within the Maleny/hinterland area, and to other builders outside it.

As well as a great variety of residential projects, we also contract on commercial projects. Projects have included the multi-award winning Garangula Art Gallery in Harden, NSW, Steve Irwin's Australia Zoo animal hospital, the award winning Noosa Pengari School Hall, Billabong Surfwear's HQ and showroom, Green Harvest Organic Supplies offices/ warehouse and the award winning Crystal Waters EcoCentre.

We provide a consultancy service for future and existing rammed earth buildings.



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