



RIVERINA
RAMMED EARTH
CONSTRUCTIONS
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Excellence in quality & service - every time!

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General Information for owner builders

Window and door apertures are blocked out in the form work during construction and the finished product is as precise as that which is achieved in an all brick or brick veneer construction. Alternatively the doorways and windows can be incorporated into an expansion gap and a steel lintel can be fixed above the door jamb or window frame. Following this overfills and underfills can be built to finish the door or window. Rammed Earth walls can be located directly onto a cement slab or they can be built on a strip type footing so as to include timber floors.

Beneath an exposed truss, gable or cathedral type ceiling the top of the rammed earth wall can be raked or finished in accordance with the roof pitch just like brick timber or plaster.

The roof is attached in the same way as it would be in any conventional type brick housing by way of a top plate. If desired it can be fixed to althread or by chemset by drilling down into the top of the wall 300mm to 500mm.

After construction the walls are flood coated with a modern proprietary earth wall sealer. This ensures that the wall has a total resistance to moisture caused by rainfall or any other domestic chore such as garden watering. The sealant also totally adheres all soil and dust particles to the wall giving a dust free environment inside the home. The sealers are generally very safe and non toxic.

Modern construction technique and soil testing methodology if followed correctly will almost ensure that there is no cracking or erosion of walls as is often the problem with mud brick. The first step a prospective SE home builder should take once he has found a suitable colored material of unknown quality is to take some representative soil samples and get them tested by a reputable geotechnical company. Like modern brick buildings expansion joints are used inconspicuously in SE structures thus minimizing the probability of cracking.

Thermal qualities make Rammed Earth warmer in winter and cooler in summer than conventional building systems. Rammed Earth eliminates the need for the flammable insulation paper found on the exterior of brick veneer timber wall frames. Pay a little care to energy efficient design concepts when selecting a house plan and further significant fuel and power savings can be achieved.

Rammed earth walls are not flammable, and at a thickness of 300mm thick have a 4 hour fire rating; AS 1530.4- 1985. A Rammed Earth house built with a steel roof trusses and purlins is virtually fire and termite proof.

A great feature is that electrical power boxes can be all serviced by ramming conduits in the wall for electrical wires. This is far safer than double brick and veneer as mice and vermin are unable to chew through wires and cause electrical fire and or failure as happens in rural Australia. Wall conduits placed in this way have an insignificant cost to the home builder.

A rammed earth house appropriately designed can now be exempted from chemical termite control. Cavity brick and brick veneer give no resistance to termites entering the roof and ceiling of homes. The ants go straight up the wall center into the roof.

As a precaution it is now thought that a 50mm –75mm oversize floor slab is a very effective white ant deterrent as the termites have to actually go into sunlight to enter the wall. As long as the slab is not cracked (most modern slabs don't) termites will never enter the wall enroute to the door jambs and roof trusses. A product called Termimesh that lays on the slab is recommended.

Many people choose to build some or all internal walls out of rammed earth. In this case they are only 200mm and quick to build. Rammed Earth can go into the wet areas as new commercially available waterproofing sealants and plasticisers ensure safety from water damage. The walls can be tiled over, drilled, plumbed and tapped, painted and plastered over. Doors and windows are fixed the same way as they are in conventional housing construction.

Depending on the home builders preference he may choose to construct stud walls clad with gyprock in bedrooms or other areas. This does not present any problems.

NOTE: The above information is only supplied for general public information as a guide only. Riverina Rammed Earth will not be responsible or held liable for any construction activity based on this information. This is intended as a general guide only and professional advice should be sought by those contemplating rammed earth building.