

# Earth Building Standards

## New Zealand - Earth Building standard.

*The standards development project was managed by Standards New Zealand supported by the members of a voluntary Technical Committee, each of whom has specialist knowledge in a relevant area. The Earth Building Association of New Zealand has provided committee members with expertise in both the design and construction of earth buildings.*

*The standards have extensive commentary sections throughout which contain much in the way of advice and explanation but which are not mandatory provisions of the standards.*

*Any building designed and built in accordance with them automatically meets many provisions of the NZ Building Code. Earth buildings must also meet other requirements of the building code. E2/AS2 is an Acceptable Solution for External Moisture specifically written for earth buildings which now amends relevant parts of NZS 4299.*

*Some other parts of the NZBC, such as H1 (Energy Efficiency), and some other referenced NZ Standards eg NZS 3604 for Light Timber Frame Construction have also been amended since the Earth Building Standards were written.*

The Earth Building Standards referred to are:

### **ASTM E2392 / E2392M - 10e1**

<http://www.astm.org/Standards/E2392.htm>

### **Standard Guide for Design of Earthen Wall Building Systems**

### **NZS 4297:1998 Engineering Design of Earth Buildings (Specific Design)**

Provides for the structural and durability design of unfired earthen wall buildings. The scope is limited to adobe, pressed brick, poured earth and rammed earth and which contain clay and silt and which rely on the clay and silt particles present to achieve satisfactory performance with or without chemical stabilization. Such materials shall comply with NZS 4298 "Materials and Workmanship for Earth Buildings".

### **NZS 4298:1998 Incl Amendment#1 2000 Materials & Workmanship for Earth Buildings**

Sets out requirements for the materials and workmanship requirements for the use of unfired earth in the form of adobe, pressed earth brick, rammed earth or poured earth. It applies to buildings which are designed in accordance with NZS 4297 "Engineering Design of Earth Buildings" and NZS 4299 "Earth Buildings Not Requiring Specific Design". This Standard provides a means of compliance with the materials and workmanship requirements of earth walled structures. Test methods for earth building materials and criteria for acceptable results are included.

### **NZS 4299:1998 Incl Amendment#1 1999 Earth Buildings Not Requiring specific Designs**

Sets down construction requirements for earth walled buildings not requiring specific engineering design. Many drawings of construction details which have been proved in New Zealand are included to help builders in earth to achieve durable and weatherproof buildings. To be used in conjunction with NZS 4298 "Materials and Workmanship for Earth Buildings". New Zealand as of 1999 has an Earth Building standard.

### **ANNEX : NEW ZEALAND STANDARDS Documents**