

# SPECIFICATION: INTERIOR ADOBE BRICK VENEER

## 1. GENERAL

### 1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZS 4298 : 1998 MATERIALS & WORKMANSHIP for Earth Buildings

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Copies of the above literature are available by phoning Standards NZ

### 1.2 QUALIFICATIONS

Carry out all adobe bricklaying work with people competent and experienced in this type of work or labourers who are working under supervision of such experienced people.

### 1.3 INSPECTION

Call for inspection of the work at critical stages defined by the project manager. These might include: Upstand DPM, provision of brick ties after laying half of the height of the adobe wall and structure on completion. All to good trade practice.

### 1.4 TESTS

When using adobe bricks bought from a commercial supplier, bricks have to be tested in accordance with NZS 4298, table 2.1, prior to delivery. Commercial suppliers have to produce a new set of test results for both strength (modulus of rupture) and durability (spray erosion) from an independent testing laboratory every year. If the source of clay used in production changes, new tests have to be carried out. Copies of test results are to be supplied to the project manager for approval.

## 2. PRODUCTS

### 2.1 ADOBE (MUD) BRICKS

Composition: Clay (origin: Upper Moutere), Barley straw, Untreated Sawdust

Size: 280mm x 150mm x 130mm  
Providing a module size of 300 long by 150 deep with 20mm mortar joint

Weight: max. 8kg

Colour: Creamy yellow

Application: Interior cladding, Feature Walls, Heat Sinks

Mortar: Earth Mortar of the same origin and composition as the bricks,  
with addition of sand or crusher dust as required.  
Shrinkage tested in accordance to NZS 4298 to  $\leq 3\%$

Test Results: Compressive strength 1.70Mpa (min. requirement 1.30MPa)  
Flexural tensile strength 0.65MPa (min. requirement 0.25MPa)  
Drop Test: Pass  
Spray Erosion Test: Erodibility Index 2 (min. requirement 3)

Finish: A wide range of wall finishes is possible  
It is essential to maintain a breathable surface

## 2.2 BRICK TIES and GEOGRID MESH

Galvanised 85mm screw type brick ties, i.e. Lumberlok. (105mm ties may be used if there is a small cavity between bricks and studs).

Geogrid mesh TRIAX 70 horizontal reinforcing.

## 2.60 DPM

Mulseal or Flintcote bituminous Emulsion.

## 2.70 FIRED BRICKS for UPSTAND & SILLS

Client approved fired bricks To AS/NZS 4455

## 2.80 MORTAR FOR UPSTAND & SILL BRICKS

Composed of Portland cement, sand and water with an admixture to the provisions of NZS 4210, clause 2.2

# 3. EXECUTION

## 3.10 FOUNDATIONS

Footings under the adobe walls to be 250mm wide, 300mm deep, with 4 D12 rods. They should be into firm original ground with ultimate bearing capacity of not less than 300kPa. The building inspector or another suitably qualified person shall check that this is achieved after the foundations have been accurately set out and prior to the pouring of any concrete.

## 3.20 LAY UPSTAND

The height from the concrete slab to the underside of the bottom course of adobe bricks on interior walls shall be a minimum of 50mm.

Lay 160mm wide fired brick Upstand in sand cement mortar. Roughen top to provide key to earth mortar.

## 3.25 APPLY DPM

Paint on bituminous emulsion on top of brushed down upstand, avoiding drips down face of bricks, starting with a primer coat, then two top coats painted thickly in opposite directions all to manufacturers instructions.

## 3.30 SETOUT

Set out bricks to minimise cutting and part width bricks.

## 3.40 LAY ADOBE BRICKS

In 20mm earth mortar bed to NZS 4299 to string lines to within 5mm of plumb every 2.4 of height and each course within 10mm of horizontal.

Wet down bricks in the course below before spreading mortar, dunk each brick for 10-30 sec both to avoid sucking moisture out of mortar and spoiling bond. Lay bricks in stretcher bond, keeping vertical mortar joints aligned on alternate courses. Mortar joints need to be completely filled without gaps.

## 3.50 BRICK TIES and GEOGRID MESH

Veneer Bricks to be tied back to timber frame at 400-600crs horizontally, 300crs vertically and also within 200mm of openings and in the last course at the top of the wall.

Brick ties screw fixed to frame and fixed to bricks with 90/3.15 nail.

120mm wide geogrid mesh strips to be nailed to brick course 300crs vertically, fixed with U-shaped fencing staples (heavy duty) before installing brick ties. Mortar to be spread over mesh and brick ties.

## 3.90 FINISH WALLS

For a quality finished job refer to Appendix L of NZS 4298 or consult a professional for options and recipes. It is recommended to keep the earthen surface completely breathable.