

## 7. Oven Floor

- Mark a 1,4 m circle on the concrete slab to indicate the position of the oven base. (The nails and string can again be used, spaced 700 mm apart.)
- Identify the location of the oven door and build up the brickwork to form the opening as seen in the photograph. Remember to make the door opening wide and high enough to easily work through and move pizzas in and out (approximately 440 mm wide x 310 mm high, before paving). The bricks across the top of the door opening require support during construction. The support is left in for approximately a week to allow the mortar to gain strength.



- Lay a course of soldier bricks (bricks built up on end) to form the base of the dome. Use the 1,4 m circle as a guide to mark the position of the outside surface of this course of bricks. Allow the mortar to set and gain strength for at least 24 hours before any further work is done.



- Spread out a 20 – 25 mm layer of 5 to 7 mm stone over the oven floor to provide some insulation for the oven floor. The volume of blinding stone required is approximately 35 ℓ. The top surface of this layer is carefully levelled to provide a flat surface for laying the clay paving bricks. The stone layer is tapered to be thinner near the door to limit restricting the door opening when laying the paving bricks. Those in the doorway should be laid in bedding mortar to keep them in position.

- Lay clay paving bricks over the stone layer to form the oven floor. The bricks are laid in contact with each other. No grout is required between them. An angle grinder is very useful to cut the bricks around the edges to shape. A hammer and cold chisel can be used to cut these bricks, but it takes a great deal of patience to produce a neat job.

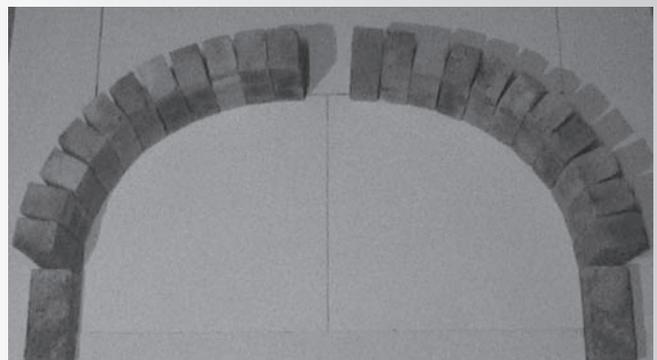


## 8. Dome

### 8.1 Dome temporary support

The temporary dome support needs to be constructed with something rigid and strong enough to hold the weight of the dome but not too strong to be broken out after construction. Materials such as 4 mm plywood or masonite are suitable.

- Mark two lines on the board perpendicular to each other. The base line length is half the dome floor diameter minus 15 mm (dome floor diameter divided by 2 – 15 mm) The dome floor diameter is the diameter of the inside of the soldier course of bricks. The perpendicular line length is equal to the proposed inside height of the dome, (approx. 550 mm).
- Use loose bricks laid on the masonite or plywood to simulate the dome arch shape between two ends of the lines. Remember to allow for the course of soldier bricks already in place. Move the bricks around until a pleasing shape with approximately equal spaces between the bricks is achieved.



- When an acceptable shape is achieved mark the inside curve onto the board.
- Cut out the shape that has been developed with a jigsaw and use it as a template to mark another 24 identical shapes.

- Cover the oven floor with a sheet of plastic to protect it from mortar that will drop during the dome construction. Stack the shapes that have been cut for dome support onto the oven floor in the pattern of the spokes in a bicycle wheel. The boards will touch and support each other in the centre of the oven floor. The boards must be evenly spaced around the circumference of the floor.
- Construction of the dome can now begin.



## 8.2 Dome construction

- It is difficult to construct a nice looking dome with full length bricks. Begin by cutting approximately 50 bricks into  $\frac{2}{3}$  and  $\frac{1}{3}$  and approximately 50 into halves. More bricks can be cut into desired sizes as construction of the dome progresses.

### Proportions and quantities of materials

200 clay bricks (222 x 106 x 73 mm) for the dome and chimney

2 wheelbarrows of building sand

1 bag of cement

Use a tin or bucket of convenient size for batching all the solid ingredients.

The following mix proportions should be used:

Bedding Mortar	Mix proportions by volume	
	Cement	Sand
	1	5

- Mix a small batch of bedding mortar. Construction of the dome is a reasonably slow process, and if too much mortar is mixed it will begin to stiffen before it can be used and will need to be thrown away.

Do not add water to mortar that has stiffened to retemper it as this will weaken it.



- Starting with  $\frac{2}{3}$  - length bricks, begin building the dome. The inside joint widths need to be kept as small as possible. When 'buttering' the brick with mortar, taper the mortar to be thin on the inside but thick on the outside. Use enough mortar to allow some to squeeze out when the brick is laid to ensure proper bedding.

Lay the bricks so that they lie as closely as possible to the temporary support. Ensure any adjustments made to brick positioning are made quickly, before the mortar begins to stiffen. If the mortar has already stiffened, it's better to remove the brick and apply fresh mortar before re-positioning.

Ensure that all the joints are well filled with mortar. Immersing the clay bricks in water just prior to use improves the mortar bond and gives more time to adjust the brick position before the mortar stiffens.

- Once the second course of bricks is started, different length bricks are used to ensure that perpendicular joints do not fall directly above each other. The bottom courses are built predominantly with  $\frac{2}{3}$  - sized bricks. The middle courses are built mainly with  $\frac{1}{2}$  bricks and the top courses with  $\frac{1}{3}$  - sized bricks.
- The top few courses will require bricks to be cut into triangular shapes to fit. It may be better to cut these bricks as they are required.
- An opening for flue gases must be left in the dome. It's best to make this opening to one side so that heat does not easily escape out of the top of the oven. An ideal place for this opening is directly behind and above the oven door. An opening approximately 400 mm wide and 250 mm deep is recommended.