

Keramicalia Commercial and Home Pizza Ovens



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1) Principles

Pizza ovens cook by radiant heat from above, and conducted heat from the floor. The air sucked over the pizzas through the mouth towards the fire is COLD, DRY air. (Electric ovens cook in hot, damp air, and produce soggy pizzas.) The flame must be drawn over the roof, so the smoke off take must be near the door. The fire must be at the back of the oven. The roof must be an insulating material, so that it heats up rapidly and radiates the heat into the floor. The floor must be a dense, heat retaining material, because once the pizza is on it, it receives no additional heat.



2) Performance

Traditional brick pizza ovens take about 3 hours of hot fire to reach cooking heat. They retain this heat for a long time, but you still need to keep a flame burning. Keramicalia ovens use sophisticated efficient materials, so that you can reach cooking heat in 20 minutes. A pizza takes 2 to 4 minutes to cook, so you can produce more than 60 per hour.

3) Pricing Details

These are supplied in kit form, with a hemispherical dome 1,2m inside diameter or 1,4m inside diameter. We do not install them, but can refer you to experienced contractors. We sell them for cash in banknotes only. 1,2m is R 30 933.00 and the 1,4m is R42 471.00

The kit is for the working parts only and does not include the exterior finish. The oven is a fuel efficient, rapid heating, wood fired oven.

The interior surfaces will develop cracks, but will not fall in.

Commercial Pizza Oven Price list 2019 excluding VAT

The kit consists of:

	1,2m Ø	1,4mØ
Dome with preformed mouth	R 4 499.00	R 6 818.00
Smoke off take	R 1 722.00	R 2 295.00
Floor tiles; 500mm x 500mm x25mm 9 tiles	R 3 717.00	R 3 717.00
Firebricks arch;	R 4 782.00	R 6 695.00
Fire bricks for skirt; 12 for 1,2m 30 for 1,4m dome	R 1 244.00	R 3 108.00
72 litres Blended insulation = 80kg for 1,2m , 120 for 1,4m	R 2 845.00	R 4 208.00
Chimney pipe	R 503.00	R 503.00
200 litres Keratuff 2 for outer insulation = 160kg (220)	R 8 926.00	R12273.00
20kg Kerasil mortar	R 766.00	R 766.00
Damper Block	R 1 371.00	R 1 530.00
Paddle, tongs, recipe book	R 558.00	R 558.00
	R 30 933.00	R 42 471.00
Discounted Price	R 27 838.00	R 38 224.00

You may leave out any part which you want to supply yourself.

You must cost into your budget; Bricks, cement, sand, concrete, shuttering or corrugated iron for slabs or lintels, subcontractors price for demolition, building, and removing rubble.

Instructions for assembly are issued with the kit. Allow one day to prepare the platform.

Allow an extra day for concrete to harden if lintels are not used. Allow one day for assembling the kit. Allow one day for completing the outside and connections.
The floor tiles are prefired, so you can start cooking immediately.

4) Construction

Please read all the instructions before starting.

1. ASSEMBLY

Choose location;

- You will need an area of 1,5 metres square.
- Consider the following points in choosing the position;
- It is strongly advisable to display the oven mouth, where it adds to the atmosphere, and where it can attract the attention of passers-by.
- Where kitchen space is limited, the body of the oven can be built outside, with only the mouth open to the kitchen.
- It helps if the chimney can be simple and straight up.
- Remember that the cook will be using a long paddle, and will need free space behind him.

2. Build a platform 1,5 x 1,5 metres wide, (1,7 x 1,7m for 1,4m diameter) at a height of 1,1 to 1,15 meters high. The space below the platform can be used as a wood store. A brick arch over the wood store to match the oven mouth looks attractive. Cover the top with lintels.

3. Place the brick arch onto the front of the lintels.

4. Mix the Blended insulation or Keralite 2 with water and place it onto the platform.
It must be 50mm thick to bring the floor tiles level with the mouth.

5. Place the floor tiles onto it, starting from the front. Make sure the leading edge of the tiles are level with or below the trailing edge of the tile in front of it, otherwise the paddle catches on it. The outer edges of the tiles may need to be trimmed on a brick cutter or angle grinder.

6. Place the dome behind the arch with the bottom of the opening touching the arch. Mark the outline of the dome on the floor tiles. Remove the dome.

7. Now draw a circle inside the marked outline of the dome, 50mm smaller. This marks the position of the inside edge of the firebrick skirt.

8. Lay one course of firebrick using Kerasil mortar, along the line marked. (For the 1,4m dome, lay the firebricks with the 230mm length radially.) The firebrick skirt, is to protect the dome from logs thrown into the oven. If small pieces of wood are placed in the oven with the tongs provided, then a skirt is not required.

Note; When ordering the kit specify whether or not you are going to build a skirt. (The smoke off take piece differs.)

9. Place the dome on top of the firebrick skirt. We suggest you do not glue it on with Kerasil mortar.

10. Cement the smoke off take between the arch and the dome with Kerasil mortar.

11. Cement the damper block onto the top of the smoke off take.

12. Cement the chimney pipe onto the damper block.

13. Mix Keratuff 2 with water, 5 litres per 10kg bag. Plaster over the dome. 20 bags are provided.

14. The pizza oven is now completed. It may be covered with plaster, painted with roof paint, tiled, bricked over, thickened with layers of mineral wool and finishing plaster, left as is, or whatever suits your décor. The easiest finish is simply to build a brick box around it. Make provision to operate the damper if you build a brick box around the oven.

15. Start with the damper fully open, the plate pushed right in. If the draught is too strong and the heat and wood consumption too high, pull the damper forward to choke the flow.



LEADING THE CHIMNEY OUTSIDE:

This must be done with careful forethought. It is the commonest source of operating problems. If the chimney can go straight up through the roof, there is no problem, just see that it is not touching or very close to wooden beams, and support the ducting from above, do not place too much weight on the dome. The function of the chimney pipe is merely to facilitate connection of the oven to the ducting.

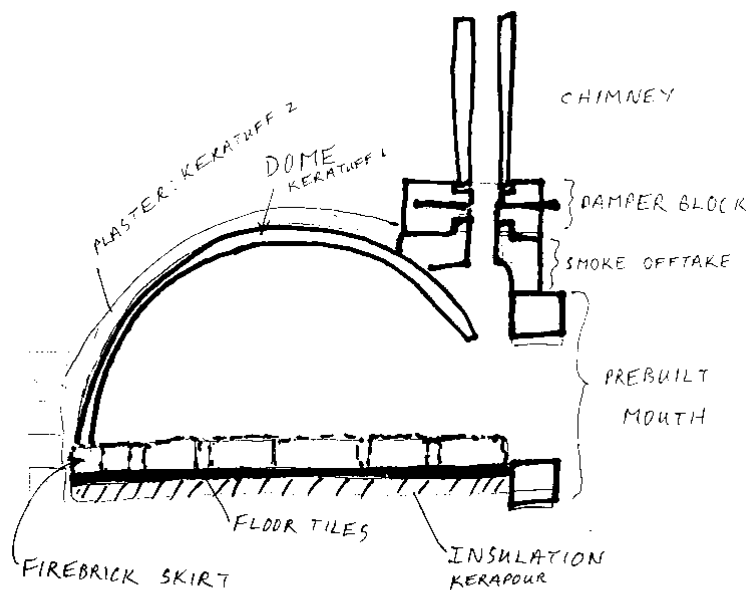
If the ducting has to travel horizontally try to keep it sloping upwards, otherwise it is difficult to establish draught on light-up. When combining the ducting with other off takes note that fat/oil and smoke can combine to make tar-like deposits which can choke the ducting. The undiluted heat from the chimney can damage extractor fans. Excessive draught can cause intense heating in the oven and poor fuel economy.

If any operating problems arise, look first at your extraction system.

Tell the customer that the dome WILL crack, but it is not a problem, as the dome is covered over with Keratuff 2.

WOOD: Any dry wood will work. Fresh "green" wood will not work. Bluegum wood which looks dry, can still have a very high water content, and it burns poorly and gives off volatiles which burn your eyes. Hardwoods which make excellent coals are not good. You need flames to cook the toppings and to heat the floor. Charcoal does NOT work. Always keep a flame going, even if it is from one small piece of wood. Broken bits of pallets are quite good.

5) Cross section of pizza oven



6) Material Specifications

Pizza Oven Floor Mix

This is a high density thermal shock resistant mix designed to store heat

It can withstand repeated heating to 1000°C and quenching in water.

The high density results in high thermal mass, and the material has found a number of applications for heat storage and others for heat dissipation.

Density; 2,8kg/l

Maximum service temperature; 1100 C.

Cold crushing strength; 20MPa

Maximum particle size; 6mm.

Water addition; +9%

Packaging; 15kg plastic bags.

Claimer: This information had better be correct, as Dave Onderstall stakes his reputation on it.



KERATUFF 1

DESCRIPTION: Keratuff is a structural refractory insulation. Insulation materials are normally only usable as a backing or with some kind of structural support. Keratuff has sufficient strength to be a free standing structure.

APPLICATIONS: Precast pizza oven roofs, crucible furnace lids, heat shields, splash boards, aluminium launders, burner shields.

THERMAL CONDUCTIVITY:

200°C	0,19W/mK
4000C	0,23W/mK
6000C	0,25W/mK
8000C	0,28W/mK
1000°C	0,31W/mK

MAXIMUM SERVICE TEMPERATURE: 1200°C. Keratuff melts between 1200°C and 1300°C. Shrinkage at 1200°C is 1,7%.

DENSITY: 1,0 dry, 0,85 fired.

STRENGTH: 23MPa at 110°C, 6MPa fired 1200°C.

COMPOSITION: Contains Litefill and Hollofill synthetic aggregates, and zirconia containing ceramic fibres. 53/o alumina.

PREPARATION: Add 40-50% water to the powder, mix well and apply it. It can be vibration cast at 40% water, 50% is easier to apply by trowelling. Water content is not critical and need not be measured. Extensive mixing and trowelling improves the fibre dispersion and improves strength. All particles are less than 1mm diameter. Setting time is about one hour.

PACKAGING: 10Kg in thick polythene bags.

PILOT PLANT CODE: OEV.

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KERATUFF 2

DESCRIPTION: Keratuff 2 is a structural insulating refractory. Insulation materials are normally only usable as a backing or with some kind of structural support. Keratuff 2 has sufficient strength to be a free standing structure. It has low permeability and is easily machined or cut when dried or fired.

APPLICATIONS: Electric kiln walls and element holders, crucible furnace lids, heat shields, masonry protection in charcoal ovens, aluminium launders, burner shields, machined components.

THERMAL CONDUCTIVITY:

200°C	0,2W/ mK
4000C	0, 2W/'mK
6000C	0,231W/!mK
800°C	0,28mK

MAXIMUM SERVICE TEMPERATURE: 1230°C. Shrinkage at 1200°C is 1,9%.

DENSITY: 0,8 g/cm³ dry.

STRENGTH: 6 MPa at 110°C, 6 MPa fired 1200°C.

COMPOSITION: Contains Litefill and Hollofill synthetic aggregates and zirconia containing ceramic fibres.

PREPARATION: Add +40-50% water to the powder, mix well and apply it. It can be vibration cast at +40% water. Water content is not critical and need not be measured. Extensive mixing and trowelling improves the fibre dispersion and improves strength. All particles are less than 1mm diameter. Setting time is about one hour.

COLOUR: Grey. Yellow when fired 1200°C.

PACKAGING: 10Kg in thick polythene bags.

PILOT PLANT CODE: PGK.

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7) Home Pizza Ovens

The Prime pizza oven



Price R12 915.00 +VAT include paddle, tongs and recipe book, delivered in Gauteng.

Dimensions:

Base: 820mm wide by 920mm long

Inside area: 840mm deep by 695mm wide

Height: 700mm

And our latest addition, called the “Magnifique”



Price R 11 653.00 + VAT include paddle, tongs and recipe book, delivered in Gauteng.
With a hinged door, this oven easily makes 2 pizzas at a time.

Dimensions:

Base: 880mm wide

Inside area: 650mm

Height: 600mm