

# the sure way to make concrete



**PPC**  
**CEMENT**



**SUREBUILD**



## The secret of strong concrete

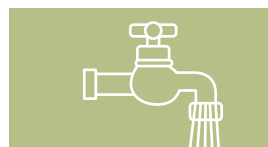
Making concrete is easy. There are many small concrete projects that you as a homeowner can confidently tackle using **PPC Surebuild Cement 42,5 N** with extra strength. Foundations, flooring slabs, fish ponds and driveways are easy and by doing it yourself you can save money.



The secret of strong concrete is to use a power-packed cement like **PPC Surebuild Cement 42,5 N** with extra strength, and never use too much water. **PPC Surebuild Cement 42,5 N** with extra strength makes 15% more concrete than regular 32,5 general purpose cements.\*

## What materials do I need?

- 1. PPC Surebuild Cement 42,5 N**  
**PPC Surebuild** is ideal for concrete, mortar and plaster. **PPC Surebuild Cement 42,5 N** complies with SANS 50197-1. It meets the NHBRC requirements.
- 2. Clean Concrete Sand**  
Ask your supplier for clean concrete sand. The sand should be free of twigs, roots or other foreign matter.
- 3. Clean Stone**  
13 mm to 19 mm in diameter is the ideal stone size.
- 4. Clean Water**  
If you can drink it, it is suitable for concrete.



\*For more details on comparative mixes, see the Affordable Housing brochure.

## PPC Surebuild Cement 42,5 N concrete mixes

### Low strength concrete (10-15 MPa)

1  Cement (2 bags)	4 x  Sand (260 litres)	4 x  Stone (260 litres)	Water 60-65 litres
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For 1m<sup>3</sup> you need 5,0 bags of cement, 0,70m<sup>3</sup> sand and 0,70m<sup>3</sup> stone

### Medium strength concrete (20-29 MPa)

1  Cement (2 bags)	3 x  Sand (200 litres)	3 x  Stone (200 litres)	Water 55-60 litres
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For 1m<sup>3</sup> you need 6,4 bags of cement, 0,70m<sup>3</sup> sand and 0,70m<sup>3</sup> stone

### High strength concrete (30-35 MPa)

1  Cement (2 bags)	2,5 x  Sand (165 litres)	2,5 x  Stone (165 litres)	Water 46-50 litres
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For 1m<sup>3</sup> you need 7,5 bags of cement, 0,70m<sup>3</sup> sand and 0,70m<sup>3</sup> stone

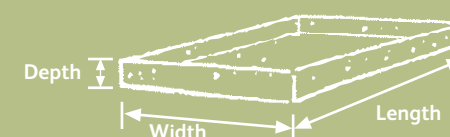
See PPC Cement 'The sure way to estimate quantities' instore or downloadable on [www.ppc.co.za](http://www.ppc.co.za)

## How much concrete will I need?

Concrete is always poured into a 'form' or hollow in the ground. To work out how much concrete you need you first need to measure the volume of the space you are going to fill.

### 1. Flat Slabs/ Foundations/driveways

Using a measuring tape, measure the length, width and depth of the area to be filled and multiply these together to work out how many cubic meters (m<sup>3</sup>) of concrete you need, e.g. length 4,5m, width 4m, depth 0,1m = 1,8m<sup>3</sup>.

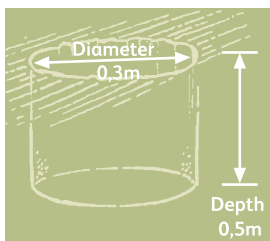


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## 2. Post Holes (Cylindrical Forms)

Using a measuring tape, measure the diameter (width) and depth of the hole. Now multiply the diameter by the diameter then multiply this total by the depth and then by 0,8 to work out how many cubic meters (m<sup>3</sup>) of concrete are needed, e.g. Diameter 0,3m, Diameter 0,3m, Depth 0,5m ( $0,3 \times 0,3 \times 0,5 \times 0,8 = 0.036\text{m}^3$ )



## How much material should I order?

See details on the back of the **PPC Surebuild Cement 42,5 N** with extra strength bag or refer to the **PPC Cement**, "The Sure Way to Estimate Quantities" leaflet to calculate the amount of **PPC Surebuild Cement 42,5 N**, sand and stone you will need. As a rough guide, to mix 1 cubic metre of concrete (1m<sup>3</sup>) you will need 5,0 bags of **PPC Surebuild** (depending on the strength of the concrete required) plus approximately 0,70m<sup>3</sup> of sand and 0,70m<sup>3</sup> of stone.

## How do I mix concrete?

### 1. Concrete Mixer

If you use a concrete mixer the batch size should suit the mixer. Underfilling the mixer wastes time, while overfilling results in spillage and poor mixing.

- Measure the quantity of stone and place in the mixer. Add a little water to wet the stone.
- Add the measured quantity of **PPC Surebuild Cement 42,5 N**.
- Add the measured quantity of sand.
- Finally add water, a little at a time, until the concrete is flowable but not runny.

## 2. Manual Mixing

For small batches: mix in a wheelbarrow.

For larger batches:

- Measure out sand and place in a long, thin heap on a flat, clean, hard surface.



- Pour out **PPC Surebuild Cement 42,5 N** on top of the sand.



- Spread the stone on top of the cement

- Mix the cement, stone and sand together until an even colour is achieved and the stones are evenly spread.



- Create a hollow in the centre and slowly add clean water while mixing and mix well. The concrete is now ready for placing.



## How do I place concrete?

- Concrete must be placed within an hour of mixing.
- Place the concrete as close to the final position as possible.
- If the concrete is being placed on the ground, make sure the ground is dampened with a spray of water before placing concrete.
- Once placed, spread the concrete evenly with a rake or spade.
- The concrete should be well compacted or 'tamped down' with a rod or spade, making sure that the concrete fills the form or hole completely.
- To create a flat surface (for a slab or driveway) use a wooden straight edge tool. First use a 'chopping' motion, then a sawing motion to first flatten the surface and then strike off the excess concrete.
- Concrete slabs or driveways should be divided into panels to limit cracking. Joints should be no more than 2,5metres apart for 80mm thick slabs and 3,0 metres apart for 100mm thick slabs.
- Once it has stiffened, keep the concrete damp by covering it with plastic sheeting, damp hessian, damp sand, or by spraying it with water regularly. For optimum strength, this curing process should be continued for 7 days.
- For driveways, keep vehicles off the concrete for at least 7 days.



Visit our website at: <http://www.ppc.co.za>

For more advice on cement please ask your PPC Cement stockist or call the PPC toll-free help line 0800 023 470 (SA only).

While all information in this brochure is supplied in good faith, no responsibility can be accepted by PPC or the stockist for claims arising from its use.

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**WARNING: Too much water will reduce the final strength of your concrete.**