

# BUILDING STRONGER

WITH PPC

HOW TO BUILD A WALKWAY



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# A STEP-BY-STEP GUIDE TO BUILD A WALKWAY

## TOOLS

Shovel  
Wheelbarrow  
Tape Measure  
Spirit Level  
Builders Bucket  
Straight Edge  
Steel Pegs  
Stiff Bristle Bush or broom  
Wood Float  
Builder's String Line  
Edging Tool

## MATERIALS

PPC SURECEM  
Concrete Sand  
Concrete Stone  
Portable Water  
Polythene Sheeting

## SAFETY

Safety shoes (steel toe)  
Overalls  
Gloves  
Dust masks  
Goggles

**STEP 1**  
PREPARATION

**STEP 2**  
FORMWORK

**STEP 3**  
ORDER THE MATERIALS

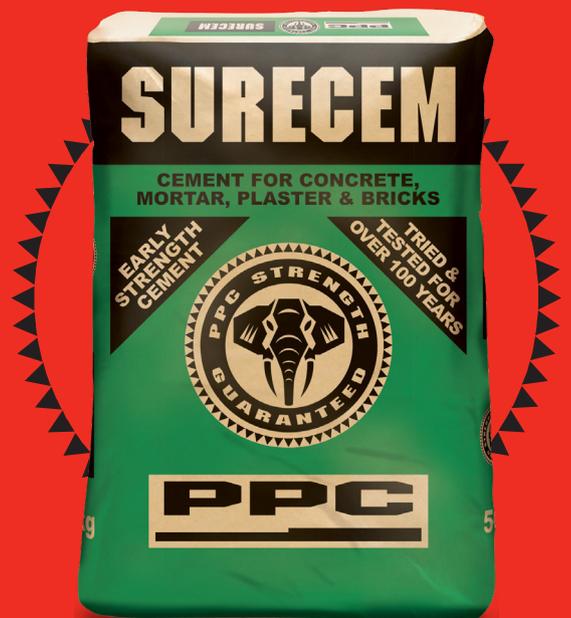
**STEP 4**  
DECIDE ON THE CASTING SEQUENCE  
AND JOINT LOCATORS

**STEP 5**  
MIXING THE CONCRETE

**STEP 6**  
PLACING AND COMPACTION

**STEP 7**  
FINISHING

**STEP 8**  
PROTECTION AND CURING



If you need technical or sales support,  
contact 0800 CEMENT (236 368)  
or visit [ppc.africa](http://ppc.africa)

# STEP ONE PREPARATION

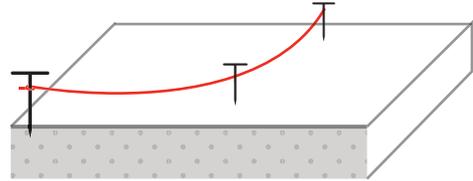
1

Plan the track and width of the pathway and mark the outline with the steel pegs and a builder's line.



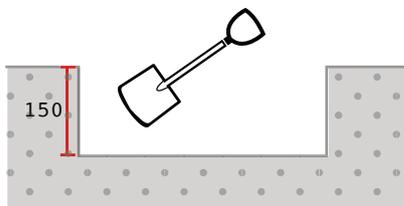
2

Be creative by using curved sections instead sharp turns or corners.



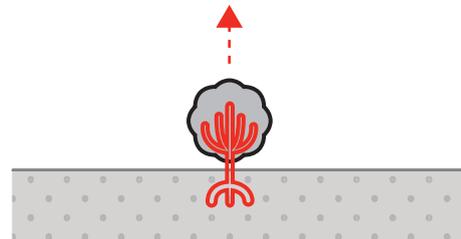
3

Excavate the area between the outlines to a depth of approximately 150mm.



4

Remove all roots and vegetable matter.



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# STEP TWO FORMWORK

1

Formwork is used to produce a neat edge. Place the longitudinal forms on edge.



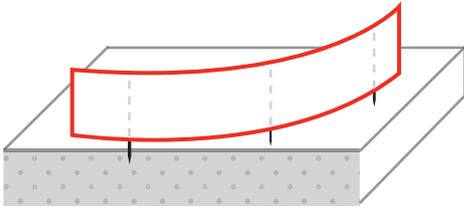
2

Support the forms at about 1m intervals with 150 mm steel pegs driven into the ground.



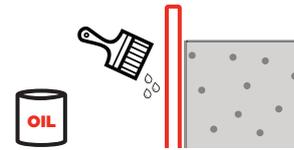
3

Curved sections can be formed using 3mm Masonite, supported in the same manner.



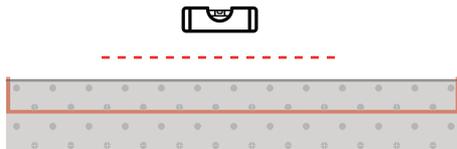
4

Apply formwork oil to the forms to prevent the concrete sticking to the forms.



5

Using the straight edge and spirit level, check the cross-fall and longitudinal levels.

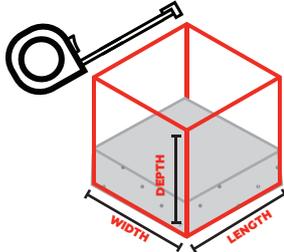


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# STEP THREE ORDER THE MATERIALS

1

Measure the depth, width and length of the pathway with the tape measure.



2

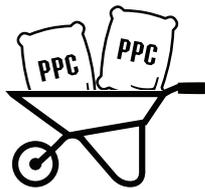
Use the PPC Builder's app or multiply the total length, width and depth in meters to obtain the volume of concrete in cubic meters.

$$\text{LENGTH} \times \text{WIDTH} \times \text{DEPTH} = \text{VOLUME}$$

3

Use the PPC Builders App Calculator from [ppc.africa](http://ppc.africa) to obtain the volume cement required.

As a guide, use 2 bags of SURECEM cement mixed with 2½ wheelbarrows clean, concrete sand, 2½ wheelbarrows 19mm stone will yield 0.25 m<sup>3</sup>.



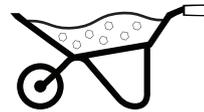
PPC SURECEM  
cement

+



Clean concrete  
sand

+



19mm stone

= 0.25 m<sup>3</sup>



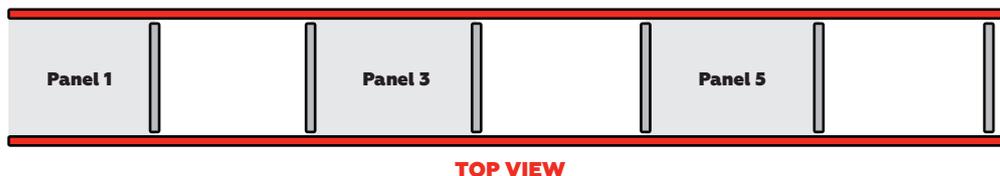
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# STEP FOUR DECIDE ON THE CASTING SEQUENCE AND JOINT LOCATORS

1

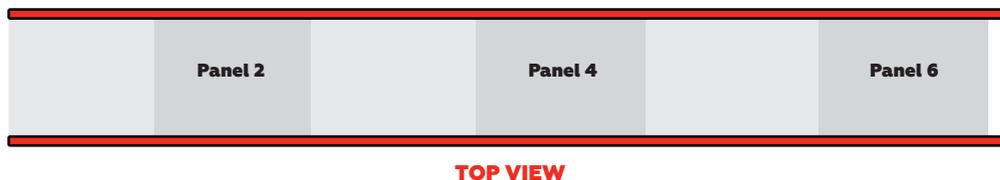
If the longitudinal forms are at intervals not greater than 1.5 times the width of the pathway, cast panels 1, 3, 5 and so on, on the first day.

**DAY 1**



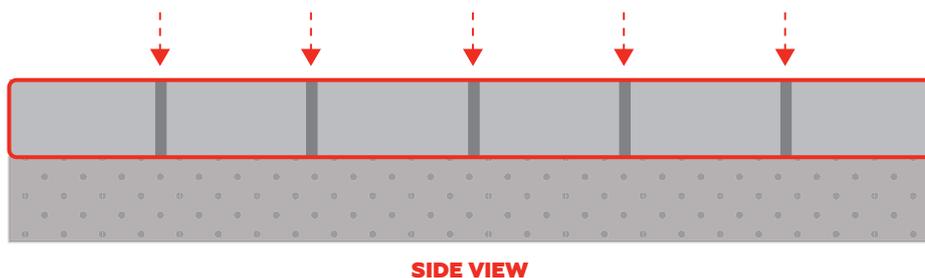
On the second day, you will remove the transverse forms and cast the infill panel numbers 2, 4, 6 and so on..

**DAY 2**



2

If you wish to cast the pathway in a continuous strip on one day, grooved joints should be installed at equidistant centres not exceeding 1.5 times the width of the pathway. (This will be discussed later).

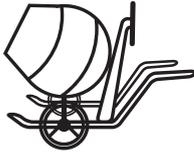


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# STEP FIVE MIXING THE CONCRETE

1

Mixing can be done by machine, by hand in a wheelbarrow, or on a concrete floor or other smooth, clean surface.



Machine

OR



Wheelbarrow

OR

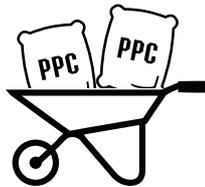


Concrete floor or other smooth, clean surface

2

Use the PPC Builders App Calculator from [ppc.africa](http://ppc.africa) to obtain the volume cement required.

Mix the concrete using the guidelines found at the back of the PPC SURECEM cement bag for Medium Strength Concrete (20-25MPa).



PPC SURECEM cement

+



Clean concrete sand

+



19mm stone

3

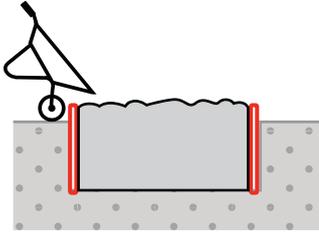
Excess water should be avoided as this will reduce the strength and will increase the risk of cracking.

A stiff mix with too little water will be difficult to compact and finish.

# STEP SIX PLACING AND COMPACTION

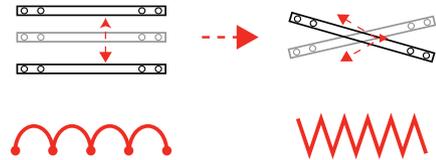
1

Place the concrete until slightly higher than the top of the formwork.



2

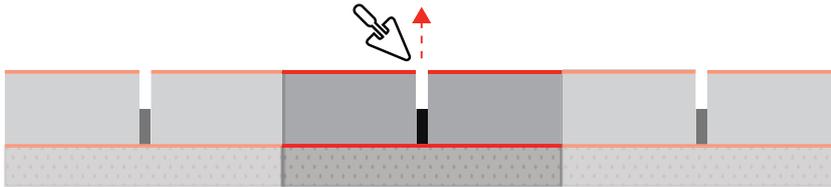
Level the concrete to the top of the formwork using a straight edge, first with a chopping motion, and then with a sawing motion.



3

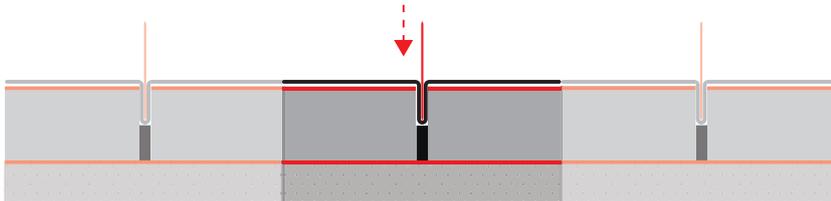
If you are casting in a continuous strip, the transverse, grooved joints should be installed now, before the concrete starts to stiffen.

Do this by forming a straight groove between the longitudinal forms, 25mm deep with the edge of the steel trowel or other flat steel blade at the predetermined spacing.



4

Cut 50mm wide strips of polythene sheeting. Place this over the groove and using the edge of the steel trowel or flat steel blade, push the centre of the polythene sheet into the groove until the edges of the polythene sheet are flush with the top of the concrete.



# STEP SIX PLACING AND COMPACTION

5

Float the surface with a swirling motion of the wood float held in a flat position.



6

Cover the concrete to prevent surface evaporation while you wait for it to stiffen sufficiently to permit final finishing...

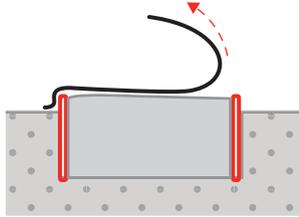


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# STEP SEVEN FINISHING

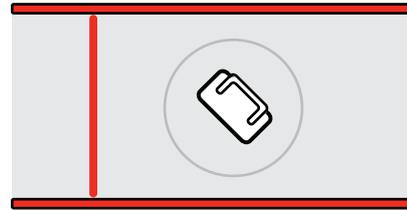
1

Remove the plastic when the surface has stiffened, but still has moisture at the surface.



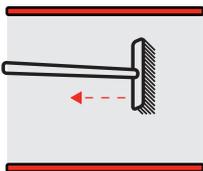
2

Use the wood float held in a flat position to create a smooth paste.

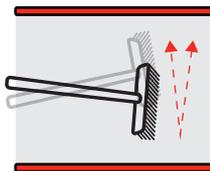


3

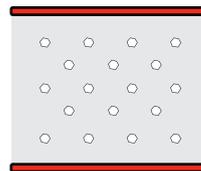
A number of finishes can now be created; using a stiff-bristled broom, drag it or zig-zag it across the surface, sprinkle small stone or place bottle tops and compact them into the surface with a chopping motion of the wood float. Other creative ideas are left to your limitless imagination.



OR



OR

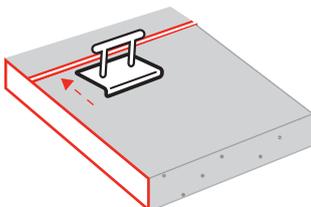


OR

**USE YOUR  
IMAGINATION!**

4

Use the edging tool to form a neat, rounded edge against the forms and on either side of the grooved joints.



## NOTE THAT

A. Dry cement should not be added to the surface as a "drier" or to assist in achieving a smoother surface.

B. Dry pigments should not be added to the surface of the concrete, unless they are formulated for dry-shake applications.

C. These practices will result in craze cracking, delamination and dusting.

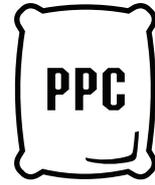


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# STEP EIGHT PROTECTION AND CURING

1

Follow the curing process described on the back of the PPC SURECEM bag.



2

Curing should be continued for at least 7 days in warm weather and 10 days in cold weather.



**7 DAYS**



**10 DAYS**

3

The recommended curing procedure is to cover the work with plastic sheeting as soon as possible after surface texturing is complete.

The plastic sheeting must be kept in place weighting it down along the edges to stop the wind getting under the sheeting.



These instructions are only a guide. There are many other alternative methods to laying a great pathway that will impress your friends.

**IMPORTANT NOTE: WHILE ALL INFORMATION IN THE GUIDE IS SUPPLIED IN GOOD FAITH, NO LIABILITY CAN BE ACCEPTED BY PPC AS ACTUAL USE IS BEYOND ITS CONTROL.**

If you need more technical or sales support, contact us on our toll-free hotline 0800 CEMENT (236 368) or visit us at [ppc.africa](http://ppc.africa)



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