
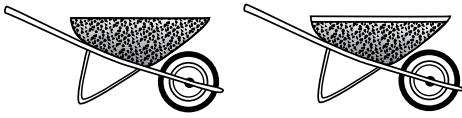
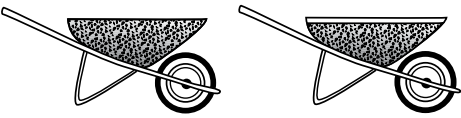


# concrete, plaster & mortar mixes for builders

## 1. concrete


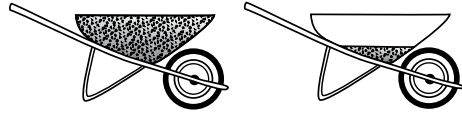
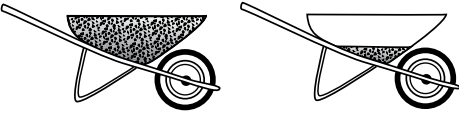
### 1.1 large batches: use only common cement complying with SANS 50197

Low-strength concrete suitable for: house foundations

cement	concrete sand	stone
		
1 bag	1 <sup>3</sup> / <sub>4</sub> wheelbarrows	1 <sup>3</sup> / <sub>4</sub> wheelbarrows


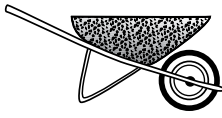
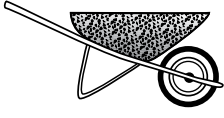
To make 1 cubic metre of concrete you will need: 5,8 bags cement + 0,65 cubic metres sand + 0,65 cubic metres stone.

Medium-strength concrete suitable for: house floors, footpaths and driveways

cement	concrete sand	stone
		
1 bag	1 <sup>1</sup> / <sub>4</sub> wheelbarrows	1 <sup>1</sup> / <sub>4</sub> wheelbarrows

To make 1 cubic metre of concrete you will need: 7,7 bags cement + 0,62 cubic metres sand + 0,62 cubic metres stone.

High-strength concrete suitable for: precast concrete, heavy-duty floors



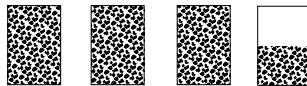






cement	concrete sand	stone
		
1 bag	1 wheelbarrow	1 wheelbarrow

To make 1 cubic metre of concrete you will need: 9,2 bags cement + 0,60 cubic metres sand + 0,60 cubic metres stone.

### 1.2 small batches: use containers such as buckets, drums or tins.

Use the same size of container for measuring all the materials in a batch.


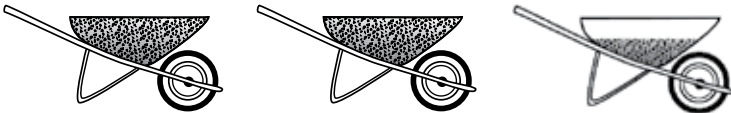
Use only common cement complying with SANS 50197

	cement	concrete sand	stone
low-strength concrete	 1	 3 <sup>1</sup> / <sub>2</sub>	 3 <sup>1</sup> / <sub>2</sub>
medium-strength concrete	 1	 2 <sup>1</sup> / <sub>2</sub>	 2 <sup>1</sup> / <sub>2</sub>
high-strength concrete	 1	 2	 2

## 2. plaster – external


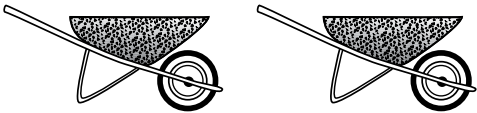
(Complying with SANS 2001 - EMI 2007)

### 2.1 large batches: using common cement complying with SANS 50197

cement	plaster sand
	
1 bag	2½ wheelbarrows

To plaster 100 square metres (15 millimetres thick) you will need: 14 bags cement + 2,25 cubic metres sand.





Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5. Do not use class MC 12,5X.

cement	plaster sand
	
1 bag	2 wheelbarrows

To plaster 100 square metres (15 millimeters thick) you will need: 17 bags cement + 2,25 cubic metres sand.

### 2.2 small batches: use containers such as buckets, drums or tins.


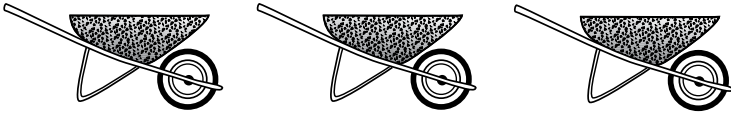
Use the same size of container for measuring all the materials in a batch.

cement type/standard	cement	plaster sand
common cement SANS 50197	 1	 4,5
MC 22,5X or MC 12,5 SANS 50413	 1	 3,5

## 3. plaster – internal


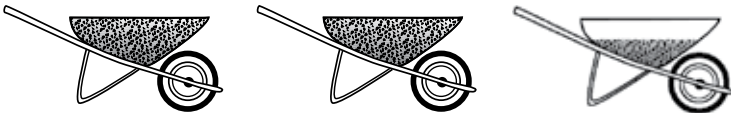
(Complying with SANS 2001 - EMI 2007)

### 3.1 large batches: using common cement complying with SANS 50197

cement	plaster sand
	
1 bag	3 wheelbarrows


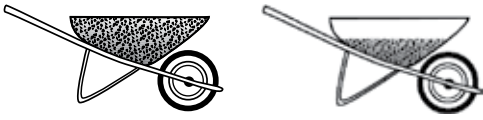
To plaster 100 square metres (15 millimeters thick) you will need: 12 bags cement + 2,3 cubic metres sand.

Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5.

cement	plaster sand
	
1 bag	2½ wheelbarrows

To plaster 100 square metres (15 millimeters thick) you will need: 14 bags cement + 2,25 cubic metres sand.







Using masonry cement complying with SANS 50413 class MC 12,5X.

cement	plaster sand
	
1 bag	1½ wheelbarrows

To plaster 100 square metres (15 millimeters thick) you will need: 20 bags cement + 2 cubic metres sand.

### 3.2 small batches: use containers such as buckets, drums or tins.

Use the same size of container for measuring all the materials in a batch.


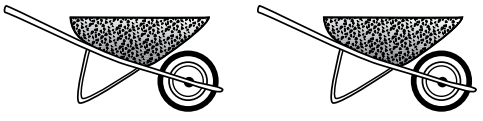
cement type/standard	cement	plaster sand
common cement SANS 50197	 1	 5
MC 22,5X or MC 12,5 SANS 50413	 1	 4,5
MC 12,5X SANS 50413	 1	 2,5

## 4. class I mortar

(Complying with SANS 2001 - CMI: 2007)


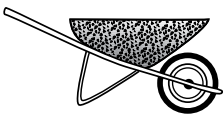
### 4.1 large batches:

Using common cement complying with SANS 50197

cement	building sand
	
1 bag	2 wheelbarrows

To lay 1 000 bricks you will need: 4 bags cement + 0,55 cubic metres sand.





Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5. Do not use class MC 12,5X.

cement	building sand
	
1 bag	1 wheelbarrow

To lay 1 000 bricks you will need: 7 bags cement + 0,5 cubic metres sand.

### 4.2 small batches:

Use containers such as buckets, drums or tins. Use the same size of container for measuring all the materials in a batch.


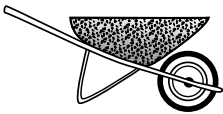
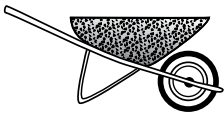

cement type/standard	cement	building sand
common cement SANS 50197	 1	 3,5
MC 22,5X or MC 12,5 SANS 50413	 1	 2

## 5. class II mortar

(Complying with SANS 2001 - CMI: 2007)



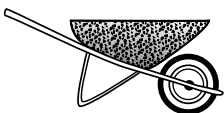
### 5.1 large batches:

Using common cement complying with SANS 50197

cement	building sand		
			
1 bag	3 wheelbarrows		

To lay 1 000 bricks you will need: 3 bags cement + 0,6 cubic metres sand.





Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5. Do not use class MC 12,5X.

cement	building sand	
		
1 bag	2 wheelbarrows	

To lay 1 000 bricks you will need: 4 bags cement + 0,55 cubic metres sand.

### 5.2 small batches:

Use containers such as buckets, drums or tins. Use the same size of container for measuring all the materials in a batch.

cement type/standard	cement	building sand
common cement SANS 50197	 1	 5
MC 22,5X or MC 12,5 SANS 50413	 1	 3,5

## notes

1. The amount of water added to a mix must be enough to make the mix workable and plastic.
2. Common cement complying with SANS 50197 may be used for concrete, plaster or mortar.
3. Stone for concrete should be 19 mm or 26 mm size.
4. If you use a wheelbarrow for measuring, it should be a builder's wheelbarrow which has a capacity of 65 litres.
5. Cement should preferably be batched by the bag. (Batching by the bag is more accurate and involves less wastage than batching smaller volumes in tins or drums.) A bag of cement has a mass of 50 kg and a volume of approximately 33 litres when packed at the factory. Cement, however, fluffs up (or bulks) when poured into a container, with the result that 50 kg of cement cannot be readily be contained in a 33-litre drum. The small-batch proportions given in this leaflet have been adjusted for the bulking of cement during volume batching in small containers.

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