

PRODUCTION OF SAND CEMENT BLOCKS [DAR]

SIZE	Simba cement	Sand	Expected Compressive strength [N/mm ²] Cured for 14 Days	Approximate Water content [L]	Expected Number of blocks per bag cement
6 INCH	One bag	8 wheelbarrows	3.0	30	38
6 INCH	One bag	7 wheelbarrows	3.5	25	33
6 INCH	One bag	6 wheelbarrows	4.2	20	29
6 INCH	One bag	5 wheelbarrows	5.6	20	26

Note:

- ◆ sand, aggregates and water should be clean
- ◆ sand and aggregate should be dry
- ◆ Mix aggregates and cement until the colour is uniform
- ◆ Add only enough water to make the mix workable
- ◆ Wheelbarrows used in the illustrations are builder's wheelbarrows with a 65 litre capacity
- ◆ All mixes should be used up within a maximum of two hours being mixed and **NEVER** be retempered by mixing in additional water, as this reduces the resultant strength of the mix
- ◆ Compaction should be done thoroughly. Too little or poor compaction should be avoided as it results in greatly reduced strength
- ◆ After demoulding blocks should be cured. Curing is the process of maintaining a satisfactory moisture content and a favorable temperature in the blocks to ensure hydration of the cement and development of optimum strength. Blocks should be cured for not less than 14 days.

**** mixing and compaction done by hand**

MORTAR PREPARATION FOR DIFFERENT APPLICATIONS

For multi-story buildings		For normal loadbearing application such as external house walls, retaining structures and walls exposed to severe dampness		Lightly stressed non-structural walls	
Batching by Bucket		Batching by Bucket		Batching by Bucket	
cement	Sand	cement	Sand	cement	Sand
1 Bucket	4 Buckets	1 Bucket	6 Buckets	1 Bucket	8 Buckets
Batching by Wheelbarrow		Batching by Wheelbarrow		Batching by Wheelbarrow	
Cement	Sand	cement	Sand	cement	Sand
1 Bag(50kg)	3 wheelbarrows	1 Bag(50kg)	4 wheelbarrows	1 Bag(50kg)	5 wheelbarrows

NOTE:

- ⇒ sand and water should be clean
- ⇒ add only enough water to make the mix workable
- ⇒ mix until the entire dry mix is the same colour before adding water
- ⇒ wheelbarrows used in the illustrations are builder's wheelbarrows with 65litre capacity
- ⇒ all mixes should be used up within a maximum of two hours being mixed and never be re-tempered by mixing in additional water, as this reduces the resultant strength of the mix.
- ⇒ After your mortar work has been completed it is essential to keep it moist for a minimum of 7 days.

PLASTER PREPARATION FOR DIFFERENT APPLICATIONS

Mix A

Foundation walls, constantly damp
Conditions, aggressive soils

Batching by Bucket

Cement	Plaster sand
1 Bucket	4 Buckets

Mix B

Exterior and interior plaster
above the level of course

Batching by Bucket

Cement	Plaster sand
1 Bucket	6 Buckets

Batching by Wheelbarrow

Cement	Plaster sand
1 bag (50) kg	3 Wheelbarrows

Cement	Plaster sand
1 bag (50) kg	4 Wheelbarrows

NOTE:

- ⇒ sand and water should be clean
- ⇒ add only enough water to make the mix workable
- ⇒ mix until the entire dry mix is the same colour before adding water
- ⇒ wheelbarrows used in the illustrations are builder's wheelbarrows with 65 litre capacity
- ⇒ all mixes should be used up within a maximum of two hours being mixed and never be re-tempered by mixing in additional water, as this reduces the resultant strength of the mix.
- ⇒ After your plaster work has been completed it is essential to keep it moist for a minimum of 7 days.