

# Product Guide

## READY RECKONER

### Mix Design & Calculation Chart



#### MORTAR

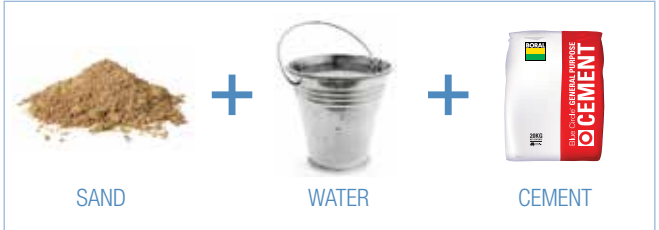
- Laying BRICKS and BLOCKS
- Building STONE walls
- POINTING existing brickwork
- RENDERING
- REPAIRING concrete

#### SAND-CEMENT

- RENDERING walls
- TOPPING or CAPPING on walls
- Brickwork BELOW GROUND level
- REPAIRING concrete
- SCREED for ceramic tiles

#### CONCRETE

- Laying PATHS
- Setting POSTS
- Creating MOWING STRIPS
- Light-duty FOUNDATIONS



MORTAR

SAND-CEMENT

CONCRETE

## READY RECKONER – CONCRETE

The Ready Reckoner for concrete is a general guide only. For specific engineering properties refer to AS3600 (Concrete Structures) or consult a professional engineer.

### Mixing Raw Materials

Suggested mix proportions by volume

Materials	Foundations & large masses	General use, paths, floors etc	General use, higher strength
cement	1	1	1
sand	3	2.5	2
stone or gravel	5	4	3

### For rectangular slabs, paths and driveways

1. First calculate the area:

$$\text{Area square metres (m}^2\text{)} = \text{length} \times \text{width (metres)}$$

2. Then use the following table:

Area (m <sup>2</sup> )	Volume of concrete in cubic metres (m <sup>3</sup> ) rounded up to the nearest 0.1				
	50*	75*	100*	125*	150*
5	0.3	0.4	0.5	0.7	0.8
10	0.5	0.8	1.0	1.3	1.5
15	0.8	1.2	1.5	1.9	2.3
20	1.0	1.5	2.0	2.5	3.0
25	1.3	1.9	2.5	3.2	3.8
30	1.5	2.3	3.0	3.8	4.5
35	1.8	2.7	3.5	4.4	5.3
40	2.0	3.0	4.0	5.0	6.0
45	2.3	3.4	4.5	5.7	6.8
50	2.5	3.8	5.0	6.3	7.5

\*Slab thickness in mm.

3. Decide whether to use:

- Premix concrete from a readymix supplier
- Bagged cement, sand and stone
- Bagged concrete

Estimating how much cement, sand and stone to order

Mix (as per concrete use)			No. 20kg bags of cement	cubic metres (m <sup>3</sup> ) of sand	cubic metres (m <sup>3</sup> ) of stone
cement	sand	stone			
1	2	3	16	0.5	0.8
1	2.5	4	13	0.5	0.8
1	3	5	11	0.5	0.9

# Product Guide

## READY RECKONER – CONCRETE

Estimating how many 20kg bags of premix concrete to order  
(rounded up to the nearest full bag)

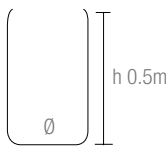
Volume Cubic Metre* (m <sup>3</sup> )	0.02	0.04	0.06	0.08	0.10
No of bags	3	5	7	9	11

\* 108 x 20kg bags of Boral Cement Concrete Mix will fill  
1 cubic metre (m<sup>3</sup>).

### Post Calculations

Example below based on the dimension given in the two diagrams

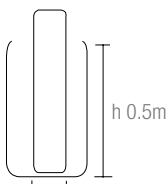
**Step 1.** Calculate entire hole volume.  
Formula:  $\pi r^2 h$   
=  $3.14 \times (0.15\text{m} \times 0.15\text{m}) \times 0.5\text{m}$   
Volume =  $0.0353\text{m}^3$



**Step 2.** Calculate volume of post  
Formula:  $\pi r^2 h$   
=  $3.14 \times (0.075 \times 0.075) \times 0.5\text{m}$   
Volume =  $0.0088\text{m}^3$

Hole diameter (Ø) = 0.3m  
Hole radius (r) = 0.15m

**Step 3.** = Volume Step 1 – Volume Step 2  
=  $0.035\text{m}^3 - 0.0088\text{m}^3$   
=  $0.026\text{m}^3$



**Step 4.** = Multiply by number of 20kg bags  
per m<sup>3</sup> (108 bags)  
=  $0.026\text{m}^3 \times 108$   
Therefore = 2.8 bags of 20kg  
Concrete Mix required to fix post in hole.

Post diameter (Ø) = 0.15m  
Post radius (r) = 0.075m

### For fence posts and other round excavations

Volume of excavation rounded up to the nearest 0.01 cubic metres (m<sup>3</sup>)  
is given below.

Depth of hole (mm)	Cubic metres(m <sup>3</sup> ) needed. Hole diameter (mm)				
	300mm	400mm	500mm	600mm	700mm
200	0.02	0.03	0.04	0.06	0.08
400	0.03	0.05	0.08	0.12	0.16
600	0.05	0.08	0.12	0.17	0.24
800	0.06	0.10	0.16	0.23	0.31
1000 (1m)	0.08	0.13	0.20	0.29	0.39

## READY RECKONER – MORTAR

The Ready Reckoner for mortar is a general guide only. For specific engineering properties refer to AS3700 (Masonry Structures) or consult a professional engineer.

### Mixing Raw Materials

Suggested mix proportions by volume

Materials	General brick and block construction	Marine and aggressive environments
cement	1	1
sand	6	4.5
hydrated lime	1	0.5

### Laying Bricks – Estimating How Much to Order

For every 1000 bricks			Bricks without frog		
cement	sand	hydrated lime	No. 20kg bags of cement	cubic metres (m <sup>3</sup> ) of sand	No. 20kg bags of hydrated lime
1	6	1	8	0.65	3
1	4.5	0.5	11	0.65	2
1	3	–	16	0.65	–

### Buying Premix Bags

Using Brickies Mortar to lay bricks Estimating bags by brick number

No. bricks	200	400	600	800	1000
No. 20kg bags	12	24	36	48	60

## WHICH CEMENT FOR WHAT CONDITIONS?

Condition	General Purpose Cement	Builders Cement	Off-White Cement	High Early Strength Cement	Special Purpose Cement
<b>General</b> no specific requirements	✓	✓	✓		
<b>Expose to sulphates (S04)</b> <600mg/litre 600 - 3000mg/litre >3000mg/litre	✓	✓			✓ ✓ ✓
<b>Marine Environment</b>		✓			✓
<b>Early age strength required</b>	✓		✓	✓	
<b>Mass concrete where rapid heat evolution is to be avoided</b>					✓