



Excellence Foundation

An ISO 9001:2015 Certified Company

www.excellence-foundation.com

CONCRETE

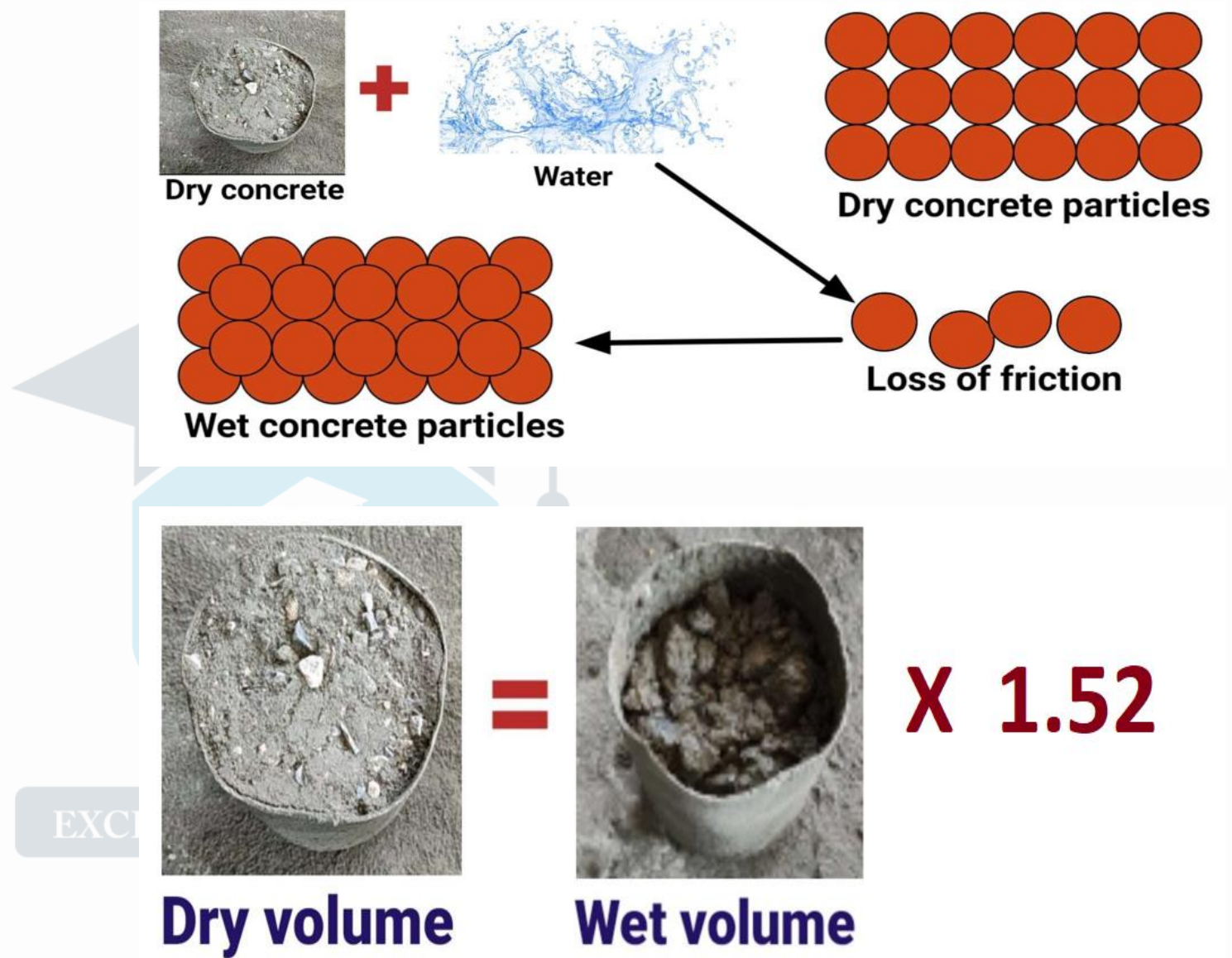
CONCRETE CALCULATIONS

Dry Quantity is 52 % Extra of a Wet Quantity

- **Dry Volume = Wet Volume X 1.52**



WHAT IS
1.52 IN
CONCRETE?



- Wet Quantity = 1 m³
- Dry Quantity is 52 % Extra of Quantity

So, Dry Quantity = Wet Quantity X 1.52

$$= 1 \times 1.52$$

$$= 1.52 \text{ m}^3$$

Grade of Concrete		M20
1	1.5	3

Cement =

$$\frac{\text{Cement Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = \frac{1 \times 1.52}{1 + 1.5 + 3} = 0.276 \text{ m}^3$$

Sand =

$$\frac{\text{Sand Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = \frac{1.5 \times 1.52}{1 + 1.5 + 3} = 0.414 \text{ m}^3$$

Aggregate =

$$\frac{\text{Aggregate Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = \frac{3 \times 1.52}{1 + 1.5 + 3} = 0.829 \text{ m}^3$$

Excellence Foundation

An ISO 9001:2015 Certified Company

DENSITY OF
IMPORTANT
BUILDING
MATERIAL

Sr. No.	Material	Density in Kg / m ³
1	Cement	1440 Kg/m ³
2	Steel	7850 Kg/m ³
3	Sand	1600 Kg/m ³
4	Aggregate	1700 Kg/m ³
5	Water	1000 Kg/m ³
6	Bricks	1600-1920 Kg/m ³
7	Bitumen	1040 Kg/m ³

EXCELLENCE FOUNDATION

Cement =

$$\frac{\text{Cement Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = 0.276 \times 28.8 = 7.94 \text{ bags} \sim 8 \text{ Bags}$$

Sand =

$$\frac{\text{Sand Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = 0.414 / 2.83 = 0.146 \text{ Brass}$$

Aggregate =

$$\frac{\text{Aggregate Ratio} \times \text{Dry Volume of concrete}}{\text{Total Ratio}} = 0.829 / 2.83 = 0.292 \text{ Brass}$$

Conversion Factor For Cement From m³ to Bags

Sr. No.	Conversion Factor	Bag
1	Multiply	28.8
2	Divide	0.035

$$0.276 \times \frac{1440}{50} = 7.94 \text{ Bags} \sim 8 \text{ Bags}$$

$$0.276 \times \frac{1440/1440}{50/1440} = 7.84 \text{ Bag} \sim 8 \text{ bags}$$

Excellence Foundation

An ISO 9001:2015 Certified Company

USES OF BRASS

I BRASS	2.83 m ³	100 Sqft	100 Cuft
	Bill of Quantity (BOQ)	For Finishing Work Calculations (Plastering, Flooring, Painting, Paver Block)	For Loose Material Measurement (Sand, Aggregate, Murum, Rubble Soling, Dubber, UCR Masonary)

1 BRASS MEANS 2.83 CUM





5 BRASS MEANS 500 SQFT



Excellence Foundation
An ISO 9001:2015 Certified Company

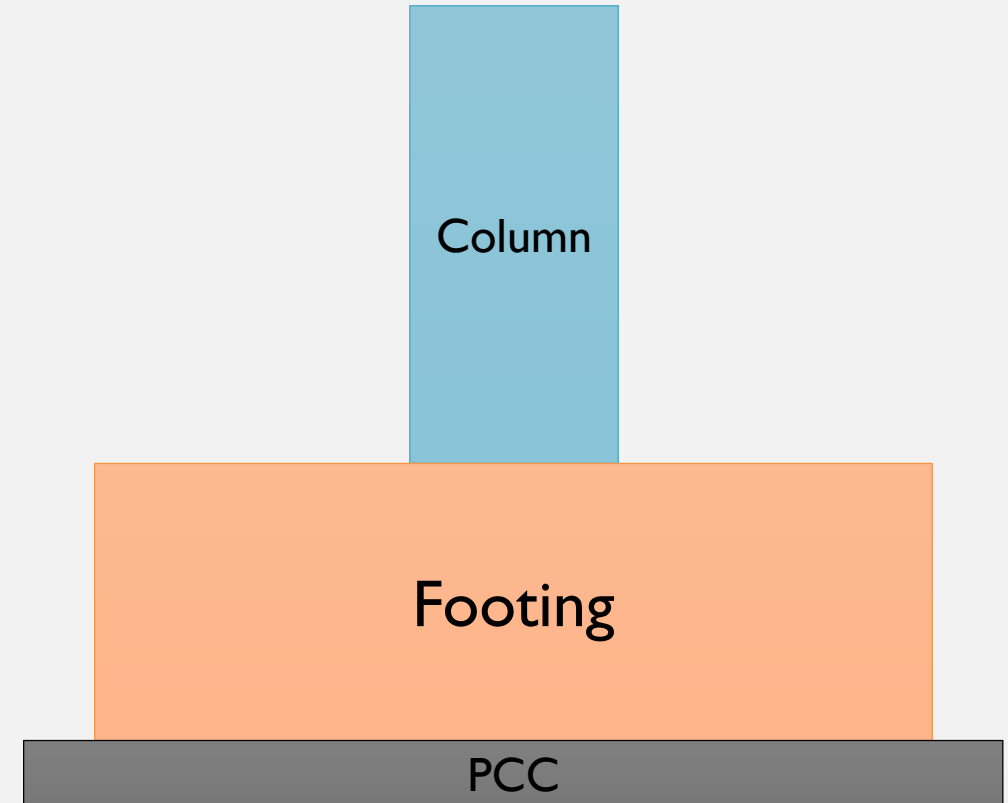
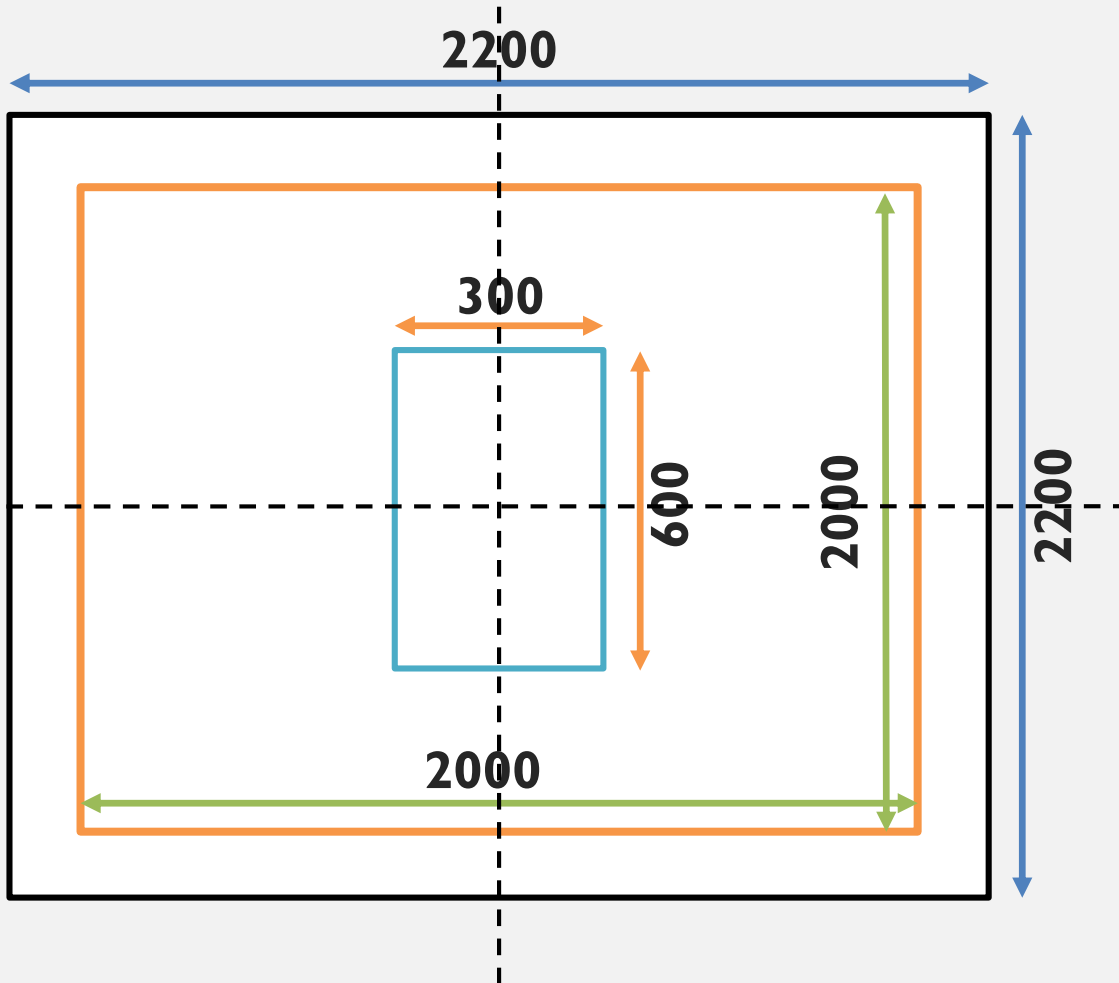


5 BRASS MEANS 500 CUFT



Excellence Foundation
An ISO 9001:2015 Certified Company

MODE OF MEASUREMENT FOR CONCRETE CALCULATION



MODE OF MEASUREMENT FOR CONCRETE CALCULATION



MODE OF MEASUREMENT FOR CONCRETE CALCULATION



MODE OF MEASUREMENT FOR CONCRETE CALCULATION



MODE OF MEASUREMENT FOR CONCRETE CALCULATION



MODE OF MEASUREMENT FOR CONCRETE CALCULATION





MODE OF MEASUREMENT FOR CONCRETE CALCULATION



Excellence Foundation
An ISO 9001:2015 Certified Company