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# How to Calculate Cement and Sand for Plastering a 10'x12' Wall



## Step 1: Wall Dimensions & Mortar Thickness

Given,

Wall Size: 10 feet x 12 feet

Area of Wall = 10 ft × 12 ft = 120 sq.ft. = 11.15 m<sup>2</sup>

Thickness of Plaster: 18 mm (0.018 m)



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### Step 2: Volume of Mortar

#### Volume Calculation:

Formula: Area  $\times$  Thickness

$$\text{Volume} = 11.15 \text{ m}^2 \times 0.018 \text{ m} = 0.2007 \text{ m}^3$$

Dry Volume of Mortar (accounting for shrinkage):

$$\text{Dry Volume} = 0.2007 \times 1.33 = 0.267 \text{ m}^3$$



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# 3

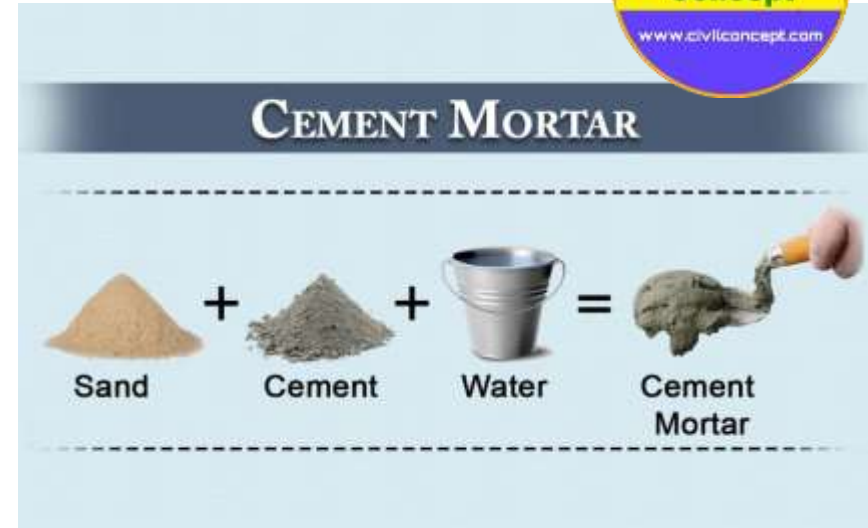
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### Step 3: Mix Ratio for Plastering

Common Mix Ratio: **1:6 (Cement : Sand)**

Total Parts =  $1 + 6 = 7$



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### Step 4: Cement Calculation

#### Cement Volume:

Formula:  $(1/7) \times 0.267 \text{ m}^3 = 0.0381 \text{ m}^3$

#### Convert to Bags:

1 Bag of Cement =  $0.035 \text{ m}^3$

Cement Bags =  $0.0381 / 0.035 = 1.09$  bags

Result: Approximately 1.09 bags of cement needed.



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## How to Calculate Cement and Sand for Plastering a 10'x12' Wall



### Step 5: Sand Calculation

Sand Volume:

$$\text{Formula: } (6/7) \times 0.267 \text{ m}^3 = 0.2292 \text{ m}^3$$

Result: Approximately 0.229 m<sup>3</sup> of sand needed.

### Summary

**Cement Required:** 1.09 bags (Approx. 1 bag)

**Sand Required:** 0.229 m<sup>3</sup> (Approx. 8.09 cubic feet)



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