

Lecture 34

Detailed Estimate for Septic Tank - Quantities

Estimation & Costing

Agenda

- 1. Brickwork Calculation
- 2. Baffle Wall
- 3. Plastering & Waterproofing
- 4. RCC Cover Slab
- 5. Summary

Brickwork Calculation

We use the Long Wall - Short Wall method or Center Line method.

Long Wall & Short Wall Method

Long Wall Length: $L_{inner} + 2 \times (1/2 \times \text{ext wall thickness})$

Short Wall Length: $W_{inner} - 2 \times (1/2 \times \text{ext wall thickness})$

Wait, correction: Length of Long wall out-to-out =

$L_{in} + 2 \times \text{ext thickness}.$

Length of Short wall in-to-in = $W_{in}.$

Volume = Length $\times$ Width $\times$ Height.

Plastering and RCC Cover Slab

Plastering:

- Inside plastering (typically 12mm thick, 1:3 cement mortar) with water-proofing compound is mandatory to prevent seepage.
- Bottom floor (PCC or RCC) is also finished with a neat cement punning.

RCC Cover Slab:

- Placed over the walls. $\text{Volume} = \text{Outer Length} \times \text{Outer Width} \times \text{Thickness}$.
- Needs deductions for manhole covers/openings.

Abstract of Quantities Table

Item No	Description	Qty	Unit
1	Earthwork in excavation	15.5	cum
2	PCC 1:4:8 in foundation	1.2	cum
3	Brick Masonry in CM 1:4	4.5	cum
4	12mm plaster with water-proofing	22.0	sqm
5	RCC 1:2:4 in cover slab	0.8	cum

Summary

Calculated quantities for brickwork using long wall/short wall.
Accounted for specialized items like waterproof plastering.
Deductions are necessary for openings in the RCC slab.