

Estimation & Costing (DI04006021)

Lecture 20: Comparison and Numerical Example

Comparison of Methods

Long Wall & Short Wall

Accurate and highly reliable.
Calculations change at every footing step.

No junction deductions needed.

Preferred for unsymmetrical layouts.

Centre Line Method

Quick and less tedious.

Length remains constant, only deductions vary.

Requires careful deduction at T and Cross junctions.

Preferred for symmetrical, continuous walls.

Numerical Problem

Problem

A room of internal size $4m \times 3m$ has wall thickness 0.3m. Find earthwork in excavation if trench width is 0.9m.

By Centre Line Method:

Total C.L. = $2 \times (4.3 + 3.3) = 15.2$ m.

No T-junctions (it's a simple room).

Excavation Qty = $L \times W \times D = 15.2 \times 0.9 \times D$.

Numerical Problem (Contd.)

By Long Wall & Short Wall Method:

Long wall C-C = 4.3 m.

Short wall C-C = 3.3 m.

L.W. (Out-to-out) = $4.3 + 0.9 = 5.2$ m.

S.W. (In-to-in) = $3.3 - 0.9 = 2.4$ m.

Total length for excavation =

$2 \times (5.2) + 2 \times (2.4) = 10.4 + 4.8 = 15.2$ m.

Conclusion

Both methods yield the same total equivalent length (15.2 m) and hence the same quantity!