

MEASURING QUANTITIES GENERAL



METHODS OF MEASURING QUANTITIES

Two main methods of measuring the quantities of work for a building are;

1. TRADE METHOD
2. GROUP METHOD

THE TRADE METHOD

Work is measured in the exact order in which the bill of quantities will be printed

A Bill of Quantities is a contract document which comprises of various sections with description of items, their corresponding quantities, unit of measurement, unit rates and their total costs.

Beginning with excavation works,
progress through each trade until
all trades are covered.

ADVANTAGES

Each item is measured completely before passing on to the next

No abstracting or gathering together similar items would be necessary since all deductions are done when measuring.

DISADVANTAGE

Items could easily be missed due to moving all over the building, measuring all the items in a particular trade.

THE GROUP METHOD

The quantities are measured in two main stages

-Shell

-finishings-The structure Shell of the building is measured in elements irrespective of the various trades that may occur in each element.

-The finishings of the building would be measured in elements

ADVANTAGE

Missing out items is rare when taking off (measuring quantities)

DISADVANTAGE

There is a lot of abstracting hence making it cumbersome

METHODS OF APPROXIMATE ESTIMATING

Area method

unit method

cube method

storey enclosure method

approximate quantities method

AREA METHOD

This is also referred to as superficial method.

The most preferred method understood by clients

Total areas are obtained and multiplied with a known rate per square metre from previous completed similar projects.

Plan areas are considered from the inner face of the external walls

UNIT METHOD

Also referred to as functional method

- Simplest and quickest method to implement
- Used where deficiency of information exist on which to base the calculations

UNIT METHOD CONT'

Suitable for structures with specific function i.e. police cells, toilets
Total cost is obtained by multiplying the cost of one similar unit by the number of units proposed by client

THE CUBE METHOD

Also referred to as cubic content method

The volume of the building is obtained by getting area of the floor plan and multiplied by the height
Dimensions are taken from external faces of the walls

CUBE METHOD CONT'

The volume obtained is multiplied by the known cubic content rate obtained from previous completed similar buildings
Recommended for estimation of buildings like churches which have abnormal heights with very view partitions

STOREY ENCLOSURE METHOD

Improved method of estimation Takes into consideration weighting factors

Basements floors – weighting factor of 3 Basements walls – weighting factor of 2 Ground floors - weighting factor of 2

STOREY ENCLOSURE CONT'

Upper floors – 15% increment per floor Roof – weighting factor of 1 Superstructure walls – weighting factor of 1

APPROXIMATE QUANTITIES METHOD

The most accurate method of estimation
Considers each item separately
Mostly used in preparation of the Bills of Quantities

ADJUSTMENTS REQUIRED TO METHODS OF ESTIMATION

Plan shape
Plan size
Individual storey height Multistorey height

ADJUSTMENTS CONT'

Form of construction Circulation space Type of finishes Site conditions

