BATCODA Technical specifications and method of measurements

1. General Requirements
2. Excavation and Earthwork
3. Concrete work
4. Masonry work
5. Water and Damp proofing
6. Roofs and wall cladding
7. Carpentry and Joinery
8. Hardware (Ironmongery)
9. Structural Steelwork
10. Metal work
11. Finishing
12. Painting
13. Glazing
14. Sanitary installations
15. Electrical installations
16. External works and services

- Masonry works
- Roofs and wall cladding
- Carpentry and Joinery
- Structural steelwork
- Metal work

Masonry Works

- Masonry works are works that are executed by laying building material units of specified dimension by providing a binding material such as mortar

…Masonry works

- Stone Masonry
  - Concealed stone masonry wall
  - Roughly dressed stone wall
  - Dressed stone wall
- Bricks
  - Exposed
  - Structural
- Concrete masonry
  - Solid masonry units
  - HCB- Hollow Concrete blocks
  - (types A, B, C, AA, A-AA)

…Masonry works

- Adobe Blocks
  - made up of a mixture of clay, water and ‘chid’ as stabilizer.
  - Sun dried mud bricks
- Compressed earth blocks
  - Soil, water, stabilizer(cement or lime) pressed by machine operated by hand or motor
    - Eg. Hydraform blocks

Mortar for masonry works

- Cement mortar
  - 1:3 mix for stone masonry
  - 1:4 mix for Bricks and CMUs
- Compo-mortar (lime)
  - 1:2:9
  - Never used for below grade works

Masonry construction

- Any surface to receive masonry walls should be free from earth dust and wetted before mortar is laid on the surface. Laying is possible on concrete surface or lean concrete which is at least 50 mm thick or on selected fill.
- Walls separated by concrete or other material shall be built (straight) plumb and with deviation of not more than 3mm in 3 meter.
- Walls shall be constructed with no portion higher than 1000mm above the adjacent wall at any time.

Method of Measurements

- The unit of measurements are: -
  - Stone wall by volume
  - Stone paving by area specifying thickness
  - Brick & CM wall by area specifying thickness
- Deductions
  - No deducts shall be made in masonry work for opening up to 0.25m2 in area.

Roofs and Wall Cladding

- Galvanized CIS
  - Gauge - G26 G28 G30 G32 and G35,
  - G26 thickest and heaviest
  - For roof and wall cladding at lest G 32 is used
- Galvanized plain steel sheet (GPSS)
  - used for wall cladding, ridge cup, gutter, down pipes, flashing, copping, edge trimmers etc
  - At least G 28, G24 is used for gutter and downpipes

…Roof and Wall Clad.

- Galvanized ribbed sheets (EGA sheets)
  - Shall comply with the requirements of the manual ‘KASI’ or other standards acceptable to the Engineer to the sizes, thickness and distance b/n ribs.
  - www.kalitimetal.com

…Roof and Wall Clad.

- Aluminum corrugated sheets
- Aluminum plain sheet accessories
  - Used for ridge cap, gutter, down pipes, flashing, copping etc.
- Roof clay tiles
  - Tiles manufactured from wet weathered and prepared clay. These shall be uniformly burnt through out, free from fire cracks, precise in shape, dense and rough.

Roof Construction

- Shall be given sufficient slope for drainage; Holes for bolts shall be 5 mm larger (greater) than the diameter of bolts and the hooks and 40 mm far from the edges of the sheets
- Sufficient overhang or other means shall be produced as weather protection for walls
- Shall be laid with end laps not less than 15 cm and side laps not less than one and half corrugation; Vertical cladding with end laps not less than 10 cm and side lap one

Gutter and down pipe

- Gutters shall be laid to slopes as indicated on drawings not less than 0.05 percent
- Gutter and down pipes shall be overlapped min 15 cm and joints welded
- UPVC gutters and downpipes should be fixed in compliance with the sanitary installation section of the specification

Method of measurement

- Roof cover, side cladding, and the like shall be measured by area (m^2), flat over the projection area without addition for slopes and laps.
- Ridges, flashing, down pipes etc. shall be measured by length stating girth (development length) and without addition for laps, passing angles etc.
- Rain water spout shall be enumerated stating the sizes and length.

Carpentry and joinery

- Works on timber:
  - Structural purposes - carpentry
  - Finishing purposes – joinery
  - Structural - Truss, rafter, beams and columns:
    - Shall be made from eucalyptus, kerero, zigba, tid, or other equivalent posts
    - Shall be fabricated as per the detailed drawings
    - Posts should be well seasoned
    - If buried underground or exposed to weather they should be pressure impregnated

…Carpentry and joinery

- Finishing - Milled timber panels
  - For ceiling
  - Wall cladding
  - Flooring
  - Door, window and wall panels
  - Cupboards and counters

Method of measurements

- Structural members other than truss shall be measured by length stating size (eg columns, beams)
- Roof trusses shall be enumerated stating type and referring drawings (sometimes measured in meter length)
- Boarding, flooring, partitions, Soffits (ceiling), curtain walls are measured by area and shall be understood as including frames , corner lists and hard wares(hinge, handle, lock)
- Doors and opening windows on panel partitions and curtain walls shall be

…Method of measurements

- No deduction shall be made on curtain walls & panel partition for openings.
- Fascia boards, eaves, skirting shall be measured by length stating girth
- Built in furniture and cupboards shall be enumerated stating sizes
- Doors and windows shall be enumerated and shall be understood as including jambs, frames, corner lists and hardware as detailed in the DW schedule.

Structural steelwork

- Columns, beams, suspended slab, truss, rafter
- Mild steel products could be used as pure steel or composite with concrete
- The shape of the steel structure is determined by the Structural Engineer. The sizes and shape shown on drawing shall be specified.

Method of measurement

- Beams, trusses, columns and purlins, bracings, rails, etc. shall be measured by weight (Kg), identified by profiles and type of structures
- Connection plates, base plates, angle iron ties, brackets shall be measured by weight or enumerated stating profiles and dimensions respectively
- Anchor bolts are enumerated stating size and development length

Metal works

- Casement doors and windows
  - side , bottom, and top hinged
  - LTZ frame
  - RHS frames
  - (refer KASI manual) see www.kalitimetal.com
- Sliding glass doors & windows
- Heavy duty sliding door
  - Guide and roller trucks shall be in mild steel in the sizes specified
  - Rollers shall be heavy duty and produced from stainless steel and be provided at top

…Metal works

- Louver window
- Sundry items
  - Security grills
    - Produced from mild steel galvanized or precoated solid plates or hollow profiles of patterns as shown on drawings
  - Guard rails
    - fastened to support securely embedded in concrete or welded
  - Wire netting and fly screen
    - netted wire produced from steel
  - Corner protection
    - not less than 30 mm
    - shall be securely screwed and embedded to angle of materials for protection

Method of measurements

- Doors and windows enumerated stating sizes (the glazing work shall be measured separately)
- Curtain walls by area
- Balustrade, rails, corner protection by length stating development length
- Security grills fixed to windows and doors by area as detailed on drawings
- Louvers enumerated in size stating number of blades (louver jamb sets)
- No addition or deductions shall be made for deviation in measurement of up to 50mm in length, width and height.