

WMS No.: 05

Revision No.: 02

Activity: PCC & RCC Works below plinth

Purpose:

This method statement describes the protocol to be followed for PCC & RCC work below plinth.

Scope:

The purpose of generating this method statement is to define the procedure step by step to implement the correct practices for Reinforcement work, shuttering work & Concreting of PCC & RCC work below plinth.

Responsibilities:

Project Manager –

- Project Manager shall be overall responsible & accountable for Safety, Quality & work activity completion in timeline.

Site Engineer –

- Site engineer / supervisor shall be responsible for implementation of method statement, overall Safety, Quality & progress, deputing engineers as per requirement, arranging all required resources to carry out the task.

Site Supervisor –

- Site supervisor shall be responsible for guide to workmen for completion of task and implementation of Safety & Quality protocol.

Quality Engineer –

- QC engineer shall be responsible for inspection and checking of material or quality of work as per the requirement and standard.

Safety Officer –

- Safety officer shall be responsible for preparation of HSE documents like Analysis of hazard in particular work activity, identification of hazards and advice to corrective safety control measures, inspection of tools and equipment's and providing of job specific training.

Material:

M10 to M35 Concrete, Shuttering materials, Reinforcement, Cup lock (Scaffolding) materials.

Equipment's:

1. Cutting & Binding machine
2. Chop saw machine.
3. Ply cutter machine
4. Transit Mixer
5. Boom placer.
6. Concrete Pump
7. Concrete Vibrator (Electrically operator, Diesel Operated)
8. Wheel Borrow

Work Method / Procedure:

1. PCC WORKS:

- a. Survey work will be conducted and marking for footing PCC will be done in excavated pits as per the GFC drawings.
- b. RFI will be raised and checking will be done through client/PMC.
- c. PCC bottom levels will be taken, and recording will be done for the same.
- d. Shuttering for PCC (Wooden chavi) will be done.

- e. Concreting will be done, and top area will be finished with randha/alluminium patti.
- f. Curing will be done.

2. SCAFFOLDING & REINFORCEMENT WORKS:

Reinforcement work for footing /Raft/Columns/Shear walls/Plinth beams–

- a. Survey work will be conducted, and coordinates of footings/columns/raft will be marked on PCC by paint.
- b. Steel will be cut as per BBS and shifted to the work location by manually.
 - Straightening of bended reinforcement bars by manually and four to five workers will be involved in bar straightening work activity.
 - Use of chop-saw / steel bar cutting machine for cutting of reinforcement bar as per requirement or drawing.
 - Bars will be bended mechanically (Bar Bending machine used for bending work activity) and If bar will be bending by manually, then dye will be used for bending of steel bars.
- c. Cup-lock scaffolding material as used for staging and scaffold staging will be erecting as required of height work as applicable. (Usually required for binding stirrups to columns/shear walls at height)
- d. Column reinforcement steel bar will be installing / erecting as per drawing and tie with the binding wire.
- e. RFI will be raised, and checking will be done through client/PMC.

3. MAKING OF SHUTTERING WORK:

Making of shuttering work for footing /Raft/Columns/Shear walls/Plinth beams–

- a. Separate shuttering yard will be provided for making of shutting material.
- b. All shuttering material such as ply, Patti, Chavi, making nails will be get issued from store officer.
- b. Material will be shifted by manually towards shuttering yard.
- c. Ply & silver patti /Wooden patti will be cut by ply cutter machine and making of sides will be done as per drawing.
- d. Making sides will be shifted towards work locations.

4. SHUTTERING, SCAFFOLDING & CONCRETING WORKS:

Shuttering work for footing/raft/Column/Shear walls/Plinth beams-

- a. Making of shuttering for the footings/raft/columns/shear walls as per GFC drawing will be done.
- b. Ply shuttering material will be shifted toward work location.
- c. Cup-lock scaffolding material as used for staging and scaffold staging will be erecting as required of height work as applicable. (Usually required for erecting and supporting shuttering & concreting for the same to columns/shear walls at height)
- d. Shuttering will be installing as per GFC drawings and support will be provide for stability and for withstand the pressure of concrete.
- e. RFI will be raised, and checking will be done through client/PMC.
- f. Concrete pouring by manually and concrete pump or pouring by RMC vehicle as accessible.
- g. Vibrator will be using for compacting of concrete to entrapped air and to make concrete dense.
- h. De-shuttering will be done after stripping time of formwork.
- i. Scaffolding also removed once height work done and stacked in the designated area.
- j. Curing will be done.

5. BACKFILLING OF MURUM:

Backfilling in the foundation pits

- a. All material will be removing from pits such as shuttering material, cup lock material or any scaffolding material.
- b. Approved backfilling material will be transported to the site location.
- c. Dumper/Hywa will be keeping away from pits during dumping the murum inside the pits layer wise of min. depth of 600 mm of soil/murum.
- d. Backfilling material will be spread by using excavator.
- e. Pouring of water will be done into backfilled soil/murum to consolidate soil.
- f. Baby roller of 5 Tonne or Plate compactor will be used for compaction of soil.

Safety Measure / Preventive Measures:

1. All workmen/drivers/operators will go through the medical examination and fit workmen shall be deployed for work activity.
2. Fitness report and required document of workmen shall be submitted to the safety & ER department of Thermax for gate pass.
3. Induction training shall be given to all involved workmen.
4. Job Specific training / Job Safety Analysis and HIRA training shall be given to all involved engineer, supervisor & workmen.
5. Transit mixer, Concrete pump, boom placers will be inspected as per the checklist.
6. Flagman/signalman will be deployed for giving the direction to transit mixer.
7. All dumping vehicles will be kept away from pits at least 1 to 1.5 mtr.
8. Auto guarded ply cutter machine will be used for work.
9. Electrical connection shall be gone through 30 mA ELCB / RCCB / RCBO.
10. All electrical equipment shall be inspected by authorized / licenses electrician.
11. All tools and equipment's shall be inspected as per the safety inspection checklist and inspection tag shall be provided on the T & E if machine is fit / safe for use.
12. Dye will be inspected on daily basis before use it to avoid getting slip during manual operation.
13. Ladder with handrail will be used for ascending and descending wherever applicable as and when required.
14. Scaffolding (Cup lock, Ledger) will used for full working platform to stand on and work.
15. Scaffolding will be erected by certified erector or experienced workman.
16. Inspection tag will be used once erection of scaffolding done.
17. Get valid work permit for work activity.
18. Continuous supervision on work activity.
19. Housekeeping shall be done before start work & after completion work activity.
20. First-aid box / facility shall be available on site.
21. Required PPEs shall be worn.

Personal Protective Equipment's:

1. Safety Shoes
2. Gum boots
3. Safety Helmet
4. Reflective Jacket
5. Nose Mask
6. Hand Gloves (Cut resistance)
7. Rubber hand gloves
8. Safety Goggle (White)
9. Ear Plug / Muff

10. Safety Belt
11. Shoulder pads