

Subject: Standard Operating procedure and minutes of meeting

Keywords: QC SOP, Minutes.

Guidelines for QC standard operating procedure have been discussed and given under:

1. Upload following drafts on M-codex under drafts:
 - a. All QC reports of villas and apartments.
 - b. Cube test report.
 - c. ATR format – for customers + construction.
 - d. QC quarterly report of missed QCs.
2. Internal memo 917/2 – stand cancelled. Cement blocks may be tested for compressive strength. The strength should be between 20 to 25 kgs/Sqcm.
3. Internal memo 917/1 stands cancelled. ATR on customer complaint must be sent within 2 weeks of complaint. ATR on construction must be sent within one week of QC report.
4. Internal memo 917/3 stands cancelled.
5. Internal memo 917/5 stands cancelled. The SOP mentioned herein shall be followed as under. These reports to be scanned and uploaded in the audit module of M-codex (when functional and till such time to be sent to audit team by email) and also email to Ashaiya for printing.
 - a. Concrete testing report as per format given for the preceding month for all sites by 7th of each month. Mark remarks with X if strength is below specified strength and XX in case of gross error.
 - b. Quarterly QC consolidated report (missed reports) as per prescribed format given herein (one for flats and one for villas) to be submitted once a quarter on or before 15th April, 15th July, 15th October & 15th January respectively. Clearly mark missed report as XX and X where XX represents QC can't be taken up now and X represents QC may be taken up immediately. Where work is not completed leave blanks and in other places put QC report no.
 - c. Printout from E&D of list of plans in force for each site must be certified by project manager, E&D & QC after verification of original copies available at site. This report must be sent once a quarter along with report mentioned in point b above. Cancelled plans must be removed and filed in cancelled plans file.
 - d. QC audit report to be sent once a month along with report mentioned in point b above.
6. All sites must have a pre-printed consultants comments book. Report default.
7. QC reports are being scanned uploaded on M-codex. Sites to print and maintain block wise/flat or villa wise files. Original reports to be returned to site for filing after closure by MD. This is to be followed from immediate effect. Ashaiya to maintain a log book for closing the QC reports.
8. Correction of QC check plans. In case after site inspection it is found that an error has crept in to the QC check plan, then, immediately prepare a new plan and get it approved by M.D. Include the new plan in the QC report along with the old plan. Strike off the old plan saying 'corrected plan attached'.
9. QC check plans – atleast 10% of all diagonals must be marked in the plan. Diagonals must touch all corner columns of the structure.
10. Internal memo 917/6 stands cancelled. It is replaced by internal memo no. 912/115.
11. Internal memo no. 917/7 stand cancelled. QC shall upload reports on QC on the same day of inspection. A copy of report may be handed over at site, if required, in case of delay in uploading on Database.
12. Circular no. 603/a stand cancelled. Sites can proceed to next stage of work only after QC inspection and clearance from QC. In case where ATRs are required or QC check has to be redone, site cannot proceed with further work without complying with QC requirements.

13. Circular no. 605- concrete cube testing and weight of tor steel must be regularly checked.
Hand held digital weighing machine may be purchased (2 nos.) for measuring weight of tor steel.
14. Sizes of windows, Z angle templates and grills have been specified in internal memo no. 913/29.
 - a. They shall be accurately measured during inspection at each stage of work i.e., Z angles during brick work QC check, windows and grills during stage III QC check.
 - b. One QC member shall visit SSSLP workshop and stores once a month and inspect all grills, Z angles and windows to verify sizes of material under fabrication or material in stock. Report to be sent to MD once a month – mention details only in case of default.
 - c. During inspection at site MS square pipe templates used to check inner and outer dimensions of window openings, must also be checked for exact size.
15. Slump cone test must be regularly checked as per internal memo no. 912/124.
16. QC to check strength of cement mortar for 7 days and 28 days for the following:
 - a. Proportion of 1:4, 1:6 & 1:8.
 - b. Mix types: cement + stone dust, cement + M sand, cement + river sand, cement + 50% M sand & 50% river sand.
 - c. Thereafter for proportion 1:6 check strength of mortar by using plasticizer, IWP separately for cement + M sand and cement + river sand.
17. Shuffling of QC engineers:
 - a. Rajesh to report to HO from 1.11.2020 - to be assigned to another site.
 - b. Sanket to report to HO from 1.1.2021 – to be replaced with another engineer.
 - c. Vinod to report to HO from 1.7.2021 – to be replaced with another engineer.
18. QC engineers to be strict in their reports:
 - a. Do not inspect site if major works are pending. Send email cancelling the inspection.
 - b. Mark for ATR in case routine works are not completed or in case of errors.
 - c. Do not inspect site if routine works are not completed, despite repeatedly pointing out the same issues on earlier occasions.
 - d. Do not inspect site if setback levelling is not completed and marking on external walls is not made.
 - e. In villas, after plastering QC check mark for ATR if staircase is not in order. Staircase marking as per standard procedure may also be requested.
19. Miscellaneous guidelines to be strictly followed:
 - a. Self check report of pedestals is mandatory. Do not check plinth beams in case report is not made.
 - b. Share all self check plans with sites.
 - c. QC team must have clear drawings for inspection.
 - d. Mark level of 3'3" or 1 mtr from SFL on all columns. This marking can be continued for brick work and plastering. One or two screws may be fixed. Colour code for marking must be strictly followed.
 - e. Honey combs must be packed within one working day of de-shuttering. Recommend pressure grouting in QC report for large voids in columns, column beam joints and beam joints. Pressure grouting can be done only after honey comb filling.
 - f. Before footing and column casting sites must clearly mark level of concreting + 2ft or 60cms with white enamel at 2 or more places. Do not inspect in case of default.
20. Changes in QC check reports:
 - a. Before casting footings – villas – page 2 – add point 14 – mark with white enamel 2ft above concreting level at 2 or more places.
 - b. After column casting – villas – page 3- add point 7 – mark with white enamel 2ft above concreting level at 2 or more places.

- c. Before casting slab – villas – page 2 – add – MS strips used for filling gaps – Yes/No. add thermocol sheet used for electrical junctions – Yes/No.
- d. After brick work – page 3 – add – point 11 - Check Z angle template size. Point 12 – Window opening must be checked with MS square pipe templates of 2 sizes for inner and outer openings. Point 13 – Z angle template must be 1” from brick wall surface from the inner side.
- e. After plastering – Page 3 – add – tor steel is covered with mortar and steel is not exposed. – Yes/No.
- f. After plumbing and electrical – villas – page 3 – add – Screeding done on walls upto 12” outside bathroom/utility – Yes/No. Add – bathroom/utility filled with 4” water for water proof check – Yes/No. Add – hole packing done around all pipes in ceiling and internal walls – Yes/No. Add – hole packing done around all pipes on external walls – Yes/No. Add – rainwater pipe is 2” below water proofing level – Yes/No. Add photograph of OHT/head room water proofing provided – Yes/No. Add -
- g. After finishing stage 2 – page 4 - add – level of manhole covers - Good/Average/Poor. Provision of earth pit and manhole cover - Good/Average/Poor.
- h. After finishing stage 3 – page 3 -add – hole packing on external surfaces is in order – Good/Average/Poor. Layout of CPVC & PVC is in order – Good/Average/Poor.. Use of fasteners and clips for CPVC & PVC pipes is in order – Good/Average/Poor. Painting marks and drops are cleaned from floor, windows, walls, portico, setback - Good/Average/Poor. Correct quality of workmanship of lawn to levelling and compaction for lawn 6” below lawn FFL - Good/Average/Poor. Page 1 – correct – provision for video door phone/ wifi cam – Yes/No.
- i. Before casting slab – page 1 – add – slab to slab height, specified, actual, within tolerance $\frac{1}{2}$ ” – Yes/No.
- j. After brick work – page 3 – correct pint 7 - kitchen platform thickness 2” , SFL to bottom 31” – tolerance -1”.

Soham Modi.