

Structural Audit of Residential Towers of Phase II (A, B, C AND J) of Chintels Paradiso, Sector - 109, Gurugram, A Residential Project of M/s Chintels India Private Limited (SSP 1373)

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Abstract

M/s Chintels India Private Limited, a construction business firm approached CSIR-CBRI, Roorkee, for a structural audit of 9 residential towers within A group housing Society Chintels Paradiso, Sector - 109, Gurugram having a total site area of 12.306 acres. There is a total of 9 towers of which 4 towers are G+17 floors, 1 tower is G+14 floors, 2 towers are G+13 floors and 2 towers are G+12 floors. These towers are built using RCC framed structures including a lift core in all the towers. The total built-up area of all the 9 towers is approx. 84,093 SQM and a common basement area for all the towers is around 26,200 SQM.

M/s Chintels India Pvt Ltd further proposed to carry out the structural audit in two phases i.e. 5 towers in Phase 1 and the remaining 4 towers in Phase 2. Further, based on the sources the construction of these towers was started in 2011 in a phased manner, and the early construction of Phase 1 commenced which comprises Tower D, E, F, G, and H followed by Phase II comprised of Tower A, B, C, and J. In this Project a detailed structural assessment of Chintels Paradiso Phase II comprised of Tower A, B, C, and J were conducted.

Objectives

Following is the main scope of the work for the project.

- a. Review the design basis report
- b. Review of the soil and geotechnical investigation report, foundation design
- c. Detailed visual inspection of the towers
- d. Defect identification and mapping
- e. Non-Destructive Evaluation (Ultrasonic Pulse Velocity, Rebound hammer, and Half Cell Potential)
- f. Testing of concrete cores collected from the sample locations
- g. Onsite Carbonation test
- h. Digging of sample pits for visual verification of the reinforcement condition
- i. Chemical analysis of samples collected from the site (Chloride, Sulphate, and pH value)
- j. Assessment of the structural stability of the residential towers based on the above investigation and information
- k. Suggestions on strengthening measures (if feasible)

I. General Recommendations

m. Preparation of project report based on the scientific investigation and inference

n. Report Submission