

**A Major Project**  
**on**  
**DEFLECTION STUDY OF RCC LOAD BEARING WALL AND**  
**SLAB**

**Submitted in Partial fulfillment of the requirement for the award of**  
**the degree of**

**MASTER OF ENGINEERING**  
**(STRUCTURE ENGINEERING)**

**Submitted by**

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# **CERTIFICATE**

This declaration is about the project report “**DEFLECTION STUDY OF RCC LOAD BEARING WALL AND SLAB,**” submitted by Vandana Singh, is a bonafide record of work for the partial fulfillment of requirement of award of degree in M.E. Civil Engineering (Structural Engineering) at Delhi College of Engineering. The project work is done under the guidance of Er. Amit Kumar Srivastava (Asth. Professor) and Dr. Munendra Kumar (Asth. Professor).

This is also to declare that I have not submitted the matter embodied in this report to any other University or Institution for the award of any Degree or Diploma.

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This is to certify that the above statement laid by the candidate is correct to the best of my knowledge.

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# ABSTRACT

This study is made on a residential building which is constructed at Bawana by DSIIDC. The building is a RCC structure in which the slab is cast monolithically with the RCC walls of the building. This type of structure is called load bearing wall and slab structure. The thickness of the slab is 100mm and the thickness of the wall is also 100mm. Due to the use of thin sections, the useable area had increased to a considerable amount.

It is a G+3 structure planned for the EWS (economically weaker sections). Each dwelling is a one room set with attached toilet. A door opening was planned in the common wall of the two flats after the full construction. The load test had been performed after the opening was created to study the deflection characteristics of the RCC wall and slab. The deflections were found at different point in the slab and the opening of the RCC wall and is compared with the permissible deflections as per IS 456-2000. It was found that the deflections we get by testing were within the permissible limits.

Design of the existing building was also checked numerically by STAADPRO. Numerical study was performed on the two cases, with the opening in common wall and without opening. The stresses in the common RCC wall with and without opening were also compared.

The result of both the analysis , experimental and numerical, is compared and to study the deflection characteristics. The detail account of deflection study is discussed in this project work.

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