

bending moment at lower values of relative rigidity is unsafe and at higher values of relative rigidity, it is conservative.

[12] Mehta, P. K. and Monteiro, P.J.M., „Concrete Microstructure, properties, and materials“, (McGraw-Hill Book Co, New York, 2006).

9. Conclusion

- 1)The graph drawn for the variations of M/P(Maximum bending moment per unit width per applied load) with respect to RR for column to footing width ratio 0.2, eccentricity to footing width ratio 0.0 and Poisson’s ratio 0.3
- 2)ANSYS 12.0 results show that bending moment depends on relative rigidity of footing also
- 3)An equation for CRR critical relative rigidity was derived from the Multiple linear regression analysis.
- 4)Graphs have been drawn indicating the variation of Critical Relative Rigidity (CRR)

References

- [1] System (2007) Halil Sezen, M.ASCE; and Mohammad Shamsai “High-Strength Concrete Columns Reinforced with Prefabricated Cage” J.Constr.Eng.Manage (2007)133:864-870
- [2] Syed Sohailuddin S S1 and M G Shaikh1 (2013) “FINITE ELEMENT MODELING OF REINFORCED CONCRETE BEAM COLUMN JOINT USING ANSYS” International Journal of Civil and Structural Engineering Volume2, No 3.
- [3] Ata EI-kareim Shoeib Soliman(2011) “Behavior of long confined concrete column” Ain Shams Engineering Journal (2011) 2,141-148.
- [4] R.Chitra & R.Thenmozhi (2011) “Studies on prefabricated cage reinforced steelconcrete composite beams” Asian journal of civil engineering (building & housing) vol. 12, no. 1, Pages 27-37.
- [5] Mander, J. B., Priestley, M. J. N., and Park, R. (1988). “Theoretical stress-strain model for confined concrete.” J. Struct. Eng., 114(8), 1804–1826.
- [6] Shamsai, M., and Sezen, H. (2005). “Fast and easy concrete construction using innovative steel reinforcement.” Proc., Construction Research Congress, ASCE, Reston, Va., 317–321.
- [7] Shamsai, M. (2006). “Prefabricated cage system for reinforcing concrete members.”Ph.D. dissertation, Dept. of Civil and Environmental Engineering and Geodetic Sciences, Ohio State Univ., Columbus, Ohio.
- [8] Joel Gniel a,1, Abdelmalek Bouazza “Construction of geogrid encased stone columns:A new proposal based on laboratory testing” Geotextiles and Geo membranes 28 (2010) 108–118
- [9] Joel Gniel 1, Abdelmalek Bouazza ” Improvement of soft soils using geogrid encased stone columns” Geotextiles and Geomembranes 27 (2009) 167–175.
- [10] McDowell EL, McKee KE, Sevin E. Arching action theory of restrained masonry walls. ASCE J Struct Eng 1956;82(ST):915- 1–915- 18
- [11] Neville, A., „Neville on Concrete, An Examination of Issues in Concrete Practice“, (American Concrete Institute, 2003).