Asociación Argentina
de Mecánica Computacional

Mecánica Computacional Vol XXIX, págs. 10197-10197 (resumen)
Eduardo Dvorkin, Marcela Goldschmit, Mario Storti (Eds.)
Buenos Aires, Argentina, 15-18 Noviembre 2010

INFLUENCE OF THE CONNECTIONS BETWEEN PRECAST CONCRETE

Daniel Diegues Silva[a], **Alfonso Pappalardo Jr.**[b] **and Fabio Raia**[b]

[a]*MAD Cálculos Estruturais, Brazil, daniel.diegues@gallapagos.com.br*

[b]*Universidade Presbiteriana Mackenzie, Brazil, {alfonso; raia}@mackenzie.br*

Abstract. The idea of constructing buildings with precast is very old. One of the factors that limit the use of this construction method are the problems caused by excessive deformation of the structure. This work will be studied devices that will work on links between in order to reduce the strain by transferring the bending moments to the integral parts of the structure. The use of the devices makes the structure monolithic, with strains up to the minimum required by codes, and allows the rapid construction of slender and large spans buildings. This study will be made a part corresponding to a column-beam connection with monolithic post-mount full-scale to reveal the ability to transfer load through the mechanical bending test. Parallel will be developed a mathematical model, according the finite element method, using the program ANSYS to represent the nonlinear structural behavior of lead in the mechanical testing laboratory and lead to more accurate interpretations about the behavior of column-beam connection. For efficient transfer of bending moment and decrease the strains, this connection will be constructed using a top of the pillar with steel bars waiting for fixation of the beam through the grouting, and comfort to support it. The conclusions of this study were satisfactory where alternative ways were proposed for the design of this connection. Keyword: monolithic devices, test of connections column-beam, finite elements, nonlinear analysis.