

10. Structural Characteristics and Maximum Strength of Reinforced Concrete Column using Precast Concrete Shell

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To facilitate construction of buildings, a precast concrete shell-form method applied to columns has been developed. The precast concrete shell is constructed by ordinary cast-in-place concrete, or is molded by centrifugal force. However, there is not much data regarding the structural characteristics of columns using the two types of precast concrete shell (hereafter referred to as PCa column). To investigate this, horizontal cyclic loading tests of PCa columns were carried out for structural characteristics and compared to conventional RC columns. Moreover, accuracy of calculated value of maximum strength of PCa columns by conventional method was investigated. It was confirmed that the structural characteristics of the two types of PCa columns were equivalent to that of the RC columns, and the maximum strength of PCa columns could be calculated correctly regardless of precast concrete shell type.

Key words : reinforced concrete column, precast concrete shell, horizontal loading test, structural characteristics, maximum strength