

Hysteretic Behavior of the Precast Concrete Column with Head Splice Sleeve Connection

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Abstract : This paper presents a test result to find the structural capacity of Hollow-Precast Concrete (HPC) column with Head-Splice Sleeve (HSS) for the connection of bars under horizontal cyclic load. Two Half-scaled HPC column specimens were made with the consideration of construction process in site. The difference between the HPC specimens is the location of HSS for bar connection. The location of the first one is on the bottom slab or foundation while the other is above the bottom slab or foundation. Reinforced concrete (RC) column was also made for the comparison. In order to evaluate the hysteretic behavior of the specimens, horizontal cyclic load was applied to the top of specimen under constant axial load. From the test, it is confirmed that the HPC columns with HSS have enough structural capacity that can be emulated to RC column. This means that the HPC column with HSS can be used in the moment resisting frame system.

Keywords : structural capacity, hollow-precast concrete column, head-splice sleeve, horizontal cyclic load

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