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Evaluation of progressive collapse resistance of PC structures with slabs

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ABSTRACT

In this study, the progressive collapse resistance of the precast concrete (PC) structures in Korea was evaluated by using the 1/4 scale single story PC building specimens with slabs. The test specimens were designed based on the prototype PC buildings used as the logistic warehouse. To simulate the progressive collapse by failure of the interior column, the live loads of the slab were applied by using concrete blocks and then the vertical loading was applied on the top of the interior column. The test results showed that the progressive collapse resistance was increased by the PC slabs and topping concrete, compared to the existing sub-frame specimen without slabs.

Fig. 1 Test setup

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