

The Japanese 5 Story Full Scale Reinforced Concrete Masonry Test – Forced Vibration and Cyclic Load Test Results

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Abstract:

The response of the 5-story full scale reinforced masonry building, tested at the Building Research Institute (B.R.I) in Tsukuba City, Japan, is described for the service and yield load phases up to the ultimate load limit state. The test building was loaded with increasing cyclic load levels and a lateral load distribution corresponding to the Japanese Seismic Building Design Code. The crack pattern and yield development in the structure are described and the response of the building to forced vibration test at discrete limit states is presented. The observed behavior of the test building in the extended service load range was very stiff with only minor structural distress. The maximum lateral force capacity reached twice the required design capacity at an overall building drift of 0.5%.

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