

Research regarding earthquake-resistant design considering earthquake input direction

[Point]

We performed horizontal bidirectional shaking test, examination of the analysis method application range, and examination of effects of earthquake input direction and biaxial bending on characteristics using the analysis, to clarify uncertainty of earthquake input direction, and bearing force, deformation and response characteristics of structures in case of receiving multidirectional input.

As a result, we clarified, by considering effects of earthquake input direction and biaxial bending, response value of structures will be significantly different, and by using fibre model analysis, behaviour of structures, which receiving horizontal bidirectional input, can be traced till exfoliation and chipping of covering concrete (end state) .

Keyword : earthquake input direction, biaxial bending, horizontal bidirectional shaking test, fibre model analysis