

8. Development and Application of Steel Roller Bearing, CRB

Hidetaka Funaki, Nobuyasu Kawai, Yuji Funayama

CRS, newly developed steel roller bearing, is used in combination with laminated rubber bearing of restoring force device and damper of energy dissipation device. Because it can improve the response reduction effect due to prolong the natural period, it is applicable to the structure which can not be realized as the base isolated building with the conventional laminated rubber bearings.

A series of element test of roller and rail, and compression – shearing test of actual size bearing has been carried out. As the results of these tests, the performance and fundamental characteristics of CRB subjected to large bearing force are confirmed. The break down behavior and the relationship between bearing strength and ratio of reinforcing bar of RC pedestal are also comprehended through the loading test.

CRB is applied to the building and the design to prevent the uplift due to overturning during earthquake is achieved.

Key words : steel roller bearing, pedestal of isolation device, loading experiment and seismic isolation