

## 12. Study on Estimation of Axial Load on the Isolation Devices with Concrete Strain Measurement

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Flat rail - Rubber bearing System developed newly was composed of the steel roller bearing and the lead rubber bearing was applied to the 17th floor building. We measured concrete strain filled up a strain gauge inside pedestal for about two years, and estimated axial load on the isolation devices with concrete strain measurement. The FEM analysis of the pedestal model with isolation device was enforced to enhance the precision of the estimation of the axial load. The result of the FEM analysis was made to reflect on the measuring data, and the validity of the design model was confirmed as a result of comparing a frame analysis with the estimation of the axial load.

**Key words** : steel roller bearing, lead rubber bearing, pedestal of isolation device, strain, FEM analysis