

## Protecting important cultural properties

## THK's seismic isolation devices

### Construction incorporating seismic isolation: Example

### Seismic isolation of the Aichi Prefectural Office Main Building, a cultural asset and disaster-control base

The Aichi Prefectural Office Main Building, completed in 1938, is representative of the *teikan* style, having a traditional Japanese tiled roof atop a Western-style structure. In 1998 it was designated a tangible cultural property. The building currently houses government offices and is a designated disaster-control base. It became clear, however, that the building in its former state would not be able to perform the latter function in the event of a Tokai earthquake or Tonankai earthquake, either one of which is expected to occur in the near future, so seismic isolation was carried out. Incorporating quake-resistance technology would have required reinforcing the structure with quake-resistant walls or braces, which would have reduced the available office space and would have also required that the building be vacated during construction, disrupting operations. Instead, to minimize the disruption of daily operations, the decision was made to utilize seismic isolation. The project involved the use of a technique known as seismic isolation retrofitting. This entails separating the existing building from its foundations and inter-posing seismic isolation devices. This is done without altering the building's external appearance or damaging the interior or any interior facilities. The existing foundations were removed, new concrete was poured, and the seismic isolation devices were installed. Beneath the building, which weighs about 73,400 tons, THK CLB Linear Rolling Supports and lead-laminated rubber pads provide seismic isolation.

In this way the building was reincarnated as the focal center of the prefecture's disaster-control system, without any change to its external appearance.

