

State Library in South Australia, Adelaide



The state Government of South Australia has commenced a program of upgrading public buildings to meet earthquake code requirements: Adelaide experienced an earthquake in 1954 which, whilst causing no serious damage, made the city more aware of the dangers from earthquakes in Australia than most other areas.

Adelaide is noted for its fine 19th century buildings and one of the most attractive of these is the State Library of South Australia in North Terrace.

The ground floor of the building is supported over the basement by brick vaulting topped by a thin layer of unreinforced concrete. Clearly, this floor would be liable to collapse in an earthquake. The adopted solution was to place Cintec anchors in both directions at the ends of the building with transverse tie-rods elsewhere: the anchors were fabricated from 25mm stainless steel “Grip-Bar” and were 19 meters and 115 meters long. In some locations, following removal of the timber flooring, it was found that the brick floor was much shallower than originally measured, and too thin to drill safely. The anchors were able to be placed in channels sawn in the floor, still managing to achieve the required bond with the brickwork and yield the composite action required. Yet another instance of the versatility of the Cintec anchor system was demonstrated.