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Seismic Design of Wooden Buildings

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Photo. Damage of the dwellings caused by the Kumamoto earthquake in Mashiki Town

Table. Change of the seismic criterion in the Building Standards Act

Year	Establishment and Revision	Main changes about the wooden building
1950	Establishment of the Building Standards Act	Establishment of the structural calculation and the wall quantity rule
1981	Revision: New seismic criterion	New rule of the structural calculation:correspondence to a big earthquake Revision of the wall quantity rule
2000	Revision: New seismic criterion 2000	layout of the structural wall Foundation depending on bearing capacity of soil Metal joint at capital and the column

Content:

1. Damage investigation of wooden buildings in the earthquake

By the Kumamoto earthquake generated in April, 2016, damage occurred in much wooden building by strong shaking with a seismic intensity of 7. Our group performed field works about the damage of the wooden buildings just after an earthquake. As a result, we confirmed heavy damage such as the collapse to buildings with the problem in a foundation and proof stress elements.

2. Method of the seismic design of wooden buildings

In the case of a general wooden buildings by the conventional method of construction of 2 stories, a the simple structural design method is adopted by specification code in the Building Standards Act.

(1) Foundation depending on bearing capacity of soil
(2) Quantity and layout of the structural wall
(3) Metal joint at capital and the column base by the position of the column

Keywords: Architectural planning

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