

L303

Function of a House 1: Japanese House

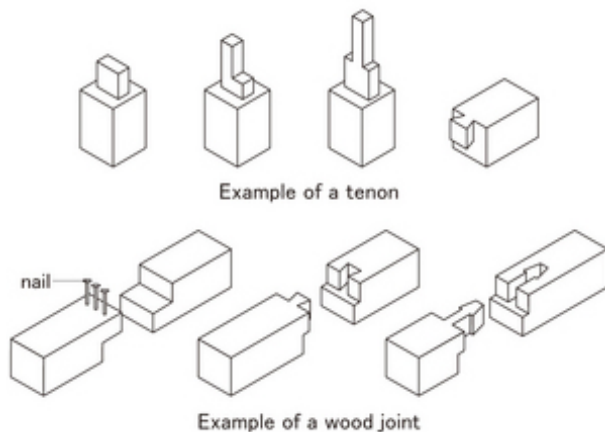
家のつくり1 和室のつくり

■ Purpose of Exhibition

Many secrets are concealed behind the walls of your house, where you seldom have a chance to look. How are pillars combined? How is it structured under the floor? Why are they built in such a manner? Taking a Japanese house as an example, this exhibit illustrates how it is structured under the floor, above the ceiling, and behind the walls, and explains the functions of various structures.



■ Additional Knowledge



the whole wall supports the weight. It is called the wooden frame construction.

We can build stronger houses than with the frame work method because the whole wall supporting the weight of the building is shaken by vibration in the event of an earthquake. Developed in America and Canada, the construction method called "Two by Four" is also one of the ways to construct wooden frame buildings. It means that the used wood material is a two and four inches rectangle-shaped cross section. (1 inch is 2.54centimeter). But "Two-by-Four" is not used abroad because it is Japanese-English.

Article by Tetsuro Ojio, curator

Various Kinds of Houses matching Many Areas Our houses on this earth are constructed to match the location's conditions. For example, there is a large number of European old houses built of stone. Those stones are not particularly tied together. In Japan, we have a lot of earthquakes, so there are less old houses built of stone. Many Japanese houses are built of wood because it is more flexible to vibration from earthquakes. Japanese wooden houses are also designed to make our life more comfortable under any temperature, humidity and climate in various areas.

Wooden Construction Method When classifying by structure, the wooden framework construction method is one of the most typical architectural forms in Japan. There is a method to building a framework using columns and beams, then building walls. Pillars and beams are connected with "Hozo (tenon)" and "Tsugite (wood joint)". But today, they are often connected with connecting brackets without using "Hozo" and "Tsugite". Also columns and beams should be fixed on the concrete ground, which is called "Kiso", and braced inside walls because the law requires us to build earthquake-proof buildings. (Figure: Example of tenon and wood joint)

Wood-Frame Construction Method Inside a building built by the wooden frame construction method, the building columns and beams take the weight of the building. On the other hand, there is a way of constructing so that