

Because of climatic and stylistic differences, Japanese designers of modern doors and windows are not, generally speaking, concerned about air tightness and thermal conductivity. Consequently, their designs do not deal with those properties.

This is changing, however, and there are already some notable exceptions, particularly for aluminum products which offer good water tightness against heavy rain.

The most important factor affecting the use of doors and windows is the trend to Western-style housing. Indeed, Western-style houses have become so popular that it is becoming rarer to see newly built traditional-style Japanese houses. The most notable Western style is the house of traditional Canadian construction from 2" x 4" lumber and known throughout Japan as a "2 x 4 house."

In addition to Westernizing houses, the Japanese are making other changes to live more comfortably. For example, air conditioning equipment is being installed in new houses. This in turn requires more energy efficient doors and windows.

Despite these technical changes, the strongest reasons for using wooden doors and windows, especially imported ones, appear to be more related to fashion than to practicality.

In many instances low thermal conductivity and energy efficiency are less important than the desire for home owners to add more luxury to already expensive houses. This in turn gives housing manufacturers a good reason to increase the price of houses.

Description of Existing Products

Types of Doors

There are two types of doors: sliding -- found mainly in traditional housing but also in patio-type doors -- and swing doors. Doors are also divided into two application areas: entrance doors and interior doors.

Entrance doors require fire resistance properties in metropolitan areas and in multi-unit residential buildings, although there are significant exceptions (see Chapter 7).

Materials

At present, aluminum is the most common material used, followed by steel and wood.

There are several fabrication methods for metal doors, and because of the need for energy efficiency in house construction, metal doors with thermal insulation properties are being developed in Japan.