

ABSTRACT

To increase a co-efficient of effective wall length of a wooden load-bearing wall, without additionally attaching a reinforcement material or a stiffening material, and without increasing a specific gravity and/or a board thickness of a gypsum-based board. A gypsum-based load-bearing board 10 exhibits a lateral nail resistance of 500 N or more and includes a main material or a core material formed from a board-shaped hardened gypsum containing an inorganic fiber and an organic-based strength-enhancer; and a paper covering at least front and back surfaces the main material or the core material. The load-bearing board has a surface density in a range from 6.5 to 8.9 kg/m² and a compressive strength of 6.5 N/mm² or more, and exhibits an ultimate displacement (δu) of more than 20×10^{-3} rad and an initial stiffness (K) of 2.0 kN/10⁻³ rad or more measured by an in-plane shear test of the load-bearing wall. Accordingly, the plastic modulus (μ) is increased not only by increasing the ultimate displacement but also by reducing the yield point displacement (δv), thereby effectively or efficiently increasing the co-efficient of effective wall length and the short-term reference shear strength (P0) of the wooden load-bearing wall.

30 FIG.2