



Title

SHEEP WOOL BASED MODULAR PANEL AND THE METHOD USED FOR OBTAINING IT



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Short presentation

The invention relates to a modular panel based on sheep wool fibers, and the method of obtaining it, in order to meet the requirements of quality in construction regarding noise protection and the sustainable use of natural resources. Each module consists of a triple layered panel, having a composition similar to that of sandwich panels. The structure of the layered panel is made of two outer layers of hydrated lime-based plates, which delimit a mattress made of sheep wool fibers placed between them.

- The weighted sound reduction index of the modular panel is $R_w (C;C_w) = 38 (-2, -8)$ dB.
- The layered panels have high sound absorption coefficient values at low frequencies. The maximum value is 0.90 at the frequency of 524 Hz.
- The coefficient of thermal conductivity of the layered panels is 0.077 W/mK.



Applicability

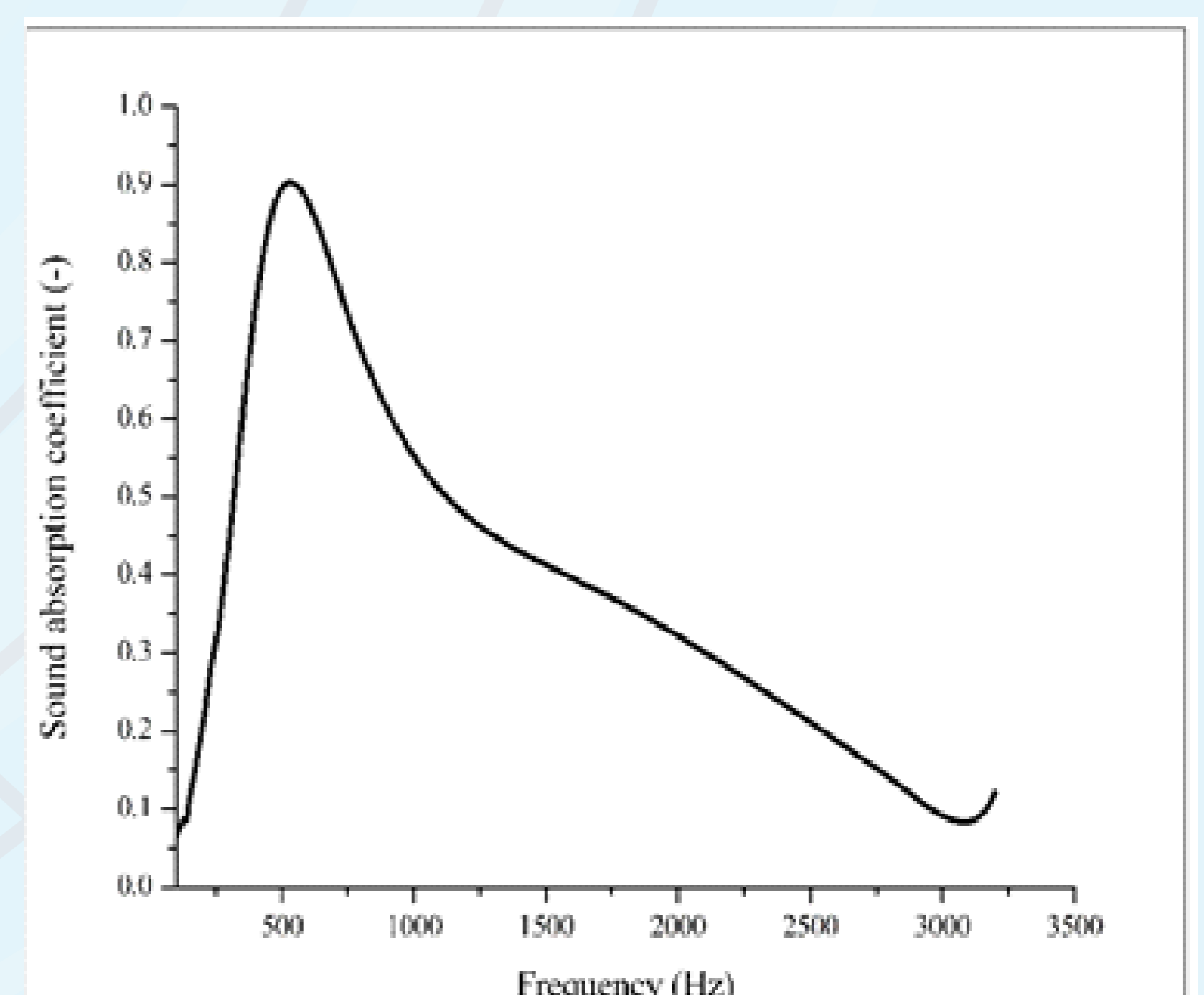
The invention consists in obtaining of a modular panel for vertical partition walls in buildings, having acoustic and thermal properties comparable to the existing sound insulating, sound absorbing and thermal insulating properties of other composites, by using sheep wool a viable natural alternative to synthetic fibers.



Images



Modular panel



Variation of sound absorption coefficient