Title (en)
SOUND ABSORBER

Title (de)
SCHALLABSORBER

Title (fr)
ABSORBEUR PHONIQUE

Publication
EP 2203728 A2 20100707 (DE)

Application
EP 08841320 A 20081021

Priority
- EP 2008064183 W 20081021
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Abstract (en)
[origin: WO2009053349A2] To provide an inexpensive, slender sound absorber, it has a plurality of porous layers or regions of different densities or different flow resistances. Of significance are the boundary surfaces between the different, porous layers, which are accompanied by changes in impedance. Homogenized and adapted flow resistance conditions should be avoided. Although the thermal frictional effect in the porous material is desired, in particular to absorb higher frequencies, according to the present invention it only forms one element of the absorptive working mechanism. In addition, the effect known in physics as refraction is used. At the boundary layer between two materials of different density or different flow resistance there is an abrupt change in impedance. This leads to a phase shift of the sound wave, and so a sound absorbing effect is made possible. By contrast with exclusively porous absorber layers with homogeneously or steadily increasing flow resistances, frequently changing transitions and porous materials having different, respectively suitable, direct impedances allow much higher degrees of sound absorption to be achieved in the range of low frequencies, in particular between 100 Hz and 500 Hz.

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G10K 11/168 (2006.01)

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