

- **RBA-07-001-IP**

Optimisation of low frequency sound insulation for walls and floor structures

Per Hammer

Engineering Acoustics, LTH, Lund University

Box 118

223 63 Lund, Sweden

Fax, Phone: +46462227401

[Email: per.hammer@acoustics.lth.se](mailto:per.hammer@acoustics.lth.se)

Low frequency sound insulation for lightweight wall and floor structures can be improved by creating dipole of the structure. By structurally separating areas of the wall/floor and then optimising the beam and plate stiffness and mass one may create dipole vibration and thereby lower the sound transmission at specific frequencies. In this paper both theoretical and experimental results will be presented to show the possibilities with such optimised structures.