# MEASURING THE SOUND INSULATION OF AN EXTERNAL THERMAL INSULATION COMPOSITE SYSTEM (ETICS) BY MEANS OF VIBROMETRY.

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## ABSTRACT

The impact of External Thermal Insulation Composite System (ETICS) on acoustic properties of external walls has been already examined. Probably the most fundamental research was carried out in Germany (Weber). The effect of thickness and dynamic stiffness of ETICS, as well as mass of external plaster, on decreasing of wall sound insulation was demonstrated. In this paper, the mass spring mass resonances (m-s-m) were investigated, in case of a massive external wall with ETICS. Application of ETICS increases the sound insulation of walls in the mass-law dominated frequency range by about 12 dB/oct. However, in the low frequencies ETICS decrease sound insulation due to resonant effects, which become very prominent in traffic noise situations. This contribution presents how vibrometry measurements can be useful for ETICS sound insulation properties measurement.

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