

## **Engineering Method to Measure the Impact Sound Improvement with Floor Coverings**

**Authors :** Katarzyna Baruch, Agata Szelag, Jaroslaw Rubacha, Bartlomiej Chojnacki, Tadeusz Kamisinski

**Abstract :** Methodology used to measure the reduction of transmitted impact sound by floor coverings situated on a massive floor is described in ISO 10140-3: 2010. To carry out such tests, the standardised reverberation room separated by a standard floor from the second measuring room are required. The need to have a special laboratory results in high cost and low accessibility of this measurement. The authors propose their own engineering method to measure the impact sound improvement with floor coverings. This method does not require standard rooms and floor. This paper describes the measurement procedure of proposed engineering method. Further, verification tests were performed. Validation of the proposed method was based on the analytical model, Statistical Energy Analysis (SEA) model and empirical measurements. The received results were related to corresponding ones obtained from ISO 10140-3:2010 measurements. The study confirmed the usefulness of the engineering method.

**Keywords :** building acoustic, impact noise, impact sound insulation, impact sound transmission, reduction of impact sound

**Conference Title :** ICAA 2018 : International Conference on Acoustics and Applications

**Conference Location :** Copenhagen, Denmark

**Conference Dates :** June 11-12, 2018