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Prediction of the impact sound transmission from lightweight stairs in buildings based on a simplified laboratory characterisation

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Based on a simplified laboratory characterisation of lightweight stairs the normalized impact sound pressure level in buildings can be predicted using parts of EN 12354. For the characterisation an approach is followed where the stair is treated as an active component with respect to an external excitation (e.g. by the tapping machine). The laboratory characterisation was performed for a timber stair and the normalized impact sound pressure level was predicted for different building situations. The various transmission paths via the separating and flanking walls were investigated and compared to the prediction according to EN 12354. Within the presentation the proceeding will be outlined and the restrictions are discussed. By comparison of measured and calculated values some references for the accuracy of the method are obtained.