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**Effect of the frequency spectrum trend on the determination of
the weighted normalized impact sound pressure level for floor
structures**

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The most common floor constructions in Italian buildings are composed of two parts: the structural one, made of concrete beams and perforated bricks, and the floating floor. The results of the in situ measurements of the impact sound pressure level, realized on the structural part of the floors, show a frequency spectrum trend that increases with the frequency. The spectrum is also characterized by many peaks and dips at the high frequency range that strongly influence the determination of the weighted normalized impact sound pressure level, also for structures with similar mass and geometry. The frequency trend of the beam and brick structures is completely different from the characteristic spectrum of homogeneous concrete slabs or lightweight structures. Considerations on how those differences can influence the obtainable results in terms of the reduction of impact sound pressure level referred to the same floating floor typology, the spectrum adaptation terms and the other acoustic quantities described in the standards are reported.