



Lightweight Prefabricated Floors - Beyond the Single Figure Metrics

Parry-Jones, Joel (1)

(1) PKA Acoustic Consulting, Sydney, Australia

ABSTRACT

lightweight floors that involve prefabricated joists / cassettes, and even massive timber can achieve high acoustic performances when designed effectively. However, the typical single figure impact rating "Ln,w" hides more than it reveals. Experienced acoustic consultants analyse the frequency spectrum from 100 Hz to 5000 Hz when designing acoustic sensitive floors. However with lightweight constructions, the low frequencies (below 100 Hz) are key when clients and occupants aspire the floor system to "match conventional concrete" in terms of acoustic performance. This presentation will briefly explain the North American standard (ASTM E3207) for low frequency impact ratings. Tested lightweight floor constructions will be compared with conventional systems, providing working solutions to improve the acoustic quality for future Australian floor systems.