

Noise Risk Management In Buildings According To The Leadership Systems In Energy And Environmental Design

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Abstract

Throughout the ages, acoustics is one of many important design considerations required for managing the noise risks within buildings to achieve the required indoor acoustical comfort and improve the building performance depending on the available materials and implementation technologies, through the latest global initiatives in involving the acoustical performance as required assessment element within sustainable rating systems such as “Leadership in Energy and Environmental Design (LEED) in United States of America or Green Pyramid Rating System (GPRS) in Egypt” in the term of indoor quality assessment, the noise risk management become a prerequisite requirement to qualify buildings and prepare it to be certified. The research illustrate a set of smart architectural precautionary practices associated with different buildings layers “site and urban planning layer, building skin layer and room separators layer”. The presented study highlights the using of certified, smart and eco-friendly solutions with good treatments for joints between building elements to avoid the airborne or impact noise flanking by understanding the nature of building’s function, area of treatment and sound paths scenarios to reach a set of results and generate recommendations according to the study that aid to support in upgrading the Egyptian code for acoustics works and noise control as one of the important design references with new advanced precautionary practices in managing the noise risks and helps the architect to achieve the indoor permitted noise level to qualify his designs to be LEED or GPRS certified to reach architectural and urban sustainability in the new Egyptian urban sprawl.

Keywords:

Smart solutions, Egyptian code for acoustics works and noise control, Building layers, LEED/GPRS rating systems.