

Noise Reduction in Buildings Using Sound Absorbing Materials

Shubham

Branch: Civil
Roll no. : 19625:

Date of Submission: 21-06-2020

Date of Acceptance: 07-07-2020

ABSTRACT:

This study is aimed to know how to control noise pollution of buildings.

Noise pollution can be defined as any disturbing or unwanted noise that interferes or harms humans or wildlife. Although noise constantly surrounds us known as noise pollution.

The effect of sound on human depends upon its frequency. According to the World Health Organization, sound levels less than 70 dB are not damaging to living organisms. Human ear are known to be sensitive. The noise is generated by the human through various ways. The various sources of noise pollution traffic moves along roadways, construction crew repair roads, dogs bark, music blares, people shouting and sirens sound etc. The measurement of noise, dB scale, equipments used in the measurement of noise levels.

In this study is aimed to effects of noise pollution, how to control of indoor noise, control technologies available for noise pollution and Indian penal codes to prevent noise pollution. Noise must be controlled and prevented by using various effective techniques at the source itself is today's need.

The objective of this work is to know about the various ways of generation of noise, their effects on human, its prevention and control.

KEYWORD: Noise Pollution , Building

I. INTRODUCTION

The recognition of noise as a serious health hazard is a development of modern times. Too much noise obviously impairs our physical and mental existence and therefore it is reasonable to pursue Technology Assessment concerning noisy technologies. In other words, noise has turned into one of the most important among the environmental factors on which industry sets down a big part of its efforts and concerns. The conflicts of interest associated with noise that arise from the operation of airports are well known.

Recently, passive mediums have been used extensively in the

industry to reduce noise. Acoustical sustainable materials, either natural or made from recycled materials, are quite often a valid alternative to traditional synthetic materials. The production of these materials generally has a lower environmental impact than conventional ones, though a proper analysis of their sustainability, through Life Cycle Assessment procedures, has to be carried out.

II. SOUND ABSORBING MATERIALS

Porous materials obtained from synthetic fibers, such as mineral wool or glass wool, are commonly used for thermal insulation and sound absorption, because of their high performance and low cost. Their diffuse-field sound absorption coefficient is very high at midhigh frequencies. On the other hand, they have several cons: they can be harmful for human health if their fibers are inhaled, since they can lay down in the lung alveoli, and can cause skin irritation. Hence such materials must be adequately overlaid if directly exposed to the air.

III. BUILDINGS NOISE REDUCTION

At the scale of materials and building, noise pollution is taken into account besides a number of sustainability aspects. Designing and improving acoustic environment, on the other hand, is linked to a choice of particular building techniques and materials that imply different environmental performance more than acoustic performance. An aware design should mediate between these issues, which are sometimes contradictory.

It is possible to obtain sufficient insulation against impact noises between different living units by interposing an element with the capacity of dampening vibrations between the sources of the noise and the adjacent structures. As circumstances or conditions change, this element may be applied in various points: Between loadbearing structure and the screed, or between the screed and the flooring, as well as directly underneath the floor by creating a false ceiling.

IV. CONCLUSION:

Many public housing sites are subject to severe noise impact from various sources. Many public housing sites are subject to severe noise impact from various sources many recycled materials, such as waste rubber, metal shavings, plastic, textile agglomerates can be used. It can be useful to mix various recycled materials of different grain size to obtain the desired performance. For this purpose a binder needs to be added in proper proportions. This paper presents a

brief review about acoustic absorbers and their usage for building noise reduction.

REFERENCE

- [1]. Citation: Azimi M (2017) Noise Reduction in Buildings Using Sound Absorbing
- [2]. Known about noise and noise pollution, its instrument (Google, wikipedia)
- [3]. IJSRD - International Journal for Scientific Research & Development



**International Journal of Advances in
Engineering and Management**
ISSN: 2395-5252



IJAEM

Volume: 02

Issue: 01

DOI: 10.35629/5252

www.ijaem.net

Email id: ijaem.paper@gmail.com