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## Introducing the types of common sound insulation used in construction activities

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### Abstract

Today, noise pollutants have become one of the most important human challenges in highly developed societies. In the bustling urban life, the presence of all kinds of annoying noises has doubled the need for sound insulation. Sound insulation, refers to elements that are able to absorb or reduce sound. Elements that, by increasing the distance between the receiver and the sound source, absorbing sound or reflecting it, repel some of the unpleasant and annoying sounds of the environment. For sound insulation of buildings, materials are used to insulate the floor, wall and ceiling surfaces of buildings. These types of insulation are used as building materials and are added to the body or various parts during construction. The most famous and most practical of these are rock wool, elastomeric insulation, Styrofoam, glass wool insulation, rebound recycled foam and XPS foam. When buying sound insulation and foam, you should pay attention to the type of application, place of application, basic and mandatory infrastructure, thickness, flexibility, etc. In this study, the types of available sound insulation (especially in the Iranian market) for construction activities are described in detail. Insulations were also compared based on criteria such as price, speed of application, resistance to heat, humidity, etc.

**Key words:** Noise pollution, rock wool, Elastomeric insulation, polyethylene foam

### 1. Introduction

#### 1.1 Background

Living in a free of noise pollution is a citizen's right. Failure to do so will result in decentralization, aggression, and ultimately disruption of citizens' mental health. They have noise and environmental pollution." Citizens have the right to participate in the exercise of their legal responsibilities and to provide the necessary financial resources, clean air, public green space and parks, clean and free of waste and urban areas without noise and environmental pollution (Paragraph 6 of the Charter of Citizenship Rights - President of Iran.)