

MODERN CONSTRUCTION OF THERMAL MATERIAL STORAGE

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Abstract:

The article covers the issues of using sheep wool as a heat-insulating material.

Key points: Buildings, structures, thermal insulation materials, sheep wool, natural materials.

When using heat-storing materials, it is necessary to take into account its heat-saving properties, technological characteristics, price, production volumes in our country, availability of raw materials, energy efficiency and environmental safety [1]. Therefore, when choosing heat-containing materials, it is necessary to approach them from a social, economic and environmental point of view.

Materials and research methods.

Heat-insulating materials, used in modern construction, with one side, ecological, and second - convenient for installation. Heat-saving materials are characterized by low thermal conductivity and low average density.

It is known that the demand for heat-saving materials is growing every year. That is why the Uzsanokatkurilishmateriallari association pays special attention to the implementation of new capacities and investment projects in this direction.

Heat-saving materials used in practice can be divided into the following basic groups:

- ✓ mineral and glass wool and slabs;
- ✓ foam plastics – polystyrene foam, polyurethane foam, penoizol;
- ✓ board and wool made from plants, wood fibers or animal hair;
- ✓ increased natural materials - polystyrene foam, perlite, vermiculite, ceramic foam, etc.

Wool is one of the oldest fibers known to mankind. Among all natural fibers, it is the most widely used and processed raw material. Its environmental friendliness, long-term service and use as clothing, flexible coatings or fire-resistant and heat-preserving materials are ensured by recycling of raw materials. In addition, wool can be used as a soundproofing material. It is mainly obtained from sheep and goats, but also from llamas and camels.

The surface of the wool repels water well. Although wool fiber easily absorbs water vapor from the air, it has some water-repellent properties due to a very thin waxy lipid coating chemically bonded to the surface, produced by the sebaceous glands.

Therefore, the wool itself and materials made from it remain dry and comfortable even in wet weather. Absorbed moisture can pick up static electricity. Due to its internal moisture content,

wool is considered fire resistant. Unlike cotton, which is made from cellulose, it is more resistant to acids.

Research result.

An innovative solution in the use of heat-saving materials is the use of natural sheep wool. This environmentally friendly material has excellent properties. The natural wool material reduces temperature and humidity changes, suppresses airborne and structural noise, and reduces airborne pollutants, toxins, and odors.

The material is environmentally friendly because it is made from pure sheep wool. Areas of application of heat-preserving materials made from sheep wool:

- ✓ thermal insulating fleece material on the walls to improve the heat-saving properties of new buildings in summer and winter;
- ✓ material that tightens the nodes of beam bundles during the installation of wooden walls;
- ✓ internal breathable insulation during reconstruction of old buildings;
- ✓ element of partition and barrier structures to improve room acoustics;
- ✓ during the reconstruction of new and old buildings contaminated with various substances;
- ✓ improve the climate of residential areas;
- ✓ special material and quality technical insulation (for vibration and shock loads).

Wool is a 100% natural material, contains no impurities, and is made from renewable raw materials. In addition, wool has a number of advantages over other materials:

- ✓ very quickly absorbs moisture at high humidity and releases it when necessary (for example, in rooms with high humidity);
- ✓ has a high density and, as a result, high heat capacity;
- ✓ unique soundproofing properties;
- ✓ has a stable structure and b

Sheep's wool is a natural, eco-friendly, recyclable and biodegradable material that requires little energy to produce and use. It is safe for people and the environment. For example, glass, unlike cotton, does not require the use of personal protective equipment during installation.

Conclusion.

According to the State Statistics Committee of Uzbekistan, as of January 1, 2021, 22.5 million people live in our republic. there is a sheep. From each sheep you can get 5-10 kg of wool (depending on the breed). Sheep wool can be used to make effective heat-retaining materials. It is necessary to conduct scientific and practical research in this area.

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