

# ENERGY EFFICIENCY OF INDUSTRIAL PREMISES OF INDUSTRIAL BUILDINGS

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**Abstract:** in this article, the problem of proper selection of the optimal solutions for the heating systems of industrial buildings, maintaining the optimal level of costs for the organization of the production process and sale of products in industrial facilities, reducing the cost of their own products and choosing the most economical option for heating production areas, is covered by reducing costs. In the conditions of the Republic of Uzbekistan, the barrier structures of single-storey industrial buildings provide the construction and introduction into practice of energy-efficient building materials, their study and increase efficiency in the conditions of our country.

**Keywords:** energy efficiency, constructive, architecture, economic, socio-administrative factors, industry, space-planning solutions.

## ЭНЕРГОЭФФЕКТИВНОСТЬ ПРОИЗВОДСТВЕННЫХ ПОМЕЩЕНИЙ ПРОМЫШЛЕННЫХ ЗДАНИЙ

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**Аннотация:** в данной статье рассматривается проблема правильного подбора оптимальных решений для систем отопления промышленных зданий, поддержания оптимального уровня затрат на организацию производственного процесса и реализацию продукции на промышленных объектах, снижения себестоимости собственной продукции и выбора наиболее экономичного варианта отопления производственных помещений. В условиях Республики Узбекистан барьерные конструкции одноэтажных промышленных зданий обеспечивают строительство и внедрение в практику энергоэффективных строительных материалов, их изучение и повышение эффективности в условиях нашей страны.

**Ключевые слова:** энергоэффективность, экономические, архитектура, конструктивные, социально-административные факторы, промышленность, объемно-планировочные решения.

In the Republic of Uzbekistan, fierce competition between producers of a certain type of product forces a decrease in the price of its products, while maintaining an acceptable level of expenditure for the organization of the production process and sale of products in industrial facilities. The problem of choosing the most economical option for heating production areas plays an important role in reducing costs. The problem of choosing the most economical option for heating production areas plays an important role in reducing costs. Stores, air-conditioning, heating of industrial and household service rooms, is one of the most effective and economical options of heating system, allows you to maintain the required temperature throughout the entire working period.

When heating large areas of industrial buildings, it is necessary to use more powerful equipment. Air heating is a heat generator or water heater that heats the air, and a networked air duct system designed to deliver air streams to the heated areas of the workshop or warehouse.

Air heating of industrial and furnaces has a number of competitive advantages over other heating systems:

1. Low inertia, which allows for a short time to heat the premises at the required level.
2. High efficiency (up to 90%), absence of intermediate contacts (pipes, radiators, etc.).
3. Significantly save financial resources and reduce the cost of production.

Obviously the advantages can shade some of the shortcomings a bit:

1. The need for regular maintenance, the complexity of modernizing.
2. The need to equip a backup power supply.

In order to install an air heating system in the production premises, it is necessary to observe the following sequence of actions::

1. Design solution development.
2. Installation of the heating system.
3. Carry out the work of commissioning and testing of automation systems by air.

#### **Design of air conditioning heating system**

The correct location of heat sources around the perimeter allows you to heat the premises in the same volume.

Heating the workbench or store with air must be installed strictly in accordance with the previously developed design solution.

#### **Installation of air heating system**

The total print speed of air heating installation is reduced to the following sequence of actions:

General construction preparatory work.

1. Installation of the main air duct.
2. Installation (distribution) of outgoing air ducts.
3. Installation of additional equipment (if necessary) and individual elements: recuperators, grills, etc.

Air heating of industrial facilities or production workshop includes Automatic Control and protection systems.

The implementation of automation commissioning tests is an integral part of the adoption of newly installed equipment Complex testing and its use (in the event that a third-party specialized organization is involved in the installation).

#### **Air heating systems for industrial buildings: pros and cons**

Traditional hot water heating is widely used for residential and office buildings. But when it comes to providing heat to large-scale buildings (production halls, warehouses, hangars, agro-industrial facilities, etc.), more economical and efficient solutions such as air-conditioning heating systems are required.

For heating industrial buildings, most often central heating systems (water or air) are used, but in some cases it is wise to use local heaters.

But in any case, when choosing a production heating system, you should rely on the following criteria:

1. Room area and height;
2. The amount of heat energy required to maintain the optimum temperature;
3. Comfort of heating equipment in the supply, as well as its serviceability for repair.

Now let's try to determine the pros and cons of the above types of heating of industrial buildings.

The source of the heat source is the central heating system or the local boiler house. Water heating consists of a boiler, (radiators or convectors) and a pipeline. In the boiler, the heated liquid is transferred to the pipes, at the same time heat is transferred to the heating devices.

Water heating of industrial buildings can be as follows:

1. Here it is impossible to regulate the temperature of one pipe - water.
2. Two-pipe - here it is possible to regulate the temperature, and it is done thanks to parallelly installed thermostats and radiators.

If we come to the central element of the water system (that is, to the boiler), then it can be:

- \* gas;
- \* liquid fuel;
- \* solid fuel;
- \* electric;
- \* combined.

Requires separate safe room and fuel storage container. In addition, you will need to regularly replenish the reserves of fuel, which means to take care of additional costs of Transportation, unloading - money, manpower and time.

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