Ассистент, Ёкубова Мадинахон Толиб кизи,
Ферганский политехнический институт

ПРИБОРЫ, РАБОТАЮЩИЕ НА ОСНОВЕ СОЛНЕЧНОГО ИЗЛУЧЕНИЯ.

Аннотация: *Для достижения энергоэффективности рекомендуется использовать солнечные устройства.*

Ключевые слова: *солнечная энергия, солнечный коллектор, солнечное излучение, пассивные системы.*

Yoqubova Madinaxon Tolib qizi
Fergana Polytechnic Institute

DEVICES THAT WORK ON THE BASIS OF SOLAR RADIATION.

Annotation: It is recommended to use solar devices to achieve energy efficiency.

Keywords: solar energy, solar collector,solar radiation, passive systems.

If solar energy is used as a heat source in the heating system, it is called solar heating system (helio device). A helio solar device absorbs solar radiation and converts it into heat energy.

The solar heating system is distinguished by active and passive systems. A characteristic feature of an active solar heating system is that it has a solar energy collector, a heat accumulator as an additional (reserve) energy source, heat exchangers (in double-circuit systems), a pump or fan, connecting or air transmitters, and control systems.[1-5]

In passive systems, the function of the solar energy collector and heat accumulator is performed by the barrier structures of the building, and the transfer of air heated by solar energy is usually carried out by means of natural convection. In passive systems, it is intended to ensure that the sunlight falling on the building through its large window is directly captured by the walls and floor of the building on the south side, the amount of heat collection and storage

depends on the mass of the wall, floor and water tank or The device to be installed on the south side depends on the quantity and quality of the heat transfer device inside the building.

In order to reduce the heat loss of the building at night or when there is no sun, it can be recommended to equip the building with a heat insulator (grid, fences, etc.) that traps heat on the light-reflecting surface.

In areas with high levels of insulation, plenty of sunlight, and moderate outside air, a passive solar heating system with windows is sufficient for air circulation between the floor and ceiling of the building. when it is intermediate, the efficiency of heat collection is high. In this case, the efficiency of the system can reach 40%. When using passive solar heating systems, it is also necessary to pay attention to the quality of thermal insulation of the building, to meet the requirements of maintaining heat.[6-9]

Nowadays, new types of solar collectors are being discovered. It is known that the simplest way to use solar energy is to get heat from it. Different objects heat up differently under sunlight. According to observations, especially objects with a black surface have the property of heating up and collecting heat more strongly. The working procedure of the solar collector is also based on this. The heat received from the sun is collected in a special heat storage device or used for short-term consumption.

Currently discovered collectors can be divided into flat surface, vacuum, concentrator types. In flat-surface collectors - after a flat absorber (light-absorbing device) (often a metal plate with a black-faced light-absorbing surface), there are light-absorbing tubes in which the heat carrier (thermistor) moves. In order to protect the accumulated heat energy from being wasted on the environment and outside, the back and sides of the moving tubes of the heat carrier are covered with heat insulating material.[10-19]

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