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SOLAR SYSTEMS IN THE REPUBLIC OF UZBEKISTAN USED BUILDINGS

***Abstract:** The article presents proposals for the effective use of the amount of heat in the room to protect from sunlight in the summer and prevent heat loss in the winter in buildings where solar systems are used in the Republic of Uzbekistan.*

***Key words:** Passive solar systems, active solar systems, mixed solar systems, wall stained glass windows, winter garden, trombone wall, solar house, heat, energy.*

ГЕЛИОСИСТЕМЫ ПРИМЕНЯЕМЫЕ В ЗДАНИЯХ РЕСПУБЛИКИ УЗБЕКИСТАН

***Аннотация:** В статье представлены предложения по эффективному использованию количества тепла в помещении для защиты от солнечных лучей летом и предотвращения теплопотерь зимой в зданиях, где применяются гелиосистемы в Республике Узбекистан.*

***Ключевые слова:** Пассивные гелиосистемы, активные гелиосистемы, смешанные гелиосистемы, настенные витражи, зимний сад, тромбная стена, солнечный дом, тепло, энергия.*

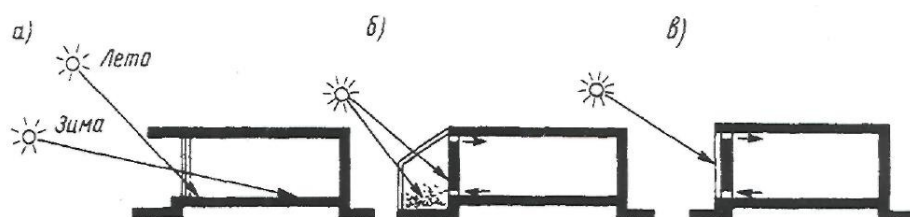
Passive, active and mixed or in other words integrated solar systems can be used to meet the heating needs of buildings.

In passive solar systems, the function of receiving and processing solar energy is performed by the building, its premises and structures, heat distribution is carried out by convection.

In active solar systems, there is much more special engineering equipment- collectors and heating networks for receiving, processing, transmitting, collecting and distributing solar energy- than in passive systems.

Mixed solar systems use elements of both passive and active solar systems, which increases the efficiency of solar energy use. Currently, three types of passive solar systems have been developed and are used in practice: stained glass wall, greenhouse, and “thrombotic wall”.

Passive systems: a – wall stained glass; b – greenhouse; c – “Thrombus wall”.



Stained glass - the surface of the wall of the premises facing the south of the building is glazed. As a result of direct sunlight entering through the window, the room temperature rises and the internal surface heats up. As a result of long-wave radiation from stained glass windows, the air receives additional heat, and the room temperature rises. At night, the warmth in the room is provided by the internal surface, made of structures made of materials designed to retain the heat capacity heated during the day.

A sunny house with a winter garden in a foreign country (USA) is a south-facing two-story winter garden that connects all the living rooms of the house, and the winter garden space retains air during the day.

The windows of the winter garden are equipped with transformable blinds, which retain heat at night and during the cold season, and also prevent overheating on hot summer days. Additional curtains are used for blinds to protect from direct sunlight.

The “stained glass” solar house in New Mexico, USA, has a semi-cylindrical shape, which reduces heat loss when exposed to cold northern winds. The southern façade is completely glazed. The common room and the green room leading to it - the entrance is two stories high.

The stained glass window is protected from summer sunlight by a horizontal barrier. The solution allows you to save energy from 17% to 25% and prevent heat loss from the sun in summer and winter. The heat of the day warms the greenhouse space. Convertible blinds are used to retain heat at night and on cold days of the year, as well as to protect against overheating on hot summer days.

Thus, folding blinds are used to protect from the sun in summer and prevent heat loss in winter. This solution helps save energy from 17% to 25%.

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