

## **Секція № 2**

# **СУЧАСНІ СВІТОВІ ТЕНДЕНЦІЇ РОЗВИТУ АРХІТЕКТУРНОЇ ОСВІТИ**

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## **FEATURES OF FORMATION OF ECO-ORIENTED RESIDENTIAL BUILDINGS**

Construction in recent years has led to a loss of harmony of housing to human needs. Insufficient arrangement of the territory near the houses and insufficient thermal protection, insulation, ventilation in the building, can not contribute to the greening of the living environment.

Eco-oriented houses are the housing of the future. An ecological house is not just a fashion trend or a trend of the West. At the moment, energy prices are rising in the world - this raises the problem of operating costs for housing. The development of energy-saving buildings is now being actively pursued in Europe, where government programs have been developed to bring all buildings to a low level of energy consumption. Ecologically clean materials are used for the construction of eco-houses.

At present, building materials should be chosen primarily non-toxic, and then think about their appearance, strength and cost. Poor quality coatings imperceptibly emit toxic elements, wood, paint, furniture, which can poison the atmosphere in the premises, causing significant damage to health

If the ecological condition of the house is unsatisfactory, then in the first place it affects the health of its inhabitants. There are a lot of cheap and low-quality building and finishing materials that emit formaldehyde and phenol. These toxic substances have a bad effect on the CNS and are classified as carcinogens, is provoke the development of cancer. Most often, these substances emit particleboard, laminate, linoleum and decorative plastic

Porcelain and natural stone look very beautiful and durable, but they can be a source of radiation.

Traditional ecological materials for construction of walls are a silicate or clay brick, a natural tree, a natural stone. New environmentally friendly materials are ceramic foam, masonry - building boards, which consist of 90% of wood chips and 10% - of liquid glass and cement, and geokar - sound-absorbing and heat-insulating blocks. For warming use Eco wool which are made of cellulose, basalt, the made foam glass (foam glass), wood plates (waves), mineral wool. For construction of roofs use ceramic and metal tiles, copper sheets. For wall decoration you should choose paints made on the basis of natural oils, resins, milk casein, clay, plant and earth pigments, wallpaper should be paper, textile or cork. If you have chosen in favor of stretch ceilings - prefer natural fabric coverings. For a floor recommend - a natural parquet and a parquet board, and also cork coverings are considered the most ecological.

Solar architecture helps to design an eco-oriented complex with both passive and active solar heating system. Passive solar heating is achieved through the use of architectural, spatial planning forms and structural elements as heat sinks and accumulators of solar energy. The house turns into a solar collector. Such houses are more common in southern countries.

Active solar heating system is the heating of hot water by air and water solar collectors, which are installed on the roof and in the walls of the house and greenhouse or a separate building next to building. The main role is played by an element of the air heating system - a solar collector. The main problem in creating such houses is the price of thin solar panels and the high toxicity of the materials from which they are made. However, recent research may change the situation. Recently, scientists from the University of New South Wales were able to create the world's most efficient flexible solar panels that do not require high production costs and are not toxic. Thin as a film, solar cells are made of CZTS - an alloy of copper, zinc, tin and selenium.

Basic principles and techniques of eco-complex design:

- 1) Spatial planning techniques, you need to pay attention to:
  - compactness of the building;
  - zoning: division into buffer and residential zones.
- 2) Facade receptions:
  - transparent parts must be absent so that the heat does not leave the building on its northern side;
  - Translucent parts should be located in the south so that the winter sun penetrates deep into the building.
- 3) Energy efficient methods.
- 4) Minimal energy losses.
- 5) The principle of using complex engineering systems with a single control system.
- 6) The principle of application of modern heating technology.
- 7) The principle of environmental friendliness of interior elements and appliances. Possibility of further processing of materials.
- 8) The principle of isolation. (Thermal insulation of the outer shell of the building).

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## **ЕВОЛЮЦІЯ УЯВЛЕНЬ ТА СТАВЛЕННЯ ДО ЧОРНОГО КОЛЬОРУ В АКВАРЕЛЬНОМУ ЖИВОПИСІ АКАДЕМІЧНОЇ ШКОЛИ**

Жодний критерій не існує сам по собі без контексту, особливо в мистецтві, що відображає пануючі погляди в суспільстві, його «настрій». Мистецтво не є побутовою необхідністю, можливо, саме тому, воно більш