

FEATURES OF DESIGNING A MULTI-COMFORTABLE CLUB HOUSE IN A HOT CLIMATE
(the materials of the international competition ISOVER 2018)

The world is becoming more urbanized; the population is growing significantly, which leads to an increasing in energy consumption, as well as CO₂ emissions. Therefore, it is necessary to create new approaches to the development of new construction projects. This approach is used during construction in Dubai, this city over the past 70 years has increased its population by more than 100 times, and urban development 400 times. But for all to date, it is one of the most advanced cities of sustainable development. The city has a hot dry climate. "Multi-comfortable House" is the leading decision of the Saint-Gobain Group in the area of energy efficient construction.

The multi-comfortable house of Saint-Gobain meets all the requirements that come to the "passive house", but also has additional benefits that provide a high level of comfort:

- high-quality acoustics;
- optimal lighting;
- high air quality in the premises;
- fire safety;
- environmental friendliness.

The multi-comfortable house takes into account energy efficiency needs modern high-performance heating, air conditioning and ventilation systems, energy efficient windows, alternative energy sources and, most importantly, high-quality insulation materials.

The Club House is an elite multi-dwelling house. The club house residents are provided with all the benefits of civilization in the non-residential sector on the ground floor: shops, beauty salons, laundry, children's development centers. All this is only at the distance of one trip by an elevator.

When designing a multi-comfy clubhouse, the features of the climate are taken into account. Designing in a hot climate involves additional measures to provide shadows on the adjoining territory, providing ventilation of the quarter. Such objects should be built near natural or artificial reservoirs, the humidified air will fall into the dwelling group and dilute dry hot air masses. Since this location is close to the coastline, it is desirable to provide free hiking links to the promenade area, creating a public space for the inhabitants of the district. This goal can be achieved by not having the first floors, which is, raising the house to the columns, thus opening the territory to all the inhabitants of the city and the house will provide an additional shadow. For more shading of the territory you should create additional facilities, such as awning cover, canopies and pergolas, landscaping.

In order to have the inhabitants of the clubhouse has its own public area, it can be placed on the middle floors of the house, combining it with greenhouses that will support the microclimate. In such public areas, sports halls, swimming pools, retail stores, children's play rooms, catering facilities, hairdressers and other services can be designed.

Residential buildings should be designed according to exclusive projects. It is desirable in each apartment to provide green rooms that will have a dual function, for example, a greenhouse - a balcony, a greenhouse - a living room, etc. Through the green rooms sections can be blocked by open spaces with neighboring ones.

Volumetric - planning structure in the form of a central communication core, around which the apartments are located allows for variant planning, from one to six-bedroom apartments, satisfying the demographic and social demand of the inhabitants. Such a voluminous spatial solution allows you to solve the construction, as in the form of a "wall" and create holes in it.

It is also necessary to provide fresh cool air to each apartment, through air shafts and recuperators. Elements of natural nature (landscaping, reservoirs) can be placed in buffer spaces, between apartments and vertical communication.

Enclosure structures should be designed in a transformed manner, depending on the season and day, they can be tight or permeable to the wind. And they can react to the sun's rays and when overheating the facade themselves shut up and form an additional shadow.

So, in order to preserve natural resources, new approaches to the development of new construction and modernization projects should be more actively implemented. Depending on the climatic zone, it will be better to use the most rational inexhaustible resources.

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