

Elementary introduction to the relevant elements and measures of green building design

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Abstract: With the continuous development of the concept of green architecture, the integration of a large number of environmental protection concepts in the architectural design is the focus of green architecture design. Saving natural resources can also promote the harmonious development of man and nature. Green building design concept to meet the needs of people at the same time, promote the harmonious development of man and nature. Therefore, the concept of green architecture should be fully used in the design of architecture.

Keywords: Green building design; related elements; measures

Introduction

The economy and energy will directly affect the development of human society, so all countries attach great importance to the energy problem. Although China's energy is abundant, but because of the large population and less resources per capita, the consumption of resources is more in the process of economic development, so China put forward the strategy of sustainable development. As the energy consumption industry in China, the construction industry should develop green buildings to meet the needs of social development.

1. The necessity of green building design

1.1 Design should comply with national policy

In recent years, the construction industry has made great progress, while the traditional construction methods are much more consumed for natural resources and social resources, and cause serious environmental pollution problems. In order to reform the structure of production, reduce the environmental pollution caused by the construction industry, China has formulated some green building engineering protection policy, promote the use of green engineering, building more efficient mechanism of in-depth research, reduce energy consumption and protect the natural ecological environment, so as to promote the sustainable development of the construction industry^[1].

1.2 Green building design can reduce energy consumption

The design of the green building should be designed according to the actual situation of the local and the actual requirements of the project. In the design process, the loss of energy should be reduced as much as possible. Green building design can effectively control resources and energy and avoid waste of building materials while guaranteeing the use of functions. We should constantly improve the architectural design plan, reduce the loss of re-

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sources and energy in building construction, so as to achieve the sustainable development of building engineering^[2].

1.3 Influence of construction technology on Residents' life

The use of green building engineering technology should be integrated with the natural ecosystem, so that people can feel the beauty of nature, reduce people's contact with chemical products, pay attention to the human landscape, should pay attention to the health of residents in the green building design, while the green building design with advanced clinical building engineering technology fully. In addition, renewable building materials should be used as much as possible in the design of green buildings. Sustainable development is an important goal of architectural engineering design. In the design, we should fully show the humanities idea, adhere to the people-oriented design concept, and integrate the green construction and architectural engineering design, which is also the development direction of the construction industry. Green building design meets the needs of social development, while it is also of great significance to the development of our country's economy^[3].

2. Principles of green architecture design

2.1 Amalgamation of ecological concept and set up ecological consciousness

The significance of ecological architecture is to integrate the ecological concept and use the methods of low energy consumption and conservation of natural resources. The design of ecological architecture should be based on the development trend of "ecological one technology and one building", and integrate the architectural design and ecological concept into the green building. In the course of architectural design, we should make full use of the display and technology of the ecological and environmental characteristics, and make the design of these integration into the building image. Ecological architecture is not only requires building materials and structural design is reasonable, but also should use advanced ecological technology system. Therefore, in the process of building design, we should respect nature and save natural resources, and also ensure the stability of the building function and the ecological environment.

2.2 The design of green building should conform to the overall design

When the green building design, should be based on the characteristics of the local culture, combining with the characteristics of building types, the development of more suitable for the local environment and constantly improve the building function, to meet the residents of utility function at the same time, improve the quality of the environment and culture design. While the whole design meets the functional requirements, the design is scientific and intelligent. With the development of science and technology, in order to build a comfortable and green living environment for people, we should vigorously promote the green building design and promote the sustainable development of China's construction industry^[4].

Factors affecting green building

At present, with the increasing importance of our government's attention to the ecological environment problems, the environmental awareness of all walks of life is increasing. Therefore, the concept of green building design can meet the requirements of social development and play an important role in the development of social economy.

3.1 National policy

As early as 2012, China put forward the strategy of sustainable development, in order to respond to the call of the country, in the architectural design made use of the concept of green building design and environmental protection materials, the corresponding national policy at the same time, also can promote the healthy development of the construction industry, enhance the competitiveness of construction enterprises, construction enterprises to lower the cost of construction, promote the construction industry to achieve the goal of sustainable development.

3.2 Saving resources

Since the reform and opening up policy has promoted the speed of urbanization in China, however, due to the fact that people do not attach importance to saving resources, the natural resources in China are decreasing and the utilization rate of resources is also low. In order to solve these problems effectively, the construction industry should actively promote the use of green architecture design concept. In the process of building design, the use of green building design concept can optimize the allocation of resources, and save the natural resources to the greatest extent, so as not to waste natural resources, and further promote the optimization of production structure^[5].

3.3 Saving energy

The traditional architecture design uses the power resources to adjust the indoor temperature, which is not suitable for the day by day of natural resources. In order to solve this problem effectively, the concept of green building should be incorporated into the building design. While saving energy, we should use new insulation materials, actively develop new energy sources (such as solar energy), and minimize indoor heating equipment.

4. Elements of green building design

4.1 Design of energy saving

In order to achieve the sustainable development goal of energy, energy should be saved when the green building is designed. In the design of green buildings, the effective use of energy should be merged together in a reasonable way. First, when planning the building, we can try to build an independent building in the south, build small buildings in the middle, build high-rise buildings in the north, and strictly control the spacing between buildings, and make greening on the open spaces between buildings. In the planning process, we should avoid vertical horizontal or circular buildings, so that buildings should be arranged staggered, so that the natural wind can pass smoothly, so as to enhance the indoor ventilation quality and achieve the goal of energy conservation. Second, we should design according to the climate and environment in the region, such as warm winter and hot summer in the south of China. We should take this into account when we design energy saving. Third, sunshine and orientation. During the design of the building project, it should be ensured that the summer indoors of the building can utilize the natural wind and avoid the solar radiation. In winter, sufficient sunshine can be obtained and the main wind direction can be avoided.

4.2 Design of land saving

During the architectural design, we should try our best to save the land resources, reduce the surface area and area of the buildings and improve the utilization rate of the land resources. At present, the design of green building design to save land resources mainly include: In the construction of multi-storey or high-rise buildings, it is possible to appropriately reduce the purpose of the building and improve the volume rate of the building. The underground space can be fully utilized so as to effectively increase the urban capacity and improve the environment. Among residential quarters, it is possible to enhance the intensive use of land, increase greening area and improve the natural environment so as to achieve the goal of sustainable development.

4.3 Green Building Pursuit of Harmony

The focus of green building design is to increase the utilization ratio of resources, reduce the consumption of energy and resources, thereby reducing the pollution of the ecological environment, and rationally using new technologies and new materials. When choosing a building address and planning a building, we should try our best to protect the original ecological environment and reduce the adverse impact of the building on the natural environment. We should fully consider factors such as natural ventilation, sunshine and traffic. Try to reduce the discharge of waste water, waste gas and so on, and use advanced technology to realize the soundness of waste and resource management. Reduce the chemical substances in the indoor air to ensure that the building indoor ventilation is good, sunshine time is sufficient.

4.4 Design of material saving

Green building is an interactive and intelligent system that can actively interact with the environment. In the course of architectural design, green building and energy saving should be fully utilized in this case and advanced construction technology. Therefore, the green building outer layer should have the function of regulating the climate, can reduce or change the climate fluctuations, to ensure the stability of the indoor climate of the building; in addition, the green building should also have the function of collecting and converting natural resources, so as to avoid loss of energy. First of all, the use of external thermal insulation materials. The use of thermal insulation materials in the exterior wall can achieve the purpose of saving resources. Secondly, the rational use of building materials. Green building design should make extensive use of green building materials to avoid adversely affecting people's health. In addition, the choice of paint, glue, floor tiles, wood and other materials, not only to consider the material properties, but also should consider whether the material will release some toxic substances.

5. Case analysis of green building design

In order to meet the residents' requirements, according to the location of the building, a variety of energy saving and environmental protection technologies are used during the architectural design. A typical high-rise office building under construction in a certain area is a total construction area of about 79,000 square meters, a building height of about 85 meters, 18 floors on the ground and 1 layer on the ground floor.

5.1 Outdoor environment

Designers are paying more and more attention to humanized design when they are designed. Based on the architectural functions, designers should use advanced science and technology to study the best location for lighting and ventilation of buildings based on the natural environment of the construction area. When choosing the building mode, we should choose according to the requirements of green technology. In the design process, we should find the balance point between the quasi outdoor environment and the building, so as to build a comfortable living environment for people and promote the smooth construction of the whole project.

5.2 Saving water resources

In order to integrate the idea of saving water resources in the architectural design, the designers used water and rainwater system in the design process, enhanced the insulation measures of the enclosure structure, enhanced the lighting system and the refrigeration efficiency, all of which reflected the green building design concept. Therefore, in order to achieve the purpose of saving water resources, the owners should improve their awareness of water saving, improve the utilization rate of water saving equipment and achieve the recycling of water resources.

5.3 Use of decoration materials

Recycling is also an important measure to achieve the goal of energy conservation and environmental protection. Normally, light steel keel plaster walls are used in the interior of the building, and Wells cement walls are used in the bathroom. In the process of construction, these low load and low pollution building materials are more valued by construction enterprises, which not only can reduce the energy consumption of building construction, save construction costs, but also meet the needs of owners, and create comfortable residential environment for people. Therefore, in order to improve the utilization rate of construction materials, construction enterprises should strictly control the distance between construction materials and construction sites so as to avoid the pollution of construction materials.

Conclusion

In order to strengthen green building design, in the design process, we should not only stick to the concept of green building design, but also actively study the design methods that can protect the ecological gold, promote the

harmonious development of man and nature, and also use green building materials and decoration materials. Real-time monitoring of the utilization of construction materials to reduce the building's energy consumption and promote the sustainable development of the construction industry.

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