

# The application of green design concept in interior environment design

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**Abstract.** In the 21st century, people pay more attention to the ecological environment, and the application of green design concept in interior environment design has become an inevitable trend. Under the concept of green design, resources and energy can be maximized, and people's living environment will be effectively improved. As a modern interior environment designer, it is necessary to integrate the concept of green design in practice and apply the concept of green design to interior decoration, environmental optimization, home furnishings and other aspects, so that the interior environment design can return to nature and pursue health. This paper defines the concept of green design concept, analyzes the value of applying green design concept in interior design, expounds the application principle of green design concept, and explores the specific application path.

**Keywords:** Green design concept; Interior environment design; Apply the Policy.

## 1. Introduction

In January 2022, The State Council issued the 14th Five-Year Comprehensive Work Plan for Energy Conservation and Emission Reduction, proposing to speed up the green transformation of the economy and society and promote energy conservation and emission reduction. This fully reflects the state attaches great importance to the ecological environment and shows the future direction of social and economic development. At present, the concept of green development has been deeply rooted in the hearts of the people. More and more people pay attention to low-carbon environmental protection, energy saving and emission reduction in their life, and people's pursuit of healthy life is becoming more and more strong. The concept of green design is a new thing in the field of interior environment design, which is in the process of exploration and development and has not yet formed a complete theoretical system and rich practical experience. In the face of the rapid development of the construction industry, people need to further strengthen the research on the concept of green design, push the interior design to a higher level, and promote the recycling of resources.

## 2. Overview of green design concept

The connotation of green design concept is very broad, emphasizing that production and consumption need to use the design with the least impact on the environment. In the narrow sense of green design concept, product design and specific engineering design need to attach great importance to environmental factors, the recycling of raw materials and the sustainable development of the environment. In the broad concept of green design, product design, product packaging, product marketing, product service and so on all need to pay attention to environmental protection factors, reflecting a wide range of green cultural awareness. In the field of interior design, the concept of green design can cover the application of decoration materials, spatial structure optimization, ventilation, lighting, heat preservation and other aspects, which can maximize the application of energy and resources and optimize the effect of interior design.

### **3. The role of green design concept in indoor environment design**

#### **3.1 Improve the artistry of interior design**

In the interior environment design, the concept of green design can further improve the artistry of interior design, so that the interior structure layout has a unique sense of beauty, optimize the style of interior design. In traditional interior design in the past, people one-sided attention to the aesthetic effect of decorative objects, ignore the practicality of decorative objects, lack of integration of natural elements in the design style, resulting in the same interior design results. Under the concept of green design, designers can integrate natural elements, make natural elements as the main, artificial design as the auxiliary, design a more simple indoor environment style, create a harmonious atmosphere between human and nature. Through the application of green design concept, the indoor environment of the building can be coordinated and unified with the outside environment, and various design elements can be enriched.

#### **3.2 Improve the comfort of indoor environment**

In the past indoor environment design, many designers used to use chemical synthetic materials, such as granular board, paint, adhesive wallpaper, etc., these decorative materials contain more toxic substances, will release formaldehyde in the indoor environment, is not conducive to human health. Under the concept of green design, designers can use green environmental protection decorative materials, all kinds of decorations will not release toxic and harmful substances, indoor environment health, and comfort can be improved. Usually, green decorative materials are easy to process, raw materials come from nature, easy to construct, such as pure wood, and designers can use such natural materials to optimize the indoor environment. From the user's point of view, the user can release pressure, relieve fatigue and improve the quality of life in the natural and environmentally friendly indoor environment.

### **4. The principle of applying green design concept to interior design**

#### **4.1 Principle of reducing environmental pollution**

Under the concept of green design, reducing environmental pollution is the most important principle. In interior design, designers need to ensure that all materials and substances get the maximum use, so that the decoration form is more concise, reduce environmental damage. In addition, designers need to attach great importance to the construction of indoor environment. By optimizing construction materials, simplifying indoor structure and other methods, pollutants in construction can be reduced, including waste gas, waste water, noise, dust, etc., so as to improve the environmental protection of interior design and avoid excessive decoration.

#### **4.2 The principle of reducing energy consumption**

In the interior environment design, designers need to follow the principle of reducing energy consumption, so that the house in the subsequent use of energy saving and environmental protection. In order to achieve this goal, indoor environment design needs to give priority to natural ventilation, natural lighting, and make full use of natural energy. At present, many indoor environment design does not integrate the concept of energy conservation and emission reduction, and there are deficiencies in insulation, ventilation, lighting and other aspects. Users need to consume more power, which will directly affect the comfort of living, and easily cause energy waste. In this case, indoor environment designers need to establish the concept of green design, constantly optimize the function of indoor space, fully consider the user's use effect, and reduce energy consumption.

### **4.3 Recycling cycle principle**

In order to further reduce environmental pollution, designers also need to follow the principle of recycling and recycling in interior design, use recycled materials for reproduction design, and improve the rate of resource recycling. At present, many houses need to be completely demolished during the secondary renovation, which generates a large amount of decorative garbage and causes a lot of waste. In order to deal with this problem, designers need to use recyclable materials as far as possible in the interior environment design, and at the same time, some waste can be integrated into the new design, so as to make use of waste and give full play to the role of building materials.

## **5. The application path of green design concept in interior environment design**

### **5.1 Integrate green design concepts in interior decoration**

#### **5.1.1 The application of green decorative materials**

In the interior environment design, in order to further highlight the advantages of green design concept, designers need to apply green decorative materials to reduce the emission of toxic and harmful substances in decorative materials. For example, in board, designers can choose solid wood, high density fiberboard, solid wood composite materials; in the wall decoration materials, you can choose integrated wallboard, natural marble, biological latex paint, grass wallpaper; on the floor, you can choose solid wood floor, environmental protection plastic floor; in the ceiling, you can choose gypsum board, PVC board. These decorative materials have the characteristics of green and pollution-free, which can meet the diversified design needs and create a green interior space environment. In terms of material selection, designers need to combine the specific use of the indoor environment and choose appropriate environmental protection materials to ensure that the green materials meet the needs of users' life scenes and improve the coordination of the entire indoor environment.

#### **5.1.2 Improve the layout of green Spaces**

In the interior environment design, designers need to actively build green space layout, exquisite design of space layout, improve the rationality and science of space layout, starting from the needs of users, and clearly divide the functions of different areas. For example, in residential design, designers need to consider the "three moving lines", which are living moving lines, housework moving lines, visitors moving lines, so that the interior structure design in line with the user's life needs, adapt to the user's living habits, so as to improve the indoor environment comfort, enhance the humanistic care of indoor environment design. In the interior space layout, designers need to scientifically plan the hall, bedroom, kitchen, study, toilet, corridor and other areas, combined with the function of different areas to choose different types of lamps, doors and Windows, floors, wall materials, optimize people in the indoor environment in the exchange of vision, improve color collocation, avoid visual pollution.

### **5.2 Integrate green design concepts into the indoor environment**

#### **5.2.1 Improve the ventilation effect**

In the interior environment design, designers need to follow the people-oriented design principle, and constantly optimize the interior environment. The ventilation condition of indoor environment is an important basis for protecting human health. Therefore, designers need to expand the indoor ventilation space, promote the reasonable flow of indoor air, make the space design conform to the characteristics of aerodynamics, make the indoor environment full of fresh air, optimize the living environment. In practice, designers can adjust the height of the Windows in the north and south of the house, reduce the height of the windowsill in the south direction and increase the height of the windowsill in the north direction to create a north-south ventilation pattern, so that the indoor environment is more transparent, to achieve the effect of warm in winter and cool in summer. By improving indoor ventilation and promoting indoor air purification, users can reduce the use of air

conditioning and kitchen smoke can dissipate faster. To this end, interior designers need to optimize the ventilation effect through a variety of ways, combined with the characteristics of the house to make an ideal design scheme, make full use of natural ventilation, and reduce indoor air pollution.

### **5.2.2 Strengthen natural lighting**

In some current buildings, many indoor Spaces lack natural lighting, which requires a lot of electricity consumption, resulting in energy waste. Under the concept of green design, designers need to apply more natural light in the building space, improve the lighting effect of indoor space, and apply natural light more widely. In practice, designers can design transparent roofs in buildings such as libraries and basketball stadiums, or set floor-to-ceiling Windows on the sunny side to optimize the lighting effect and reduce the energy consumption caused by artificial lighting. In addition, designers can also set up intelligent lighting control system in the corridor and other positions, introduce more energy-saving lamps, and reduce the power consumption of all kinds of lamps, to achieve the purpose of saving energy.

## **5.3 Incorporate green design concepts into your home furnishings**

### **5.3.1 Choose green furniture**

In the aspect of interior design, the choice of furniture is very key. Only by choosing green furniture and reducing the toxic and harmful substances distributed in the furniture can indoor air quality be improved to the greatest extent and indoor environment be optimized. In the past interior design, many people one-sided attention to the price and style of furniture, ignore the raw materials of furniture, health and environmental protection is not enough attention, which will affect the effect of interior design, is not conducive to the health of users. In practice, interior environment designers need to choose furniture made of natural materials, such as log furniture, bamboo furniture, rattan furniture, etc., and attach great importance to the environmental protection of furniture. At present, there are already some paper furniture on the market. These furniture have the functions of fire prevention, mildew prevention and waterproof. It is cheap and can be recycled without causing pollution to the indoor environment. For example, brown paper stool is a common paper furniture, designers can integrate this kind of paper furniture into home design, improve the coordination of the indoor environment.

### **5.3.2 Display green crafts**

Green crafts can play a role in beautifying the indoor environment. Under the concept of green design, designers can choose green crafts, such as woven crafts and bamboo crafts. These crafts can make the indoor environment full of artistic sense, reflect the natural atmosphere, and make the interior design more artistic. In terms of interior decoration, designers can also introduce more natural landscape, integrate natural elements such as rocks, flowers and trees into the interior design, create a public space full of natural breath and optimize the indoor environment. In a word, the design of indoor environment needs to follow the concept of harmonious development between man and nature, and designers need to make full use of natural elements to let people get a good experience in indoor environment and relax physical and mental pressure.

## **6. Closing Remarks**

In the context of the rapid development of The Times, the concept of green design has been widely concerned by the whole society. In terms of interior design, the concept of green design can adapt to the pace of the development of green buildings, effectively improve people's living environment and improve the quality of interior design. In practice, designers need to save resources and energy, make full use of natural light, promote indoor ventilation, use green and pollution-free decorative materials, reduce indoor air pollution and optimize indoor environment. In the future interior design, the concept of green design is bound to get more people's attention. Only by constantly practicing the concept of

green design and accumulating experience in green design can we better innovate the design scheme and give full play to the application value of the concept of green design.

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