

Study on the Application of Green Decoration Materials in Residential Environment

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ABSTRACT

Since the implementation of reform and open policy, with the rapid development of China's economy and society and the improvement of living standards, people's requirements for the quality and environmental protection of housing are getting higher and higher. However, indoor pollution is also a serious problem. Indoor pollution sources are mainly outdoor air pollution. Building materials are not only indoor decoration pollution, but also pollution caused by indoor equipment and activities. With the pursuit of people's quality of life and attention in this era,, indoors also need environmental protection and functional design, so the research, development and use of green decorative materials is more and more extensive and wide. In order to prevent indoor pollution and improve the indoor environment, the development and selection of green decorative materials will become the mainstream in the future. The people-oriented green interior design concept is an inevitable trend in the development of interior design. We shall create a healthy indoor space environment that enables people to live in a healthy, safe, comfortable and environmentally friendly living environment.

Keywords: indoor environment, green decorative materials, mainstream, people-oriented concept

I. INTRODUCTION

With the continuous improvement of people's living standards, the rapid development of industry, the interior design industry should also follow the principle of green design, and the interior decoration is modernized gradually. The wall decoration material has been replaced by latex paint, high-grade wallpaper white and ordinary ceramic tile. The floor decoration is no longer gray, cold and hard cement floor. It mainly uses vitrified brick, composite wood floor, plastic gusset ceiling and decorative glass for ceiling and so on. When modern decoration is popular, people try their best to arrange all kinds of novel and contemporary decorative materials indoors. While enjoying comfort and style, they often overlook the harm caused by the use of certain decorative materials. We often heard that the media reports: After the decoration, mild users have different degrees of dizziness, insomnia, respiratory diseases and other symptoms, and even poisoned death. This is due to the adverse consequences of the user's choice of toxic building decoration materials for interior decoration. As people's health and environmental awareness continue to increase, the demand for green decorative materials will become more and more urgent.

II. AWARENESS OF GREEN LIVING ENVIRONMENT

In the design of indoor environment, green is not only a local ecological environment design, its core is to Create an overall design system that conforms to the benign cycle of ecological environment, and also the connotation of the green design of the indoor environment. The design principle of "green design" is for indoor environment. With the development of social science and technology, people's aesthetic consciousness gradually changed from early complex decoration to style of simple and fast. In the case of the gradual shortage of existing natural resources, we must strive to optimize the use of natural resources, control development and utilization, minimize environmental pollution, and protect the balance and harmony of natural ecology. The most important point in the design is that green design should focus on the ecological balance between man and nature, and follow the design principles of science, practicality, economy, return to nature, and establishment of an ecological environment. In the interior design, emphasis should be placed on the use of natural colors and natural materials to enable residents to relax their tight working conditions in a safe, healthy, efficient and comfortable indoor environment. It can be seen that indoor "green design" is the goal of people's living environment and society for the sake of sustainable development.

III. RESEARCH VALUE OF THE APPLICATION OF GREEN DECORATIVE MATERIALS IN RESIDENTIAL ENVIRONMENT

The environmental protection and energy-saving construction of interior decoration is an inevitable requirement of China's sustainable development and interior decoration industry. The concept of green environmental protection and energy conservation has certain epoch and forward-looking. Decoration enterprises should actively integrate environmental protection and energy conservation concepts, materials, equipment, technology and other factors into the interior decoration construction, maximize the role of green environmental protection and energy conservation, provide people with a more comfortable and healthy living environment, and also enable China's interior decoration industry to enter a new stage of development.

A. Development status of green decorative materials

With the rapid development of China's economy, as well as the development of the building decoration industry and the interior decoration industry, the total output value of decorative engineering is growing rapidly year by year. The building decoration industry has become an emerging industry in the national economy and social development. The rapid development of the building decoration industry has also driven the consumption of building decoration materials. There are a wide variety of building and decoration materials. At present, China's new decorative materials can no longer meet people's demand for building decoration materials. The green building decoration materials have following features: fast replacement, light weight, high strength, novel appearance, excellent performance, no pollution, energy saving and environmental protection, multi-functions with high technology. Commonly used new types of building decoration materials include invisible color coatings, aluminum-plastic composite panels, round aluminum panels, stainless steel square panels, solar panels, composite flooring, steel mesh PVC sandwich panels, artificial stone, corrugated decorative panels, organic corrugated panels, and decorative Sound film, point glass curtain wall stainless steel components, lacquered wire pipe and racks, etc.

Numerous studies have shown that in addition to human activities, the main factors causing indoor air pollution are ventilation and building materials, namely decorative materials and furniture. Decorative materials are the main source of pollution, and long-term effects in this environment can have a major impact on human health. Eco-friendly green decorative materials have been widely used in interior decoration. Eco-friendly materials include renewable materials that use plants as raw materials, ecological decorative materials that use

waste or waste resources as raw materials, that is, waste slag, construction waste, and use of low-grade mineral resources, such as waste glass, concrete, recycled ceramics, and coal ash, steel slag, municipal sludge, garbage and other resources. At present, China is vigorously exploring and developing such ecological decorative materials, but the actual utilization rate is not high. The main reason is that when these green materials are used indoors, their environmental performance cannot meet the requirement. But as a promotion project, it determines the future development direction and its environmental performance needs to be further improved.

B. Problems in the current living environment

With the development of society, people's living standards are constantly improving, more and more people are pursuing high-quality life, but their pursuit of high-quality life will gradually evolve into a pursuit of luxury environment. It is not difficult to see that some indoor living environments not only have expensive materials, luxurious decoration, but also maintain a spring-like feeling all the year round. From a design point of view, these extravagant means reflect the residents' pursuit of life. But from the perspective of green environmentalism, the pursuit of luxury goods is worth re-thinking. Because the excessive use of precious materials means the plundering and destruction of natural ecological environment and natural resources, which will lead to the gradual depletion of non-renewable resources. At the same time, the artificial climate makes people living in it deviate from the natural laws of spring, summer, autumn and winter, which cause various health problems.

Some designers do not pay attention to the use of soft design in the design process, do not pay attention to the use of advanced design skills, and blindly pursue hardware design. Do not play the value of local resources; blindly seek expensive but not cheap materials. Do not pay attention to mining the design potential of traditional materials with deliberate use of rare, precious design materials. Do not pay attention to the insulation, ventilation, heat dissipation performance of the indoor living environment, and think that artificial climate can replace the natural climate. It is unreasonable to use of natural light sources but deliberate use of artificial lighting. This practice is a serious violation of the green design concept.

IV. APPLICATION OF GREEN DECORATIVE MATERIALS IN LIVING ENVIRONMENT

The main factors causing indoor air pollution are ventilation and building materials, namely decorative materials and furniture. Decoration materials are a large source of pollution, which will have a great impact on

human health in this environment for a long time. Therefore, we must adhere to the principle of indoor green environmental protection design, achieve the goal of ecological energy conservation, and choose green decorative materials with environmental protection signs. In general, most of the inorganic materials in decorative materials are safe and harmless, such as keel and accessories, common profiles, floor tiles, glass and other traditional decorative materials, and some compounds in organic materials have certain harm to the human body, mainly Polycyclic aromatic hydrocarbons, such as hydrazines, ketones, and aldehydes, which have a strong pungent odor and can cause various physiological and psychological diseases. When choosing a variety of decorative materials and coatings, try to choose natural, non-polluting, environmentally friendly products. These eco-friendly decorative materials include: renewable materials that use plants as raw materials; ecological decorative materials that use unused or discarded resources as raw materials, such as waste slag, construction waste, and low-grade mineral resources, such as waste glass, concrete, ceramics, and recycling use of coal ash, steel slag, municipal sludge, garbage, etc. According to the requirements of "green", interior design materials should pay full attention to the original ecological properties of the decorative materials, choose non-toxic, harmless, fireproof, dustproof, anti-mite, anti-pollution, degradable materials, and increase the proportion of natural elements in the design of indoor space to ensure that the decoration is more ecological. Ecological materials used in architecture and architectural interiors around the world are everywhere. For example, in a school in Bali, Indonesia, the main building materials are locally produced bamboo, and bamboo is the main building material which reflects the designer's love for green decorative materials and the design concept of sustainable living.

A. Category of indoor green decorative materials

"Green decorative materials" are good compatibility materials for environmental protection under the premise of meeting the general functional requirements of the design. Now ecological, environmentally friendly green decorative materials have a wide range of applications in interior decoration. There are two aspects that need to be considered when selecting materials. One is to ensure the environmental protection of the material itself, that is, the internal constituent materials of the material do not have any harmful components to the environment and harm the human body. The other is to ensure the recyclability of the material, that is, the material can be recycled, which can reflect the concept of sustainable development. The following is a brief introduction to four new environmentally friendly decorative materials:

1) *Selection of wall covering materials:* Home wall decoration should try not to use wooden panels for large-scale decoration. It can be used to smooth the original wall surface and then paint water-based paint. It can also choose a new generation of pollution-free PVC environmentally friendly wallpaper, even using natural fabrics such as cotton, hemp, silk, etc. The natural wallpaper as a substrate has functions such as moisturizing, deworming, and health care.

2) *Selection of interior wall decoration materials:* For example, diatom mud, the composition is silicic acid, which has numerous pores on the surface and can absorb and decompose the odor in the air, and has the function of humidity control and deodorization. The building materials produced by using diatomaceous earth as raw materials not only have the characteristics of flame retardant, humidity regulation, deodorization, noise isolation, good permeability, but also can purify the air.

3) *Selection of ground materials:* The choice of ground materials is wide, such as floor tiles, natural stone, wooden floors, carpets, etc. Floor tiles are generally not polluted. If large-scale natural stone is used, it should have passed the inspection and do not contain radioactive elements.

4) *Selection of environmentally friendly coatings:* For biological latex paint, in addition to simple structure, a variety of colors, it also can bring colorful colors to the family. It can emit bursts of scent after brushing, and can also be painted or treated with detergent to inhibit mold in the wall.

B. Using green decorative materials to create a green living environment

Green decorative materials are defined as building materials that do not pollute human living environment and are beneficial to people's health. To strengthen the use of green decorative materials, realize the protection of the ecological environment while developing the building decoration materials industry, which have become inevitable requirements for sustainable development in China. To achieve green environmental protection and energy conservation in building interior decoration construction, it is necessary to grasp and control from various aspects such as building decoration materials, decoration construction technology and construction methods. The expanded use of new green decorative materials makes the interior decoration rich in material foundation. Not only can we make full use of the geological features of different materials to make a reasonable match, so as to obtain various styles of artistic effects, and to bring people a healthy, comfortable, safe and stable living environment. At the same time, it enables people to

live, work and rest in it. Through the use of green building materials in the human settlements, it is possible to solve the deterioration of the living environment to a certain extent, reduce the indoor air pollution caused by decorative materials, and improve the living environment. It is also the most fundamental measure. At the same time, we must also pay attention to pollution control before putting into use after the interior decoration is completed, and minimize the harm to the human health caused by decoration pollution, so as to create a safe, comfortable and healthy living environment for people.

V. CONCLUSION

The improvement of people's living standards has also greatly promoted the rise of the interior decoration industry. The development level of interior design also largely reflects the process of economic development and urbanization. At present, China is vigorously developing such ecological decorative materials, but the actual utilization rate is not high. The main reason is that when these green materials are used indoors, their environmental performance still cannot meet to requirement. It is only a promotion project and determines the future development direction, and its environmental performance needs to be further improved. In order to develop such industries or the longer-term development, we must work together to find a more suitable path for their development and solve a series of problems in the development process. It is believed that with the joint efforts of relevant personnel, green environmental protection decorative materials will be more and more applied in the decoration process of various living spaces. We must strive to develop in the direction of saving resources, saving energy, health, safety and environmental protection to develop more green building materials, strengthen the use of green materials, enhance greening efforts, purify people's living environment and achieve sustainable development.

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