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ECOLOGICAL PRODUCTS DESIGN ON REGIONAL CULTURAL BACKGROUND

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The main aspects of ecological design of products as a modern trend are revealed. The focus is on product design based on regional culture, where environmental principles are combined with local cultural traditions, aimed at creating products that harmonize with the environment and community. This comprehensive design method not only contributes to environmental protection, but also contributes to the development of the local economy and cultural heritage.

Key words: ecological design, regional culture, sustainable materials, product design.

INTRODUCTION

Ecological design has gained importance in the postmodern era. Modern scientists are exploring the possibilities of creating environmentally friendly products, in particular, underwear [1], that meet high quality requirements and minimize the negative impact on the environment. Designers are increasingly inclined to integrate multiple cultural elements in their products to create products with global influence. The development of digital technology provides more possibilities for regional cultural and ecological product design. For example, virtual reality and augmented reality techniques can be used to display and experience the traditional art and handicraft techniques of a specific culture, so as to pass on and promote these cultural heritages. And increasing consumer concerns about environmental and social responsibility, which also affects product design. Designers are increasingly focused on using environmentally friendly materials, reducing energy consumption, and working with local communities to ensure that the product production process meets the principles of sustainable development. One of the current trends is to tailor designs to the culture and needs of specific regions. The development of regional cultural and ecological product design also promotes the rise of cultural and creative industries.

PURPOSE

This paper aims to analyze the practical application of environmentally friendly materials with regional cultural characteristics in product design.



RESULTS AND DISCUSSION

Nowadays, environmentally friendly materials product design has become an important issue in the design field. The results of this trend are reflected in several aspects:

1. Widespread use of renewable materials: According to market statistics, 28% of designers and businesses choose to use renewable materials to manufacture products in 2023. For example, bamboo as a renewable resource is widely used in furniture, building materials and other fields. In addition, plant-based cellulose materials, such as soybean fiber and corn starch, are used to make biodegradable plastics, textiles, etc.

2. Advocate recycling and recycling: Ecological product design emphasizes the principle of circular economy, and designers include recycling and recycling into the product design process. For example, some companies are using biodegradable bioplastics to make disposable cutlery to reduce plastic pollution. At the same time, some furniture companies have designed removable and reusable furniture to extend the service life of their products and reduce waste production [2].

3. Improving consumer recognition: With the improvement of environmental awareness, more and more consumers express their recognition and preference for environmental protection material products. For example, some well-known brands have launched product lines made of environmentally friendly materials, such as Nike's shoes made of recycled materials and Apple's product packaging made of recycled metal and plastic, which are popular with consumers. The article [3] argues that the wave of green consumption continues to rise.

4. Establishment of international standards and certification system helps to standardize the product design and production process of environmental protection materials, and improve product quality and environmental performance.

The Fig. 1 and Fig. 2 shows examples of the design of products made of ecological materials, created on the basis of cultural traditions



Fig.1.Bamboo iron design



Fig.2. Cloth lamps and lanterns

To sum up, the discussion and practice of product design of environmental protection materials are expanding and deepening. The cooperation of all parties, educational publicity, policy support and standard certification have made important



contributions to the design of environmental protection materials products, and laid a solid foundation for the construction of a green and sustainable future society.

CONCLUSIONS

Product design of green materials is a design method aiming to reduce the impact on the environment. This design focuses on material renewability, degradability and low carbon emissions, as well as environmental friendliness throughout the product life cycle. By selecting environmentally friendly materials and optimizing the design and production processes, green products are designed to reduce resource consumption, reduce waste production, and promote sustainable development. The impact on today's social era is very profound. First, it leads the transformation of consumers' demand and cognition of environmentally friendly products, and drives the market towards a more sustainable direction. Secondly, this design method encourages enterprises to adopt more environmentally friendly production methods, thus reducing the negative impact on the environment, and to a certain extent, improving the social responsibility and sustainability of enterprises. In addition, the design of green environmental protection materials also provides a broader space for scientific and technological innovation, promotes the development of new environmental protection materials and technologies, helps to reduce the human dependence on natural resources, promotes the rational utilization and recycling of resources, so as to protect the sustainability of the ecological environment.

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ЕКОЛОГІЧНИЙ ДИЗАЙН ВИРОБІВ ПРОДУКТИ У РЕГІОНАЛЬНОМУ КУЛЬТУРНОМУ КОНТЕКСТІ

Виявлено основні аспекти екологічного дизайну виробів як сучасного тренду. Основну увагу зосереджено на дизайні виробів, що базується на регіональній культурі, де екологічні принципи поєднуються з місцевими культурними традиціями, спрямованими на створення продуктів, які гармонізують з навколишнім середовищем та спільнотою. Цей комплексний метод дизайну сприяє не лише охороні навколишнього середовища, але також сприяє розвитку місцевої економіки та культурному спадщині.

Ключові слова: екологічний дизайн, регіональна культура, стійкі матеріали; дизайн виробів.