

实木家具的减量化设计原则探讨

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摘 要:【目的】绿色设计是实现可持续发展的重要途径, 减量化在绿色设计的“4R 原则”中处于首要地位, 本文探讨在保证安全性、人机关系协调和满足家具所需功能性的前提下, 实现以减量化设计为核心的家具产品“绿色设计”优化的可实现原则。【方法】本文以实木家具为研究对象, 结合具体的设计案例, 使用文献研究法、案例分析法、学科交叉法、实地调查法, 通过列举、对比、实例分析, 从家具的设计理念和设计语言入手, 通过实例探讨实木家具的外观造型减量化、材料减量化、结构与工艺减量化、包装与运输等方面蕴涵的减量化设计思维。【结果】总结了适用于实木家具减量化设计的五个核心原则: 分别是以控制进入家具生产环节能量流和物质流为目标的“少量化”, 以综合考虑家具审美、安全、尺度后删减多余内容的“简单化”, 实现家具和包装轻简、缩减占用空间的“轻量化”和“小型化”以及实现接轨高新技术的“标准化”。具体而言, 对家具外观造型进行减量设计的方法主要是: 装饰方法的简洁化、外观尺寸的合理缩减、由设计带来视觉感受的减化; 实木家具材料进行减量化的途径有: 使用轻质材料生产轻量化家具、优选加工性能好的木质材料、实现劣材小材优用及减少材料用量与种类等; 对实木家具工艺减量化的手段是: 使用现代榫卯结构和现代连接件简化家具结构、优化家具涂饰工艺、对家具的零部件进行减化设计等内容; 实木家具包装与运输环节减量化可以通过对家具包装设计、运输环节简化并结合家具结构接合方式的优化等方式进行。最后, 指出减量化设计应该是在满足家具的功能、审美、安全性等前提下对实木家具进行包括外形、装饰、结构、工艺、包装和运输等方面的优化设计, 同时, 减量化设计应该作为家具产品市场化前设计评审中不可或缺的一环。

关 词: 实木家具; 减量化设计; 绿色化; 优化设计

Research on Reduction Design of Solid Wood Furniture

Abstract: 【Objective】Green design is an important way to achieve sustainable development. Reduction is the most important part of green design 4R principles. This article discusses how to achieve this under the premise of ensuring safety, coordination between humans and machines, and meeting the functionality required by furniture. The achievable principle of "Green Design" optimization of furniture products with reduced design as the core.

【Result】Using literature research methods, case analysis methods, interdisciplinary methods, and field survey methods, through enumeration, comparison, and case analysis, first start with the design concept and design language of furniture, and discuss the reduction of the appearance of solid wood furniture and the reduction of materials through examples. Quantification, structure and process reduction, packaging and transportation, and other aspects of reduction design thinking. 【Conclusion】The methods for reducing the design of furniture appearance are: the simplification of the decoration method, the reasonable reduction of the appearance size, and the lightness of visual perception. Solid wood furniture materials to reduce the quantification of the way is: the use of lightweight materials to produce lightweight furniture, optimize the processing properties of good wood materials,

the realization of inferior wood and small materials to reduce the type of material. The methods for reducing the furniture craftsmanship are: using modern tenon structure and modern connectors to simplify the furniture structure, optimize the furniture finishing process, and reduce the design of furniture components. The reduction of furniture packaging and transportation links is reflected in the simplification of furniture packaging design and transportation links, and the optimized design of the joining structure of furniture structures. Based on the research above, the “five basic principles” for the reduction design of solid wood furniture are “Minorization” of controlling the energy flow and material flow into the furniture production chain; Safety and scale reduction of redundant content “Simplification”; realization of light and simple furniture and packaging, reducing the “Lightweight” and “Miniaturization” of occupied space and the “Standardization” of high-tech integration. The conclusion is the reduction design is supposed to design of solid wood furniture including appearance, decoration, structure, craftsmanship, packaging and transportation under the premise of satisfying the appropriate functions, aesthetics, and safety of the furniture. And it should be an indispensable part of the evaluation of furniture products.

Key words: Wood furniture; Reduction design; Greening design; Optimization design.