

Research on the Description Method of Technical Parameters for Furniture Products

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Abstract: Furniture refers to a type of equipment that is essential for human beings to maintain normal life, engage in production practices, and carry out social activities. In recent years, furniture companies have also developed towards specialization, regionalization, functionalization, and intelligence in product design and production. With the development of domestic engineering infrastructure projects, the proportion of centralized procurement furniture in the industry has been increasing year by year. The demand for centralized procurement of furniture products has reached an unprecedented peak. In order to meet the needs of office, experiment, learning, and other use, the user unit pays more attention to the professionalism of furniture products and the concept of integrating products with the environment based on the selection standards of furniture products, appearance and color matching. In centralized procurement projects, bidding is often indispensable. An important aspect of this process is to specify the various parameters of the required products in the bidding documents, in order to form a unified standard and enable the purchaser to select the highest quality supplier under the same standard. It is essential for consumers who purchase furniture to understand the technical parameters of furniture. Technical parameters are not only related to the lifespan and comfort level of furniture, but also closely related to the quality of life. This article is based on the practical experience of various centralized procurement projects, analyzing and organizing the conventional furniture products involved in the market. It systematically sorts out how to accurately and comprehensively describe the appearance, materials, function, structure, quality, and environmental performance parameters of furniture products, and explores the rational description methods of parameters.

Keywords: Furniture Parameter Settings, Furniture Performance Parameters, Centralized Procurement Furniture

1. Introduction

In a broad sense, furniture refers to a type of equipment that is essential for human beings to maintain normal life, engage in production practices, and carry out social activities. Narrowly defined furniture refers to a type of appliance used for people to sit, lie, or support and store items in life, work, or social practice. Furniture is not only a simple functional object, it is composed of four factors: material, structure, appearance form, and function. Among them, function is the precursor and the driving force for the development of furniture; Structure is the backbone and the foundation for achieving functionality. These four factors are interrelated and mutually constraining. Due to the fact that furniture is designed and manufactured to meet people's certain material needs and usage purposes, it also has factors in terms of

functionality and appearance [1-3].

With the continuous improvement of people's living standards, more and more people are also constantly pursuing a high-quality life, and have high requirements for furniture products. Furniture, as an essential item in people's daily life, has comprehensive characteristics such as practicality, aesthetics, functionality, and comfort [4].

2. Technical Parameters and Functions of Furniture

Technical parameters are a quantitative reflection of the characteristics and attributes of furniture products. In the production and selection process of furniture products, the technical parameters of the product are very important basis [5].

2.1. Technical Parameters of Furniture

The technical parameters of furniture are numerical values or indicators that describe the performance and characteristics of a product, and quantify the characteristics of furniture [6]. The technical parameters of furniture include dimensions, colors, materials, craftsmanship, weight, quality and environmental requirements, and usage methods.

2.2. The Role of Setting Furniture Technical Parameters in the Market

The setting of furniture technical parameters is widely used in the market: the product technical parameters or product manuals provided by manufacturers can help consumers have a more comprehensive understanding of the characteristics and usage requirements of furniture products, thereby better selecting products that meet their own needs. In the process of selling and serving furniture products in the market, especially in the sales process of customized products, technical parameters can also be used as a part of the purchase and sales contract, as a sales and after-sales basis for effective communication between product manufacturers and consumers, to ensure the legitimate rights and interests of consumers [7]. The technical parameters of the product can also help manufacturers better manage their own products, understand the characteristics and shortcomings of the product, and thus better optimize and innovate the product. The role of product technical parameters is also fully reflected in the bidding process of centralized procurement projects. As a legal basis for positioning and quantifying user needs, as well as quality and environmental protection requirements, it plays a crucial role in controlling the entire bidding process and product quality and environmental protection performance [8].

3. The Technical Parameters of Furniture Products

3.1. Furniture Technical Parameters Need to Reflect the Conventional Attributes of Furniture

To set the technical parameters of furniture well, the first step is to have a comprehensive understanding of the basic attributes of the target product. According to the

characteristics and attributes of furniture products, the main technical parameter settings should include the main classification of the product, main raw materials, production process, product appearance and functional dimensions, appearance and functional structure, product quality standards and environmental standards, etc.

3.2. Classification Principles and Methods of Furniture Technical Parameters

There are many furniture products, and in order to accurately describe the technical parameters of furniture, it is necessary to classify furniture. There are many principles for furniture classification. In the process of setting product parameters in batches, the most widely used and effective one is to classify products based on their materials and structures. In the process of furniture product production, the reason for the close connection between the material and production process of the product is that choosing this classification method can easily find the common attributes of the furniture product, make it easier to build a parameter system, and achieve universality. On this basis, optimization and innovation can also be carried out to derive technical parameter indicators for customized products of the same material [9-11].

According to the above principles, furniture can be classified into seven categories: solid wood furniture, board frame furniture, artificial board furniture, soft furniture, metal frame furniture, metal cabinet furniture, and seat furniture.

3.3. Description of the Main Technological Characteristics of Furniture

According to the above seven types of main products, the description of furniture parameters should clarify the raw materials used by the main body and their related characteristics. The relevant characteristics include the name and characteristics of the raw materials (tree species, equilibrium moisture content), the parameters and environmental protection level of the materials (density, formaldehyde and TVOC content), the splicing form of the materials (finger joint, direct joint or artificial board), the brief structure and assembly form of the product (integral, frame type, splicing type) And the general production process of the product. The approximate description method is shown in table 1.

Table 1. Main classification standards for furniture.

Category	Raw Materials and Their Related Characteristics	Material Parameters and Environmental Protection Level	Material Splicing Method	Material Splicing Form	Brief Structure and Assembly Form of the Product	General Production Process of the Product
All solid wood furniture	Made of high-quality solid wood	Wood density, equilibrium moisture content of wood	Mortise and tenon structure	Name of mortise and tenon joint	Integral structure	Cutting, planning, machining, framing, surface coating
Wood frame furniture	The frame is made of solid wood, and other components are made of artificial boards	1. Wood density, equilibrium moisture content of wood 2. The name and environmental	Tenon and tenon structure, surface decoration materials (wood veneer, melamine	Hardware accessories (hinges, slides, locks)	Integral or assembled structure	Cutting, planning, machining, framing, surface coating

Category	Raw Materials and Their Related Characteristics	Material Parameters and Environmental Protection Level	Material Splicing Method	Material Splicing Form	Brief Structure and Assembly Form of the Product	General Production Process of the Product
Artificial board furniture	such as density board, particle board, or plywood Made of artificial boards such as density board, particle board, or plywood	protection level of artificial boards The name and environmental protection level of artificial boards	impregnated deep stained paper, fireproof board, etc.) Surface decorative materials (wood veneer, melamine impregnated paper, fireproof board, etc.)	Hardware accessories (hinges, slides, locks)	Assembled structure	Veneer, cutting, edge sealing, surface coating
Seat furniture	1. Surface material: leather, leather, cloth 2. Built in materials: wooden frame, sponge 3. Metal mechanism: chair chassis, lifting mechanism, etc	Wood (or artificial board) and sponge density used for wooden frames	Wrapping and sewing thread routing	Institutional functions	Four legged landing, lifting, tilting, etc	Cutting, framing, cutting, wrapping, assembly
Metal frame furniture	Metal fittings (round, square, or irregular fittings)	Steel type, outer diameter and wall thickness of pipe fittings	One-time molding	Cutting and welding	Bolt or buckle type	Cutting, welding, shot blasting, surface coating
Metal cabinet furniture	Metal sheet parts (cold rolled steel plate)	Steel plate type and thickness	One-time molding	Cutting	Integral structure	Cutting, cutting, bending, punching, surface coating
Mattress furniture	Fabric type	Fabric density, color fastness, etc	Knit	Quilting	Paved	Cutting, paving, quilting, hemming

3.4. Description of Furniture Appearance and Structure

The description of the appearance and structure of furniture mainly includes two aspects: size, appearance, functional structure, and size. The functional structure size should generally comply with relevant standards [12].

The structure of table furniture can be divided into two types: frame structure and panel structure. The frame structure is generally described as a four legged landing structure, with a clear indication of whether it is a mortise and tenon structure; Secondly, it is necessary to clarify the appearance dimensions, length and width of furniture according to actual needs, and the height of tables should comply with relevant standards; The third is to clarify the general structure of the table, such as how many drawers, how many doors, how many partitions, and the number of partitions, whether the host position and wiring function are set [13].

Chair type: Chair type furniture generally belongs to frame type furniture, so it should be first clarified whether the frame material is a wooden frame, metal frame, or ergonomic chair. For wooden frame chairs, it is necessary to specify the material of the chair frame, the quantity of the watch board, and the wooden frame. For metal frame chairs, specify the material, inner and outer diameter dimensions, and surface treatment method of the metal. For ergonomic chairs, the backrest height of the chair should also be clearly defined (generally described in three ways: "high back", "middle

back", and "low back"), whether the seat and back are separated in structure, and the material of the five star feet, whether they are lifted or lowered, whether they can be tilted, and the positioning mode of tilting (three section, five section, and infinite positioning). The size parameter description of chair products only needs to confirm the range of seat height to meet relevant standards.

Cabinet type: The structural parameters of cabinet furniture should first clarify the place of use, such as book storage cabinets, clothing storage cabinets, and cabinets for storing other items. In terms of structural description, the door opening method of the cabinet body (opposite door, three door, sliding door, etc.), and the internal structure of the door (whether there is a central mountain, how many layers, number of partitions, number of drawers, etc.) should be clearly defined. If it is a sliding door, it should also be clear whether it is an external sliding door or an embedded sliding door. In terms of size, if there are no special functional requirements for the internal structure, it is mainly necessary to clarify the length, width, height, and external dimensions of the cabinet body.

Bed type: Bed furniture should first clarify the main material, such as wooden beds, soft beds, and steel frame beds. Secondly, clarify the appearance dimensions of the bed, the appearance dimensions of the steel frame bed, based on the outer edge size of the bed body, and the appearance dimensions of other bed types, based on the actual size of the mattress placed, making it easier to choose a mattress. The

structure of the bed type needs to be clearly defined as a double-layer bed or a single-layer bed, the structure of the bed box (floor type, split type, suspended type), and whether it has pneumatic function.

The description methods for the appearance and structure of other types of furniture can refer to the above mentioned products, and provide practical descriptions of the important appearance and functional dimensions of the products, as well as the approximate structure and function of the furniture [14].

3.5. Description of the Quality and Environmental Performance of Furniture

In addition to appearance and function, the quality and environmental performance of furniture, as two important indicators closely related to safety and health, should also be quantified as technical parameters of the product. Each country has established relevant national and industry standards for the quality and environmental performance of products. When describing the quality and environmental performance of furniture products, relevant standards should be followed [15].

Different furniture quality and environmental performance standards basically include two types of quality and environmental performance standards: raw materials and finished products. Taking domestic furniture standards as an example, the raw materials used in furniture, such as solid wood, artificial board, wood veneer, paint, and hardware, have clear standards in terms of physical properties, chemical properties, and environmental protection. Furniture finished products also have physical, chemical, and environmental protection standards applicable to different ranges of products. When describing the quality and environmental performance of furniture, reference should be made to the local standards for raw materials and finished products. Based on the specific requirements for use, a comprehensive description should be given to the physical, chemical, and environmental performance of the raw materials and finished products. It is also possible to describe the relevant national enterprise standard number that the main raw materials or products of a certain product belong to.

4. Language Framework for Describing Various Technical Parameters of Furniture

There are a wide variety of furniture products, with different raw materials and processes, and each product contains its own many attributes. Therefore, in order to enable users to quickly understand the comprehensive technical parameters of the required product, the language description framework should also be concise and clear. After years of practice, it is believed that describing product technical parameters in the following order is more conducive to accurate expression: 1. Reference images of the product (which can be physical or design drawings) 2.

Describe the dimensions of the product; 3. Describe the appearance characteristics of the product (style, color, appearance, and functional structure); 4. The main raw materials and environmental protection level of the product; 5. The main production processes and special processes of the product; 6. Product quality requirements and environmental protection requirements; 7. Other special attributes of the product that need to be described.

5. Conclusion

In summary, furniture is an indispensable element in spatial layout, which can endow different functions and atmospheres to the space, while also bringing aesthetic and artistic value to the space. The technical parameters of furniture products are very important content in the process of furniture production, sales, and service. Although there is a certain degree of professionalism in describing the technical parameters reasonably, comprehensively, and accurately, there are also methods to find. It is essential for consumers who purchase furniture to understand the technical parameters of furniture. Technical parameters are not only related to the lifespan and comfort level of furniture, but also closely related to the quality of life.

Based on the practical experience of various furniture procurement projects, this research analyzes and organizes the conventional furniture products involved in the market, systematically organizes how to accurately and comprehensively describe the appearance, materials, functions, structure, quality, and environmental performance of furniture products, and explores the reasonable description methods of parameters. The results of this research can provide a good reference for the selection and use of furniture.

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