

HJ

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**A guide to feasible technologies for pollution prevention and
control in the furniture manufacturing industry**

家具制造工业污染防治可行技术指南

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1 Scope of application

This standard proposes feasible technologies for the prevention and control of waste gas, waste water, solid waste and noise pollution in the furniture manufacturing industry.

This standard can be used as the environmental impact assessment of furniture manufacturing industrial enterprises or production facilities construction projects, the formulation and revision of national pollutant discharge standards, Reference for pollutant discharge permit management and selection of pollution prevention and control technologies.

Wooden doors and windows manufacturing industry, custom furniture manufacturing industry, centralized spray painting factory supporting furniture manufacturing industry, wooden toy manufacturing industry and the pollution prevention and control of other wood and bamboo handicraft manufacturing industries with painting process can be implemented with reference to this standard.

This standard does not apply to pollution prevention and control in the plastic furniture manufacturing industry.

2 Normative references

This standard refers to the following documents or clauses thereof. For dated references, only the dated version applies to this standard.

For undated references, the latest edition (including all amendments) applies to this standard.

GB 8978 Integrated Wastewater Discharge Standard GB 12348 Industrial Enterprise Boundary Environmental Noise Emission Standard GB 14554 Emission Standard of Odor Pollutants GB 16297 Comprehensive Emission Standard of Air Pollutants GB 18581 Limits of Hazardous Substances in Wood Coatings GB 18597 Hazardous Waste Storage Pollution Control Standard GB 18599 General Industrial Solid Waste Storage and Landfill Pollution Control Standard GB 33372 Adhesive volatile organic compound limit GB 37822 Volatile organic compound fugitive emission control standard HJ 1027 Technical Specification for Pollution Discharge Permit Application and Issuance Furniture Manufacturing Industry HJ 1093 Regenerative combustion method industrial organic waste gas treatment engineering technical specification HJ 2020 General technical specification for bag type dust removal project HJ 2026 Technical specification for industrial organic waste gas treatment engineering by adsorption method HJ 2027 Technical Specification for Industrial Organic Waste Gas Treatment Engineering by Catalytic Combustion "Measures for the Administration of Hazardous Waste Transfer Forms" "National Hazardous Waste List"

3 Terms and Definitions

The following terms and definitions apply to this standard.

furniture manufacturing industry the industry of manufacturing various furniture with functions such as sitting, lying, leaning, storing, and spacing, which are made of wood, metal, bamboo, rattan and other materials.

Including wooden furniture manufacturing, bamboo and rattan furniture manufacturing, metal furniture manufacturing and other furniture manufacturing.

wooden furniture manufacturing the main materials are natural wood and wood-based panels, together with other auxiliary materials (such as coatings, finishing materials, glass, hardware accessories, etc.) for various furniture production activities.

bamboo or rattan furniture manufacturing the production activities of making various kinds of furniture with bamboo and rattan as the main materials, together with other auxiliary materials.

metal furniture manufacturing the support (frame) frame and main components are mainly made of cast iron, steel, steel plate, steel pipe, alloy and other metals, combined with wood, bamboo, plastic Materials and other materials, together with artificial leather, nylon cloth,

foam plastic and other accessories to make various furniture production activities.

other furniture manufacturing Use bandage materials (such as bandages,, linen, etc.) and decorative fabrics and accessories (such as cotton, wool, chemical fiber fabrics and cowhide, sheepskin, human all kinds of soft furniture made of leather, etc.); all kinds of glass furniture made of glass as the main material, supplemented by wood or metal materials, and other Production activities for the manufacture of various types of furniture from raw materials not specified.

available techniques of pollution prevention and control According to my country's environmental demand and economic level in a certain period of time, comprehensive use of pollution prevention technology and pollution control technology in the process of pollution prevention and control technology and environmental management measures to stably meet the national pollutant discharge standards and large-scale application of technology.

volatile organic compounds (VOCs) Organic compounds participating in atmospheric photochemical reactions, or organic compounds determined according to relevant regulations.

When characterizing the overall emission of VOCs, according to industry characteristics and environmental management requirements, total volatile organic compounds (with TVOC) can be used.

expressed), non-methane total hydrocarbons (expressed as NMHC) as pollutant control items.

non-methane hydrocarbons (NMHC) Using the specified monitoring method, the sum of the gaseous organic compounds, excluding methane, for which the hydrogen flame ionization detector responds, in terms of carbon mass concentration meter.

airtight closed/close Contaminants are not in contact with the ambient air, or are isolated from the ambient air by sealing materials, sealing equipment, or operating methods.

3.10

closed space

A closed area or closed building formed by using a complete envelope to block pollutants, workplaces, etc. from the surrounding space.

Except for personnel, vehicles, equipment, and materials entering and leaving the closed area or closed building, as well as the exhaust pipes and vents established according to law, the door shall be closed.

Windows and other openings (holes) should be kept closed at all times.

3.11

VOCs-containing materials this standard refers to raw and auxiliary materials, products and wastes (slag, liquid) with a mass proportion of VOCs greater than or equal to 10%, as well as organic polymer raw materials.

Auxiliary materials and waste (slag, liquid).

3.12

fugitive emission

Irregular emissions of air pollutants that do not pass through exhaust stacks, including emissions from open workplaces, and through crevices, vents, open Discharge of doors, windows and similar openings (holes), etc.

4.1.1 Production Process of Wooden Furniture

Wooden furniture includes solid wood furniture and panel furniture. The production process of solid wood furniture mainly includes material preparation, material cutting/paneling, machining, Assembling, painting (spraying/rolling/coating, drying, paint surface grinding, etc.), packaging and storage, etc., see the typical production process of solid wood furniture Appendix A Figure A.1; the production process of panel furniture mainly includes material preparation, wool cutting, trimming/splicing of veneer materials, veneer sticking, fine cutting, sealing Edge, machining, assembly, painting (spraying/rolling/sprinkling coating, drying, paint surface grinding, etc.), packaging and warehousing and other processes, typical production of panel furniture.

The production process flow is shown in Figure A.2 of Appendix A. The raw and auxiliary materials used in the production of wooden furniture mainly include natural wood (solid wood) or wood-based panels, Coatings, adhesives, hardware accessories, veneer and other facing materials, edge sealing materials, etc.

4.1.2 Production Technology of Bamboo and Rattan Furniture

Bamboo and rattan furniture is divided into bamboo furniture and rattan furniture. Among them, the production process of bamboo furniture mainly includes material preparation, cutting, machining, assembly, painting (spraying) the typical production process of bamboo furniture is shown in Figure A.3 of Appendix A;

The production process of furniture mainly includes processes such as material preparation,, coating (spraying/dipping, drying, paint surface grinding, etc.), packaging and storage, etc.

The typical production process flow is shown in Figure A.4 of Appendix A. The raw and auxiliary materials used in the production of bamboo and rattan furniture mainly include bamboo, rattan, paint, adhesive agent, etc.