

HJ

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Guideline on available technologies of pollution prevention and control for ceramics manufacturing industry

陶瓷工业污染防治可行技术指南

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Foreword

To implement the Law of the People's Republic of China on Environmental Protection, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution the Law on Pollution Prevention and Control, etc., to prevent and control environmental pollution, improve environmental quality, and promote technological progress in pollution prevention and control of the ceramic industry, and develop this standard.

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

This standard is the first release.

Appendix A to Appendix C of this standard are informative annexes.

This standard is formulated by the Department of Science and Technology and the Department of Regulations and Standards of the Ministry of Ecology and Environment.

This standard was drafted. Building Materials Industry Technical Information Research Institute, Beijing Quanhua Environmental Technology Standards Research Center, China

Building Materials the Research Institute of Science and Technology, the South China Institute of Environmental Sciences of the Ministry of Environmental Protection, the Foshan Building Materials Industry Association and Jiangsu Kexing Environmental Protection Co., Ltd.

Limited company.

This standard was approved by the Ministry of Ecology and Environment on December 29, 2018.

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This standard is explained by the Ministry of Ecology and Environment.

1 Technical guidelines for feasible control of pollution in ceramic industry

1 Scope of application this standard proposes feasible technologies for the prevention and control of waste gas, wastewater, solid waste and noise pollution in ceramic industrial enterprises.

This standard can be used as environmental impact assessment for ceramic industrial enterprise construction projects, national pollutant discharge standard revision, sewage permit management and Reference for the selection of pollution prevention technologies.

2 Normative references

The contents of this standard refer to the following documents or their terms. For undated references, the valid version applies to this standard.

GB 18599 General industrial solid waste storage and disposal site pollution control standards GB 25464-2010 Ceramic Industry Pollutant Emission Standard Amendment to the "Ceramic Industry Pollutant Emission Standards" (GB 25464-2010) (Ministry of Environmental Protection Announcement No. 83 of 2014) National Directory of Hazardous Wastes (Ministry of Environmental Protection No. 39)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Ceramic industry manufacturing industry

Refers to the industry in which raw materials are processed, formed, fired, etc. to form various ceramic products. The products mainly include architectural ceramics and sanitary products.

Ceramic, daily and furnishings art porcelain and special ceramics.

3.2 Building ceramics building ceramics

Refers to plate-like or block-shaped ceramic products used for building finishes, components and to protect buildings and structures.

3.3 Sanitary ceramic ceramicware

Refers to glazed ceramic products used in sanitary facilities.

3.4 Daily and furnishings artware tableware and ornamentalware(household ceramics)

Refers to all kinds of ceramic products for daily use or for artistic appreciation and collection value.

3.5 Special ceramics industrial ceramics

Refers to the general term for ceramic materials used in industries and other sectors, mainly including electrical ceramics and chemical ceramics.

3.6 Feasible techniques of pollution prevention and control

2 According to the environmental demand and economic level in a certain period of China, comprehensively adopt pollution prevention technology and pollution control technology in the process of pollution prevention and control Surgery and environmental management measures to make pollutant emissions stable to meet the national ceramic industry pollutant discharge standards, scale application technology.

3.7 Standard condition

Refers to the state when the temperature is 273.15 K and the pressure is 101325 Pa. The concentration of atmospheric pollutants covered by this standard, unless otherwise stated, Based on the dry smoke and oxygen content of 18% under standard conditions.

4.1 Production process

4.1.1

The ceramic production process mainly includes the steps of raw material preparation, forming, firing and post-processing. Common forming processes include dry pressing Forming, plastic forming and slip forming. The dry-formed building ceramic post-processing process includes cutting, edging and surface polishing of the finished product after firing.

4.1.2

Ceramic raw materials mainly include feldspar, quartz and clay mineral raw materials, as well as a small amount of mineral raw materials such as calcium and magnesium and chemical industry.

raw material.

4.1.3

The types of energy used in building ceramics mainly include producer gas, coal water slurry, coal powder and natural gas, and other ceramic energy sources.

The categories mainly include natural gas, liquefied petroleum gas and electrical energy.

4.2 Generation of pollutants

4.2.1

During the ceramic production process, the firing process kiln, the baking process kiln and the spray drying process spray drying tower produce flue gas pollutants.

Wet method preparation and forming process produces non-organic discharge; wet process preparation, spray drying, post-processing and other processes produce production wastewater; full process both produce solid waste and noise. See Appendix A for typical production processes and major production lines.

4.2.2

During the firing and roasting process, the ceramic kiln such as roller kiln, tunnel kiln and shuttle kiln discharges kiln flue gas and produces atmospheric pollutants.

It mainly includes particulate matter, sulfur dioxide (SO₂), nitrogen oxides (NO_x), chlorides, fluorides, lead and their compounds, cadmium and their compounds.

And nickel and its compounds; spray drying of spray drying towers during spray drying of architectural ceramics and special ceramics, producing atmospheric pollutants it mainly includes particulate matter, SO₂ and NO_x. Initial emissions of particulate matter, SO₂ and NO_x from flue gas pollutants in kiln flue gas and spray drying tower See Appendix B for the usual range of degrees.

4.2.3

The main sources of unorganized emissions in the ceramic production process include raw material preparation and forming processes. Dry-formed building potter the main sources of unorganized emissions from the industry include powder preparation processes and post-processing operations such as dry cutting, edging and surface polishing.