

HJ

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**Guideline for available techniques of pollution prevention and
control for glass manufacturing industry**

玻璃制造业污染防治可行技术指南

(English Translation)

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Foreword

In order to implement the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Water Pollution Prevention and Control, the Law on Prevention and Control of Dyeing, etc., to prevent and control environmental pollution, improve environmental quality, and promote technological progress in pollution prevention and control of glass manufacturing, and develop this standard.

This standard proposes feasible technologies for the prevention and control of waste gas, wastewater, solid waste and noise pollution in the glass manufacturing 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. China Building Materials Inspection and Certification Group Co., Ltd., Wuhan University of Technology, China Building Materials Inspection and Certification

Group Qin Environmental Engineering Evaluation of Huangdao Co., Ltd., Building Materials Industry Technical Information Research Institute, Beijing Municipal Environmental Protection Research Institute, and Ministry of Environmental Protection center.

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

This standard has been implemented since March 01, 2019.

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

1 Technical guide for feasible pollution prevention in glass manufacturing industry

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 flat glass and flat panel display glass manufacturing enterprises.

The advanced and feasible technology for the prevention and control of flue gas pollution in the flat glass melting process is proposed.

This standard can be used as environmental impact assessment for construction projects of flat glass and flat panel display glass manufacturing enterprises, and national pollutant discharge standard repair References for booking, pollution permit management and pollution prevention technology selection.

This standard does not apply to pollution prevention and control of deep-processed glass manufacturing enterprises.

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 8978-1996 Integrated Wastewater Discharge Standard GB 18597 Hazardous Waste Storage Pollution Control Standard GB 26453-2011 Flat glass industry air pollutant emission standards GB 29495-2013 Emission standards for air pollutants in the electronic glass industry Measures for the Administration of Hazardous Waste Transfer Joint Orders (Order No. 5 of the State Environmental Protection Administration) "Notice on the Issuance of the Catalogue of Highly Contaminated Fuels" (National Environmental Regulations [2017] No. 2)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Flat glass flat glass

A platy silicate glass produced by a float process or a calender process.

3.2 Flat panel display glass

Substrate glass, protective (touch) glass, and other glass used to manufacture flat panel display devices produced by a float process or an overflow process.

3.3 Feasible techniques of pollution prevention and control

According to the environmental demand and economic level in a certain period of China, pollution prevention technology and pollution control technology are comprehensively adopted in the pollution prevention and control process.

Surgery and environmental management measures to make pollutant emissions stable to meet the national glass manufacturing pollutant emission standards, scale application technology.

3.4 Advanced available techniques for pollution prevention and control

2 At least one major pollutant emission in the feasible technology for pollution prevention and control is stable lower than the national glass manufacturing pollutant emission standard limit 70% of the technology.

3.5 On-line coating process in the process of producing flat glass by the float process, one or more layers of metal and metal are coated on the surface of the glass by physical or chemical methods.

The process of a film of a substance or a non-metallic compound.

3.6 Oxygen combustion

A combustion mode in which the combustion gas contains more than 90% oxygen.

3.7 Standard condition

The temperature is 273.15 K and the pressure is 101325 Pa. The concentration of atmospheric pollutants covered by this standard, unless otherwise stated, the dry smoke and oxygen content in the standard state are 8%.

4.1 Production process

4.1.1

Flat glass and float process The process of producing flat panel display glass mainly includes batching, melting, forming, annealing and cutting packages.

Install 5 processes. The process of producing flat panel display glass by the overflow process also includes grinding and cleaning processes. See the appendix for each production process A.

4.1.2

Flat glass and float process The main raw materials and accessories for flat panel display glass include quartz sand, soda ash, dolomite and limestone.

And Glauber's salt; raw materials used in the online coating process include organotin compounds (chlorine) and fluoride; float process to produce flat panel display glass the main raw materials also include potassium carbonate, alumina and carbon powder; the main raw materials and auxiliary materials for the production of flat panel display glass by overflow process include quartz.

Mineral raw materials and chemical raw materials such as sand, soda ash, magnesium oxide, alumina, nitrate, boric acid, tin oxide.

4.1.3

The fuel used in the production of flat glass mainly includes natural gas, coke oven gas, producer gas, heavy oil and coal tar;

The fuel used in glass production is mainly natural gas.

4.2 Generation of pollutants

4.2.1

Air pollutants produced by glass manufacturing enterprises mainly include particulate matter, sulfur dioxide (SO₂), nitrogen oxides (NO_x), and chlorination.

Hydrogen, fluoride, tin and their compounds. The particulate matter is mainly produced in the two processes of compounding and melting; SO₂ and NO_x are generated in the melting process;

Hydrogen chloride and fluoride are mainly produced in two processes of melting and in-line coating; tin and its compounds are mainly produced in the online coating process. Glass melting See Appendix B for the initial emission concentration range of particulate matter, SO₂ and NO_x produced by the chemical process.

4.2.2

Wastewater produced by glass manufacturing enterprises includes production wastewater, initial rainwater and domestic sewage. Production wastewater mainly includes workshop flushing waste Water, circulating cooling system sewage and softened water preparation system sewage, etc., enterprises that use heavy oil and coal tar as fuel will produce oily wastewater.