

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Technical specifications for floatation process in wastewater
treatment**

污水气浮处理工程技术规范

(English Translation)

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Foreword

To implement the Environmental Protection Law of the People's Republic of China and the Law of the People's Republic of China on the Prevention and Control of Water Pollution, standardize the treatment of sewage air flotation Cheng Jian, to make it continuous and stable operation, discharge standards, prevent water pollution, improve environmental quality, and develop this standard.

This standard specifies the general requirements, process design, equipment selection, testing and control, and transportation of the air flotation process used in wastewater treatment projects.

Technical requirements for line management.

This standard is the first release.

Appendix A of this standard is a normative appendix.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. Jiangsu Academy of Environmental Sciences, Southeast University, Jiangsu Pengyi Environmental Engineering Design Institute, Yangzhou Chenglu Ring Engineering Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on December 17, 2010.

This standard has been implemented since March 1, 2011.

This standard is interpreted by the Ministry of Environmental Protection.

Technical specification for sewage air flotation treatment engineering

1 Scope of application

This standard specifies the general requirements, process design, equipment selection, testing and control, and transportation of the air flotation process used in wastewater treatment projects.

Technical requirements for line management.

This standard is applicable to the design, construction, acceptance, operation management of air flotation process in urban sewage or industrial wastewater treatment projects.

Technical basis for feasibility study, environmental impact assessment, process design, construction acceptance, and operation management.

2 Normative references

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

GB 50141 Water supply and drainage structure engineering construction and acceptance specification
GB 50204 Concrete Structure Engineering Construction Quality Acceptance Specification
GB 50205 Steel Structure Engineering Construction Quality Acceptance Specification
Technical Specifications for Operation and Assessment of HJ/T 355 Water Pollution Source Online Monitoring System (Trial)
CJJ 60 Urban Wastewater Treatment Plant Operation, Maintenance and Safety and Safety Technical Regulations
CJ/T 51 Standard for urban sewage quality inspection methods

3 Terms and definitions

The following terms and definitions apply to this standard.

Air floatation

Refers to a method of generating a large number of microbubbles by some method, adhering suspended and destabilized colloidal particles in water, and floating in water to complete solid-liquid separation.

process.

Electrocoagulation (electrolysis) air flotation electrolytic flotation Refers to the use of a soluble anode under the action of an external voltage to produce a large amount of metal ions and their polycondensates, which are suspended and destabilized in wastewater.

The colloidal particles are agglomerated, and the cathode generates hydrogen gas, which adheres to the flocs to be separated by floating.

Inert electrode

Refers to an inert material electrode in which the electrode itself does not participate in the reaction in the electrolysis gas float.

Static voltage

Refers to the critical voltage (also called overvoltage) of electrolytic flotation to produce electrolytic effect.

Soluble electrode

Refers to the electrode involved in the reaction in the electrolysis air float, such as iron plate, aluminum plate electrode.

Current density

Refers to the amount of current passing through the active surface of the unit surface in the electrolysis air float.

Ratio current

Refers to the current through which the unit water flow passes.

Air flotation falloff floatation Refers to the process of mechanically breaking the air to produce a large number of microbubbles to complete the air flotation. Including diffuser aeration air floatation and impeller aeration air floatation Two.

Vacuum floatation

Refers to the full aeration of water under normal pressure, so that the dissolved gas in the water tends to be saturated, and then continuously sent to the vacuum flotation chamber, the dissolved gas is hollow the gas is released under vacuum, and the flocculation of the water is floated and separated, and the treated water is continuously discharged through the pressure regulating chamber.

3.10

Pressurized dissolved air-air floatation Refers to the air dissolved in water under a certain pressure, and then reaches a saturated state, then rapidly decompresses and releases, and the air escapes with micro-bubbles, and A method of treating impurities in the water to make them float.

3.11

Shallow air flotation Refers to a rotary shallow pressure dissolved air flotation in synchronization with the release of rotating cloth water and dissolved gas.

3.12

Dissolved-air saturation Refers to the solubility of air dissolved in water to saturation under certain pressure and temperature conditions.

3.13

Reflux dissolved-air Refers to the process of discharging the air from the air flotation tank to partially return the pressurized dissolved gas and releasing it under reduced pressure, and contacting the influent sewage to complete the air flotation.

3.14

Full dissolved air

Refers to a process in which all inflowing sewage is subjected to pressurized dissolved gas, and then released into a gas floating tank through a reduced pressure to perform solid-liquid separation.

3.15

Partial dissolved air Refers to a process in which part of the influent sewage is pressurized and dissolved, and then released into the flotation cell by means of reduced pressure to carry out solid-liquid separation.

3.16

Releaser

Refers to the device that suddenly decompresses the dissolved gas to release the saturated gas in the form of microbubbles.

3.17

Spray density

Refers to the spray water flow per unit area per unit time in the dissolved gas tank.

3.18

Hydraulic load

Refers to the amount of dissolved gas passing through the per-water area of the dissolved gas tank unit per unit time.

3.19

Surface load surface loading Refers to the amount of water purified per unit surface area of the separation zone of the air-floating tank per unit time.