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**Technical specifications for biofilter in wastewater bio-film
treatment**

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Foreword

To implement the "Environmental Protection Law of the People's Republic of China" and the "Water Pollution Prevention and Control Law of the People's Republic of China" Dyeing, improving environmental quality, standardizing the application of biofilters in sewage (waste) water treatment projects, and developing this standard.

This standard specifies the process design, main process equipment and testing of the sewage (waste) water treatment project using the biofilter method.

Technical requirements with control, construction acceptance, operation and maintenance.

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

This standard is mainly drafted by. China Environmental Protection Industry Association, Tsinghua University, Anle Engineering Co., Ltd., Anhui Guosheng Environmental Protection and Energy Saving Technology Co., Ltd., Beijing Urban Drainage Group Co., Ltd., Beijing Environmental Protection Science Research Research Institute.

This standard was approved by the Ministry of Environmental Protection on March 19, 2012.

This standard has been implemented since June 1, 2012.

This standard is explained by the Ministry of Environmental Protection.

Biological filter method sewage treatment engineering technical specification

1 Scope of application

This standard specifies the process design and main design of the bio-filter process (waste) water treatment project based on aerobic processes.

Technical requirements for process equipment, inspection and control, construction acceptance, operation and maintenance. This standard does not apply to dirty (waste) water Anaerobic biofilter treatment process.

This standard applies to urban sewage using biofilter method and industrial wastewater treatment similar to urban sewage water quality.

Cheng can be used as the technical basis for environmental impact assessment, design, construction, environmental protection acceptance and operation management after completion.

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 3096 Acoustic Environmental Quality Standard GB 8978 Integrated Wastewater Discharge Standard GB 12348 industrial enterprise boundary noise standard GB 18918 Pollutant discharge standard for urban sewage treatment plants GB/T 18920 Urban Wastewater Recycling Urban Miscellaneous Water Quality GB 50009 Building Structure Load Specification GB 50011 seismic design code for buildings GB 50013 Outdoor Water Supply Design Code GB 50014 Outdoor Drainage Design Code GB 50016 Building Design Fire Code GB 50052 design specification for power distribution system GB 50053 10kV and below substation design specifications GB 50054 Low Voltage Distribution Design Specification GB 50069 Water supply and drainage engineering structure design specification GB 50141 Water supply and drainage structure engineering construction and acceptance specification GB 50187 General Plan for Design of Industrial Enterprises GB 50191 seismic design code for structures GB 50194 Construction site safety requirements for construction and supply of electricity GB 50204 Concrete Structure Engineering Construction Quality Acceptance Specification GB 50205 Steel Structure Engineering Construction Quality Acceptance Specification GB 50222 Building interior decoration design fire protection specification General specification for construction and acceptance of GB 50231 mechanical equipment installation engineering GB 50268 Water supply and drainage pipeline engineering construction and acceptance specifications GB 50275 Compressor, fan, pump installation engineering construction and acceptance specifications GB 50334 Urban Wastewater Treatment Plant Engineering Quality Acceptance Specification GB 50335 Wastewater Reuse Engineering Design Code GB 50352 General rules for civil building design GB J22 factory mine road design specification GB J87 industrial enterprise noise control design specification GBZ 1 industrial enterprise design hygiene standard CJ343 sewage discharged into urban sewer water quality standards CJJ31 Urban Wastewater Treatment Plant Auxiliary Building and Auxiliary Equipment Design Standard CJJ60 urban sewage treatment plant operation, maintenance and safety technical regulations CJ/T 43 water treatment filter CJ/T 51 Standard for urban sewage quality inspection methods CJ/T 221 Urban Wastewater Treatment Plant Sludge Inspection Method CJ/T 299 artificial ceramsite filter for water treatment Technical regulations for CECS265 biological aerated filter HJ/T 91 Surface Water and Wastewater Monitoring

Technical Specifications HJ/T 250 Environmental Protection Products Technical Requirements Rotary Fine Grille HJ/T 251 environmental protection product technical requirements Roots blower HJ/T 252 environmental protection product technical requirements, microporous aerator HJ/T 278 environmental protection product technical requirements single-stage high-speed aeration centrifugal blower HJ/T 336 Environmental Protection Product Technical Requirements Submersible Sewage Pump HJ/T 353 water pollution source online monitoring system installation technical specification HJ/T 354 water pollution source online monitoring system acceptance technical specification Technical specification for operation and assessment of HJ/T 355 water pollution source online monitoring system HJ/T 369 Environmental Protection Product Technical Requirements Dosing Device for Water Treatment Measures for Completion and Acceptance of Construction Projects (Engineering) (formerly State Planning Commission Construction [1990] No. 215) Measures for the Administration of Environmental Protection Acceptance for Completion of Construction Projects (formerly State Environmental Protection Administration Order No. 13)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Biofilter method biofilter; biological filter

Physical filtration of fillers filled in the structure by means of sewage (waste) water, and organisms attached to the filler Membrane aerobic oxidation, anoxic denitrification and other biochemical processes combined with manual treatment of pollutants in contaminated (waste) water, Common methods include low-load biofilter method, high-load biofilter method, tower biofilter method and aerated biofilter method.

3.2 Low-rate biological filter, trickling filter

The filter material has a large particle size, natural ventilation and oxygen supply, and the BOD volume load of the influent water is low (usually not more than $0.4\text{kg}/(\text{m}^3\cdot\text{d})$) a biological filter. Also known as ordinary biofilter or trickling filter.

3.3 High-load biological filter high-rate biological filter

On the basis of low-load biofilters, by limiting the influent BOD content and adopting techniques such as treating effluent reflux A higher filtration rate, which increases the BOD volume load by 6 to 8 times, while ensuring that the BOD removal rate does not decrease significantly.

Biofilter.