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Welded antibacterial stainless steel pipes and fittings

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the China Iron and Steel Industry Association. This document was drafted by: Shandong Jinlit Pipe Industry Co., Ltd., Zhejiang Jinzhou Pipeline Technology Co., Ltd., Shandong Juncheng Green Energy Materials Technology Co., Ltd., Zhejiang Dewei Stainless Steel Pipe Industry Co., Ltd., Jiangsu Baodi Pipe Industry Co., Ltd., Gangyi Holding Group Co., Ltd., Fu Jiansheng Datong Energy Saving Technology Co., Ltd., Shandong University of Technology, Institute of Metal Research, Chinese Academy of Sciences, Zhejiang Jiuli Special Materials Technology Co., Ltd., Guangdong Weilian Great Wall Metal Co., Ltd., Zhejiang Benigo Intelligent Pipe Network Co., Ltd., Wuhan Jinniu Stainless Steel Pipe Technology Co., Ltd., Xinxing Cast Pipe Co., Ltd., Gansu Jiugang Group Hongxing Steel Co., Ltd. Stainless Steel Branch, Anhui Jinwei Pipe Industry Co., Ltd., Cangzhou Sanqing Industry and Trade Co., Ltd., Zhejiang Zhengkang Industrial Co., Ltd., Fujian Xuyou Stainless Steel Co., Ltd., Metallurgical Industry Information Standard Institute. The main drafters of this document. Li Jingpeng, Liang Dong, Sun Jinfeng, Guo Jian, Zhang Hua, Hu Kailei, Yu Dongxu, Wu Zhengyi, Zhou Zhanghui, Yang Chunguang, Su Cheng, Chen Peihua, Yu Zhangfa, Dong Bobo, Li Tieliang, Cheng Yunxia, Wei Shengli, Li Shenghai, Wang Junhao, He Xiaomei, Liu Hongyu, Li Xudong, Wang Fengmei, Yang Saiqing, Yang Weifang, Zhao Xiaojie, Ma Tongjie, Zhu Guangming, Xi Tong, Xu Amin, Wu

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Antibacterial stainless steel is a new material with integrated structure/function. Antibacterial elements are added to traditional stainless steel materials and made through special heat treatment. It has long-lasting antibacterial properties against common bacteria such as *Escherichia coli* and *Staphylococcus aureus*, and is safe, non-toxic and does not produce drug resistance. Antibacterial stainless steel The product continuously releases active ions to achieve efficient antibacterial effects. Its antibacterial principles are divided into contact antibacterial and ion antibacterial. The principle of contact sterilization is that when bacteria come into direct contact with the antibacterial stainless steel surface, due to the increase in surface active oxygen pressure, the normal bacteria are destroyed. The living environment of the bacteria inhibits the reproduction of bacteria. The principle of ion antibacterial is that the antibacterial ions dissolved in the antibacterial stainless steel matrix destroy the surrounding The bacterial cell wall leads to the loss of cell fluid and protein, and the bacteria cannot provide for their own survival and die. Antibacterial stainless steel welded steel pipes are made from antibacterial stainless steel plates and steel strips as raw materials, and are made through a series of processing steps such as pipe making and heat treatment. Steel Pipe. Antibacterial stainless steel pipe fittings are made of thin-walled antibacterial stainless steel welded steel pipes as raw materials, and undergo a series of processing steps such as bending, forming, and heat treatment. Made of thin-walled compression or grooved pipe fittings. Antibacterial stainless steel welded steel pipes and fittings are widely used in pipelines in water supply, gas supply and other fields system. Antibacterial stainless steel welded steel pipes and fittings

1 Scope

GB/T 42675-2023 covers welded pipe and fittings made from antibacterial stainless steel - steel alloyed so that its surface itself suppresses bacterial growth, rather than relying on a coating that wears away. The application that drives it is plumbing where what flows through the pipe will be drunk or breathed: drinking water distribution inside buildings, and medical gas lines in hospitals. In both, the inner surface of the pipe is a place where a biofilm can establish itself out of sight, and the cost of that is measured in public health rather than in maintenance. The document specifies the classification and code numbering, the ordering information a purchaser must supply, dimensions, shape, weight and permissible deviations, the technical requirements, the test methods, the inspection rules, and the provisions for marking, packaging, storage and the quality certificate. Two normative annexes carry the parts that make the product what it claims to be: the test method for antibacterial performance, and the test method for the connection performance of the fittings. It applies at nominal pressures up to 1.6 MPa and nominal diameters up to DN300. Under ICS 77.140.75 and CCS H48, it is written for pipe manufacturers, building services designers and hospital engineering departments.

This document stipulates the classification and code number, ordering content, size, shape, weight and allowable deviation of antibacterial stainless steel welded steel pipes and fittings, Technical requirements, test methods, inspection rules, marking, packaging, storage and quality certificates. This document is applicable to applications where the nominal pressure is not greater than 1.6MPa and the nominal diameter is not greater than DN300, transporting medical gases, domestic hot and cold water, and biomass. Antibacterial stainless steel welded steel pipes (hereinafter referred to as "steel pipes") and clamped and grooved pipe fittings (hereinafter referred to as "steel pipes") that utilize water purification and medical vacuum systems "Fittings").

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 191 Packaging, storage and transportation pictorial mark

GB/T 222 Allowable deviations in chemical composition of finished steel products

GB/T 223.11 Determination of chromium content in steel and alloys by visual titration or potentiometric titration method

GB/T 223.18 Methods for chemical analysis of steel and alloys. Separation of sodium thiosulfate-Determination of copper content by iodometric method

GB/T 223.25 Chemical analysis methods for steel and alloys - Determination of nickel content by diacetyl oxime gravimetric method

GB/T 223.28 Methods for chemical analysis of steel and alloys - Determination of molybdenum content by alpha-benzoxime gravimetric method

GB/T 223.59 Determination of phosphorus content in steel and alloys bismuth phosphorus molybdenum blue spectrophotometry and antimony phosphorus molybdenum blue spectrophotometry

GB/T 223.60 Chemical analysis methods for steel and alloys Determination of silicon content by perchloric acid dehydration gravimetric method

GB/T 223.63 Determination of manganese content in steel and alloys - Sodium (potassium) periodate spectrophotometry

GB/T 223.85 Determination of sulfur content in steel and alloys - Infrared absorption method after combustion in induction furnace

GB/T 223.86 Determination of total carbon content of steel and alloys - Infrared absorption method after combustion in induction furnace

GB/T 228.1 Tensile testing of metallic materials Part

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