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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Precision stainless steel foil

不锈钢精密箔材

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Table of Contents

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1.Structure and Drafting Rules of Standardization Documents" drafted. Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents. This document is proposed by China Iron and Steel Association. This document is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC183). This document is drafted by: Shanxi Taigang Stainless Steel Co., Ltd., Shanxi Taigang Stainless Steel Precision Strip Co., Ltd., Metallurgical Industry Information Information Standards Research Institute, Guangxi Beigang New Materials Co., Ltd. The main drafters of this document. Wang Tianxiang, Li Jun, Zhang Longqiang, Pan Liuting, Liao Xi, Wu Qiang, Zhang Weixu, Dong Xianbang, Zhang Yanrui, Hou Jie, Huang Riqing, Sun Menghan, Tian Zijian, Jia Jianting. Stainless Steel Precision Foil

1 Scope

China's national standard for precision stainless steel foil. Foil in this context means material rolled to thicknesses measured in hundredths of a millimetre and below, held to tolerances of a few per cent, with a surface finish and flatness that the applications depend on. It goes into places where the thinness is the function rather than an economy: the diaphragms of pressure sensors and valves, where the deflection under pressure is what is being measured; the shim stock used to align machinery; battery and fuel cell components; masks for etching and printing; and the flexure hinges of precision mechanisms, which work because a thin section bends elastically where a bearing would have friction and backlash. Rolling to those dimensions is a specialised operation - the material work hardens rapidly and must be annealed between passes, and the flatness is as hard to achieve as the thickness.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations documents, only the

version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document. Allowable deviation of finished chemical composition of GB/T 222 steel

GB/T 223.3 Methods for chemical analysis of iron, steel and alloys-Diantipyrine methane phosphomolybdic acid gravimetric method for the determination of phosphorus content

GB/T 223.5 Determination of acid-soluble silicon and total silicon content in iron and steel-Reduced silico-molybdate spectrophotometric method

GB/T 223.8 Methods for Chemical Analysis of Iron, Steel and Alloy-Separation of Sodium Fluoride - Determination of Aluminum Content by EDTA Titration

GB/T 223.11 Visible titration or potentiometric titration for determination of chromium content in steel and alloys

GB/T 223.17 Methods for chemical analysis of iron, steel and alloys-Diantipyrine methane spectrophotometric method for the determination of titanium content

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

GB/T 223.23 Determination of Nickel Content in Iron, Steel and Alloy Diacetyl oxime Spectrophotometric Method

GB/T 223.25 Methods for chemical analysis of iron, steel and alloys-Diacetyl oxime gravimetric method for the determination of nickel content

GB/T 223.26 Determination of Molybdenum Content in Iron, Steel and Alloy Thiocyanate Spectrophotometry

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

GB/T 223.30 Methods for Chemical Analysis of Iron, Steel and Alloy P-Bromomandelic Acid Precipitation and Separation-Azoarsine III Spectrophotometric Determination Zirconium content

GB/T 223.36 Methods for chemical analysis of iron, steel and alloys - Distillation separation - Determination of nitrogen content by neutralization titration

GB/T 223.40 Determination of Niobium Content in Iron, Steel and Alloy - Chlorosulfophenol S Spectrophotometric Method

GB/T 8170 Numerical Rounding Rules and Representation and Judgment of Limit Values

GB/T 11170 Determination of multi-element content of stainless steel spark discharge atomic emission spectrometry (conventional method)

GB/T 17505 General technical requirements for delivery of steel and steel products

GB/T 20066 Sampling and sample preparation method of samples for determination of chemical composition of steel and iron

GB/T 20123 Determination of total carbon and sulfur content of iron and steel by infrared absorption method after high-frequency induction furnace combustion (conventional method)