



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

GB/T 45329-2025

Precious metals and their alloys wrought for ignition electrodes

点火电极用贵金属及其合金加工材

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Product classification and labeling

5 Technical requirements

6 Test methods

7 Inspection rules

8 Marking, packaging, transportation, storage and accompanying documents

9 Order information

Annex A (Normative) Determination of ignition electrical ablation

Annex B (Normative) High temperature oxidation volatilization mass loss rate

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 for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by China Nonferrous Metals Industry Association. This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243). This document was drafted by: Kunming Fuernolin Technology Development Co., Ltd., Weichai Torch Technology Co., Ltd., Kunming University of Science and Technology, Kunming Guiyan New Materials Technology Co., Ltd., Tongji University, AECC Beijing Institute of Aeronautical Materials, Yunnan Academy of Science and Technology, Beijing Nonferrous Metals Institute of Metal and Rare Earth Application Co., Ltd., Shenzhen Mindray Bio-Medical Electronics Co., Ltd. The main drafters of this document are: Li Yang, Hu Guoyi, Yang Xikun, Zhou Chuan, Deng Jun, Yang Huimu, Chen Guangyun, Wang Feng, Luo Fei, Ji Jianan, Zhou Ying, Wu Haijun, Zhou Fang, Li Liguang, Deng Nanfang, Miao Yixin, Xu Hong, Zuo Pengfei. Precious metals and their alloy processed materials for ignition electrodes

1 Scope

GB/T 45329-2025 is the Chinese standard for the wrought precious metals and alloys used in ignition electrodes: the platinum, iridium, rhodium, ruthenium and their alloys that form the tip of a spark plug in an engine or of an igniter in a gas turbine or a burner. The reason a precious metal is there at all is erosion: the electrode is destroyed a little by every spark, and the service life of the plug is the life of that tip. The standard specifies the grades and their designation, the chemical composition, the dimensions and tolerances of the wire, rod and strip supplied, the mechanical properties, the surface quality, the test methods, the inspection rules and the marking, packaging, transport and quality certificate. For a spark plug maker, a precious metal fabricator or a buyer verifying a delivery in China, this is the text the material is bought and accepted against.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 228.1 Tensile test of metallic materials Part

GB/T 8170 Rules for rounding off values and expression and determination of limit values

GB/T 15072.6-2008 Chemical analysis methods for precious metal alloys - Determination of iridium content in platinum and palladium alloys - Ferrous sulfate droplet current Law

GB/T 15072.14-2008 Chemical analysis methods for precious metal alloys - Determination of aluminum and nickel content in silver alloys - Inductively coupled plasma Bulk Atomic Emission Spectrometry

GB/T 15077 Methods for measuring geometric dimensions of precious metals and their alloys

GB/T 23275 Chemical analysis method of ruthenium powder - Determination of lead, iron, nickel, aluminum, copper, silver, gold, platinum, iridium, palladium, rhodium and silicon content - Glow discharge Mass spectrometry

GB/T 36592 Chemical analysis method for rhodium powder Determination of platinum, ruthenium, iridium, palladium, gold, silver, copper, iron, nickel, aluminum, lead, manganese, magnesium, tin, zinc and silicon Inductively Coupled Plasma Mass Spectrometry

GB/T 36593 Chemical analysis method of iridium powder - Determination of silver, gold, palladium, rhodium, ruthenium, lead, platinum, nickel, copper, iron, tin, zinc, magnesium, manganese and aluminum content Inductively coupled plasma atomic emission spectrometry
YS/T.201 Precious metals and their alloy plates and strips
YS/T 203 Precious metal and alloy wires, cords and bars
YS/T 561-2009 Chemical analysis methods for

precious metal alloys Determination of rhodium content in platinum-rhodium alloys
Hexaamminecobalt nitrate gravimetric method YS/T 562-2009 Chemical analysis methods
for precious metal alloys Determination of ruthenium content in platinum-ruthenium alloys
Thiourea spectrophotometric method YS/T 563-2009 Chemical analysis methods for
precious metal alloys Determination of palladium and rhodium content in
platinum-palladium-rhodium alloys - Dimethoxime gravimetric method, Stannous chloride
spectrophotometry YS/T 1379 Chemical analysis method for pure platinum Palladium,
rhodium, iridium, ruthenium, gold, silver, aluminum, bismuth, chromium, copper, iron, nickel,
lead, magnesium, manganese, tin, zinc, silicon Determination of content by inductively
coupled plasma atomic emission spectrometry YS/T 1493 Chemical analysis method for
high purity platinum - Determination of impurity element content - Glow discharge mass
spectrometry YS/T 1495 Chemical analysis method for high purity rhodium - Determination
of impurity element content - Glow discharge mass spectrometry YS/T 1506 Chemical
analysis method for high purity iridium - Determination of impurity element content - Glow
discharge mass spectrometry