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YS

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

YS/T 368-2015

Replacing YS/T 368-1994

**Test method of thermo-emf for noble metal thermocouple wires.
Fuse wire**

贵金属热电偶丝材热电动势的测量方法熔丝法

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

Instead of the standard YS/T 368-1994 "precious metal thermocouple wire fuse thermal EMF measurement method." This standard with the original standard Quasi compared to the main changes are as follows.

- Increased terminology, which uses JB/T 6819.2 "Instrument Material term temperature material" terms and definitions;
- Modify the accuracy of the test equipment;
- Modify the purity fuses and treatment methods;
- Modify the preparation of samples;
- Refinement of the measurement process control;
- Joined the fuse and common measurement system of FIG precious metal thermocouple wire energized annealing method;
- According to GB/T 18035 modified representation dual wire grades.

This standard by the national non-ferrous metals Standardization Technical Committee (SAC/TC243) and focal points.

This standard was drafted. Your research Platinum Ltd., China Nonferrous Metals Industry Standards and Metrology Institute for Quality.

Drafters of this standard. Wu Fei, Zhu Wuxun to Lei, Liu Yi, Feng Yan, Huang Shaohua, Zhang Xiaobo.

This standard replaces the standards previously issued as follows.

--- YS/T 368-1994;

--- YB/T 933-1978.

Thermal precious metal thermocouple wire EMF measurements fuse Act

1 Scope

This standard specifies the method by measuring the fuse wire thermocouple precious metal gold (1064.18 °C), palladium (1554.8 °C), platinum (1773 °C) Melting Point of thermal EMF method.

This standard applies to measuring the diameter in the range of 0.3mm ~ 1.0mm precious metal thermocouple wire, thermocouple wire and other sizes in Thermal EMF measurements of each pure metal melting point may also be referring to.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 8170 repair value expressed about the rules and limit values and judgment GB/T 18035-2000 Method of precious metals and their alloys JB/T 6819.2 meter material term temperature materials

3 Terms and Definitions

Terms and definitions JB/T 6819.2 defined apply to this document.

4 Method summary

According to a pure metal melting temperature constant and thermocouple intermediate metal law, with a small amount of pure gold, palladium or platinum wire wound around the wire measured hot Measuring end galvanic, heated to the melting temperature plateau appears, the measured value of the measured thermocouple thermal emf in the melting temperature of the floor, taking the average as measured the amount of results.

5.1 Test instruments and equipment

5.1.1

Low potential DC potentiometer. Accuracy of not less than 0.01 and its corresponding supporting devices, or other equivalent electrically similar accuracy Measuring equipment.

5.1.2

high-temperature test furnace. length of about 500mm, maximum temperature up to 1800 °C; the best test furnace hot zone off-center position should not exceed 20mm, its average temperature zone length should be 10mm ~ 15mm, the temperature difference should not exceed ± 1 °C.

5.1.3

thermocouple wire annealing apparatus energized. power supply unit should be equipped with an accuracy of not less than 0.5 meter AC current governor and the like.

5.1.4

freezing thermostat. with crushed ice mixed with water to make the thermostat effective depth should be more than 300mm.

5.2 Material

5.2.1

Fuse. gold, palladium, platinum fuse purity $\geq 99.99\%$, $\phi 0.2\text{mm} \sim 0.3\text{mm}$, fully clean, soft annealed state.