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Platinum clad anode sheet and plate for cathodic protection

阴极保护用铂复合阳极板

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Platinum clad anode sheet and plate for cathodic protection

1 Scope

This document specifies the classification and identification, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, as well as accompanying documents and order form of platinum clad anode sheet and plate for cathodic protection.

This document applies to platinum/niobium, platinum/niobium/platinum, platinum/titanium clad anode sheet and plate for cathodic protection.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 1419, Sponge platinum

GB/T 3620.1, Designation and composition of titanium and titanium alloys

GB/T 4698 (all parts), Methods for chemical analysis of titanium sponge, titanium and titanium alloys

GB/T 6462, Metallic and oxide coatings - Measurement of coating thickness - Microscopical method

GB/T 6896, Niobium bars

GB/T 8170, Rules of rounding off for numerical values & expression and judgment of limiting values

GB/T 15076 (all parts), Methods for chemical analysis of tantalum and niobium

GB/T 15077, Geometric size measuring methods of precious metals and their alloy materials

3 Terms and definitions

The following terms and definitions are applicable to this document.

6 Test methods

6.1 Chemical composition

The chemical composition analysis method of platinum raw material shall be carried out in accordance with the provisions of GB/T 1419; the chemical composition analysis method of titanium raw material shall be carried out in accordance with the provisions of GB/T 4698 (all parts); the chemical composition analysis method of niobium raw material shall be carried out in accordance with the provisions of GB/T 15076 (all parts).

6.2 Overall dimensions and their allowable deviation

6.2.1 The thickness of the platinum clad layer of the product shall be measured according to the metallographic method specified in GB/T 6462. The average value of five points measured on each sample shall be taken as the final thickness of the measurement.

6.2.2 The overall dimensions – thickness, width and length – of the product shall be measured in accordance with the methods specified in GB/T 15077.

6.3 Bonding firmness

The bonding firmness test of the platinum clad layer and the substrate shall be carried out in accordance with the provisions of Appendix A, and shall be checked visually.

6.4 Appearance quality

Use a 10x magnifying glass to visually inspect the leak points; use a measuring tool of corresponding precision to measure the maximum linear dimension of the leak point; check the rest of the appearance quality with naked eyes.

7 Inspection rules

7.1 Inspection and acceptance

7.1.1 The quality inspection department of the supplier shall inspect the products, to ensure that the product quality conforms to the provisions of this document and the order form.

7.1.2 The buyer can inspect the received products according to the provisions of this document and the order form. If the inspection results are inconsistent with the provisions of this document and the order form, it shall report to the supplier within three months from the date of receipt of the products. An arbitration, if required, shall be taken on the buyer side through joint sampling by both the supplier and the buyer, or determined through negotiation.

7.5.4 Where the platinum clad layer thickness and bonding firmness test is unqualified, double the number of samples shall be taken from the batch of products (including the product that failed the original inspection) to repeat the test. If the repeated test items are all qualified, judge the batch of products to be qualified. If there are still unqualified samples in the results of repeated test items, judge the batch of products to be unqualified.

8 Marking, packaging, transportation, storage and accompanying documents

8.1 Marking

8.1.1 Product marking

The following marks shall be printed, or a label shall be hanged, on the products that have passed the inspection:

- a) designation;
- b) state;
- c) specification;
- d) product batch number.

8.1.2 Packaging marking

There shall be a label (or sign) on the product packaging box:

- a) name of the supplier;
- b) product designation, state and specification, net weight (quantity);
- c) product batch number.

8.2 Packaging, transportation, storage

For each anode plate, first use soft paper to wrap the platinum side, then use plastic bubble films to wrap tightly; pack into a wooden box; use plastic bubble films to wrap around the product to keep the product from shaking in the wooden box. Products shall be protected from bumps and scratches during storage and transportation.

8.3 Accompanying documents

Each batch of products shall be accompanied by accompanying documents, which shall include supplier information, number of this document, and date of manufacture or packaging, as well as the following:

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