

Translated English of Chinese Standard: GB/T2881-2008

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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 2881-2008

Replacing GB/T 2881-1991

Silicon metal

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Foreword

This Standard replaces GB/T 2881-1991 *Technical Requirements for Silicon Metal*.

This Standard, in comparison with GB/T 2881-1991, has the major changes as follows:

- Change the standard name from *Technical Requirements for Silicon Metal* to *Silicon Metal*.
- The trademark number of chemical silicon is increase from the previous 2 to 4. Change the previous limiting to the content of silicon, ferrum, aluminum, and calcium elements. Metallurgical silicon also changes the limiting to the content of silicon, ferrum, aluminum, and calcium elements.
- Grain-size range retains previous 6mm-200mm. On top of that, add 3 grain-size grades.
- Modify the sampling method in 4.4.1 of the previous Standard.
- Modify the “All sampled samples shall pass through the 0.175mm standard sieve” in 4.4.2 of the previous standard to “pass through the 0.149mm standard sieve”.

This Standard was proposed by China Nonferrous Metals Industrial Association.

The Standard shall be centralized by the National Nonferrous Metals Standardization Technical Committee.

Drafting organizations of this Standard: Shanxi Jinneng Group Co., Ltd., Baotou Aluminium Co., Ltd., and China Nonferrous Metals Industry Standard Measurement Quality Research Institute.

The main drafters of this Standard: Zhang Yao, Wang Zhiming, Dong Zhizhong, Dong Jianxiong, Luo Zhongchen, and Shen Qinghua.

The previous versions of the standard replaced by this Standard are as follows:

- GB/T 2881-1981, GB/T 2881-1991.

Silicon metal

1 Scope

This Standard specifies the silicon metal's requirements, test methods, inspection rules, marking, packaging, transportation, storage of silicon metal, and purchase order or contract contents.

This Standard applies to the silicon metal that is produced from the smelting of carbonaceous reductant and silica in the submerged arc furnace. It is mainly used for preparation of alloy, extraction of polycrystalline silicon, and manufacturing of organic silicon etc.

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

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

GB/T 14849 (All parts) Methods for chemical analysis of silicon metal

3 Requirement

3.1 Chemical composition

The chemical composition of silicon metal shall comply with the provisions in Table 1.

4 Test methods

4.1 Chemical composition analysis

The analysis on chemical composition of silicon metal shall be conducted by the provisions of GB/T 14849.1-14849.4.

4.2 Grain size

SAMPLE it according to the weight of 5-10% per batch. USE the sieve that complies with the specifications for manual sieve test. Sieving method is: 2 persons hold a sieve; swaying range is 30cm-50cm; sieving time is 2min -5min.

4.3 Visual inspection

ADOPT visual method.

5 Inspection rules

5.1 Inspection and acceptance

5.1.1 The silicon metal shall be inspected by the technical supervision department of the supplier to ensure that the product quality shall conform to the requirements of this Standard (or purchase contract). The quality certificate shall be completed.

5.1.2 The demander shall inspect the received products according to the provisions of this Standard. If the inspection result does not comply with the provisions of this Standard and purchase contract, the demander shall bring up to the supplier in writing; and settle it through negotiation by both parties. Objections related to grain size and appearance shall be raised within 10 days since the day when receiving the product. Objections related to chemical composition shall be raised within 1 month since the day when receiving the product. If arbitration is required, the supplier and demander shall perform the sampling for arbitration at demander's site.

5.2 Group-batch

Silicon metal shall be submitted in batch for inspection. Each batch shall be constituted by the same-trademark's silicon metal. And the weight per batch shall be no more than 10 t.

5.3 Sampling and sample preparation

5.3.1 Supplier's analysis' sampling and demander's re-inspection's sampling shall adopt solid sampling.

5.3.2 Supplier's furnace-site analysis' sampling: SAMPLE it based on furnace. Respectively TAKE not-less-than 200g of columnar-type product at ingot casting center; at 1/6, 5/6 positions of diagonal lines; and at 5 positions [Translator: based on next clause

- c) Registered trademark;
- d) Batch No.;
- e) Net weight;
- f) Rain-proof marking.

6.2 Packaging

Silicon metal is generally packaged with plastic woven bags. Weight of each piece can be 1,000 kg, 500 kg, 100 kg, and 50 kg. If other forms of packaging are required, the supplier and the demander shall negotiate.

6.3 Transportation and storage

The products shall be prevented from rain or moisture in the process of transportation and storage.

6.4 Quality certificate

Each batch of products shall be attached with the product quality specifications, in which the following shall be indicated:

- a) Name and address of the supplier;
- b) Product name and trademark;
- c) Registered trademark;
- d) Batch No.;
- e) Net weight and number of packages;
- f) Analysis inspection results and technical supervision department's imprint;
- g) Number of this Standard;
- h) Ex-factory date.

7 Purchase order or contract contents

The purchase order (or contract) listed in this Standard shall include the following contents:

- a) Name and address of the supplier;
- b) Product name and trademark;
- c) Registered trademark;

- d) Net weight and number of packages;
- e) Product quality requirements;
- f) Number of this Standard;
- g) Others.

_____ **END** _____

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