

JB

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

JB/T 8583-1997

Resin coated sand for foundry

铸造用覆膜砂

(English Translation)

Issued on: January 1, 1997

Implemented on: January 1, 1997

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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1 Scope

This Standard specifies the terms and definitions, classification, grading and designation, technical requirements, test methods, inspection rules, labeling and packaging of resin coated sand for foundry.

This Standard applies to mold (core) resin coated sand produced with raw sand (regenerated sand) for foundry and phenolic resin for shell mold (core) as the main raw materials.

2 Normative references

The following documents contain the provisions which, through reference in this Standard, become the provisions of this Standard. For dated references, their subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard. However, the parties who enter into agreement based on this Standard are encouraged to investigate whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Standard.

GB/T 2684 Test methods for foundry sands and molding mixtures

GB/T 5611 Foundry terminology

GB/T 9442 Foundry silica sand

JB/T 8834 Phenolic resin of mould (core) for foundry

3 Terms and definitions

For the purpose of this Standard, the terms and definitions established in GB/T 5611 and the following apply.

3.1 hot bending strength

The sample is heated to $232\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, and the bending strength is measured within 10 s after taken out from the mold.

3.2

5.1 Required performance indicators

The performance indicators that must be tested for resin coated sand for foundry include room temperature bending strength, hot bending strength, loss on ignition, average fineness and melting point.

5.1.1

The room temperature bending strength shall comply with the provisions of Table

1.

5.1.2

The loss on ignition shall comply with the provisions of Table 2.

5.1.3

The melting point is $85\text{ }^{\circ}\text{C} \sim 110\text{ }^{\circ}\text{C}$.

5.1.4

The hot bending strength is $1.5\text{ MPa} \sim 5.0\text{ MPa}$.

5.1.5

The determination and calculation method of the average fineness shall be carried out according to the provisions of GB/T 9442.

5.2.1

The optional performance indicators of resin coated sand for foundry include room temperature tensile strength, hot tensile strength, gas evolution volume, fluidity and hardening rate.

5.2.2

If the buyer has special requirements for the performance indicators in 5.2.1 and other performance indicators, both the supplier and the buyer shall specify in the order agreement.

6.1

See Appendix A for the test methods for room temperature bending strength, hot bending strength, loss on ignition, average fineness and melting point of resin coated sand for casting.

6.2

See Appendix B for the test methods for room temperature bending strength, hot tensile strength, gas evolution volume, fluidity and hardening rate of resin coated sand for foundry.

7.1.1 Division of batches

It is divided by tonnage; each continuous production of 10 t is a batch.

7.1.2 Sampling method

When sampling the resin coated sand in each batch, it can select the average sample from the same batch of well-packaged resin coated sand. The average sample of the bagged resin coated sand is selected from 1 % of the same batch, but it shall not less than 3 bags at least and shall not be less than 5 kg in weight. The sample required for the inspection are selected from the total sample using the "quarter method" or riffle sampler. If there is any doubt about the quality of a certain part of the resin coated sand, it shall be sampled and inspected separately.

7.2 Inspection

The inspection method for resin coated sand shall be carried out according to the provisions of Clause 6. The optional performance indicators or other special performance requirements specified in this Standard shall be determined through negotiation between the supplier and the buyer. Each batch of resin coated sand from the supplier shall be inspected according to the required performance indicators specified in this Standard, and the inspection results and designation shall be written into the quality report and delivered to the buyer with the product. The buyer may carry out the acceptance inspection according to the technical requirements of this Standard or the provisions of the agreement.

7.3 Re-inspection

If one of the indicators fails in the inspection result, the sample shall be doubled for re-inspection, and the re-inspection result is the final result. If the re-inspection results still do not meet the indicators specified in this Standard, the batch of products is determined to be unqualified.

7.4 Arbitration test

In the event of a dispute over quality between the supplier and the buyer, they may negotiate or entrust a third party selected by both parties to conduct arbitration.

8.1

The packaging bag of resin coated sand for foundry shall be moisture-proof and easy to transport.

8.2

The packaging bag shall be marked with:

- a) The words "resin coated sand";
- b) Designation;

The determination of the room temperature bending strength value of the sample is carried out according to the provisions of GB/T 2684. The bending strength value is 16 times the tensile scale value in the pressure gauge.

NOTE: See Appendix B for another test method for room temperature bending strength of resin coated sand for foundry.

A.2 Hot bending strength

The preparation of the sample for hot bending strength shall be carried out according to the provisions of A.1.

For the determination of hot bending strength, the sample is prepared according to the provisions of A.1. After the sample is taken out, it is placed on the testing machine immediately; gradually load until the sample breaks. It is required that the test is completed within 10 s after the sample is taken out. The bending strength value is 16 times the tensile scale value in the pressure gauge.

A.3.1 Device

- a) High-temperature box-type resistance furnace;