



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

**GB/T 1348-2019**

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**Spheroidal graphite iron castings**

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### Foreword

This Standard was drafted in accordance with the rules in GB/T 1.1-2009.

This Standard serves as a replacement of GB/T 1348-2009 Spheroidal Graphite Iron Castings. In comparison with GB/T 1348-2009, the main technical changes are as follows.

---The Scope is modified (see Chapter 1; Chapter 1 of Version 2009);

---Terms and definitions are added (see 3.1, 3.2, 3.5 ~ 3.9);

---Low-temperature impact performance indexes of spheroidal graphite cast iron are modified (see Table 2; Table 4 of Version 2009);

---Three designations of spheroidal graphite cast iron are added (see Table 1);

---The tensile properties of solid solution strengthened ferritic spheroidal graphite cast iron are added (see Table 3);

---Side-by-side cast sample is added (see 8.2.4).

This Standard adopts the re-drafting law in the modification and adoption of ISO

### **1083.2018 Spheroidal Graphite Cast Irons - Classification.**

In comparison with ISO 1083.2018, this Standard makes structural adjustments.

Appendix A lists out a comparison table of chapter numbers between this Standard and ISO 1083.2018.

The technical differences between this Standard and ISO 1083.2018, and the reasons of the differences are as follows.

---In terms of Normative References, this Standard makes certain adjustments with technical differences, so as to adapt to the technical conditions of China.

The adjustments are intensively reflected in Chapter 2 "Normative References".

The specific adjustments are as follows.

? GB/T 229, which modifies and adopts International Standard, is used to replace ISO 148-1;

? GB/T 9441, which modifies and adopts International Standard, is used to replace ISO 945-1;

? GB/T 231.1, which modifies and adopts International Standard, is used to replace ISO 6506-1;

? GB/T 228.1, which equivalently adopts International Standard, is used to replace ISO 6892-1;

? GB/T 5612, which modifies and adopts International Standard, is used to replace ISO/TR 15931;

? The following references are added. GB/T 223.3, GB/T 223.4, GB/T 223.60, GB/T 223.72, GB/T 223.83, GB/T 223.86, GB/T 5611, GB/T 5677, GB/T 6060.1, GB/T 6414, GB/T 9443, GB/T 9444, GB/T 11351, GB/T 24234, GB/T 34904.

---For ease of use, the repeated terms in GB/T 5611 are deleted; the term "Solid Solution Strengthened" is added (see 3.7).

---In order to comply with the structure of the product standard, the technical conditions for the appearance quality of castings are added (see 7.4 ~ 7.8).

---In order to satisfy the demands for product testing and ensure the accuracy of

testing, the test methods for the quality performance of castings are added (see 9.3 ~ 9.10).

---In order to satisfy the users' demands, the requirements for cast marking, accompanying documents, storage and transportation are added (see Chapter 11 and Chapter 12).

This Standard was proposed by and shall be under the jurisdiction of National Technical Committee on Casting of Standardization Administration of China (SAC/TC 54).

The drafting organizations of this Standard. Shenyang Research Institute of Foundry Co., Ltd.; Guangdong Zhongtian Chuangzhan Group; Hefei JAC Casting Co., Ltd.; Anhui Shenjian Technology Co., Ltd.; Tianrun Crankshaft Co., Ltd.; CRRC Qishuyan Institute Co., Ltd.; Ningxia KOCEL Group; Laizhou Xinzhongyao Machinery Co., Ltd.; Yantai Product Quality Supervision and Inspection Institute; Jiangsu SINOJIT Wind Energy Technology Co., Ltd.; Shandong Longji Machinery Co., Ltd.; Weifang Changsheng Pipe Co., Ltd.; Changge Fuxing Auto Parts Co., Ltd.; Jiangxi Zhangshu Fuling Internal Combustion Engine Parts Co., Ltd.; Yuzhou Henglilai Alloy Co., Ltd.; Suzhou Dongya Mechanical Foundry; Shandong Huijin Co., Ltd.; Anhui Research Institute of Mechanical Science; Hohai University; Shanghai Honggang Power Station Equipment Casting and Forging Co., Ltd.; Shanghai Volkswagen Co., Ltd.; Ningxia Wear Casting Co., Ltd.

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The issuing of the previous versions.

---GB/T 1348-1978, GB/T 1348-1988, GB/T 1348-2009.

Spheroidal Graphite Iron Castings

## 1 Scope

This Standard specifies the designations, order information, manufacturing methods, chemical composition, technical requirements, sample preparation, test methods, inspection rules, marking, quality certificate, rust prevention, packaging and storage of spheroidal graphite iron castings.

## 2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 223.3 Methods for Chemical Analysis of Iron, Steel and Alloy - The Diantipyryl Methane Phosphomolybdate Gravimetric Method for the Determination of Phosphorous Content

GB/T 223.4 Alloyed Steel - Determination of Manganese Content - Potentiometric or Visual Titration Method

GB/T 223.60 Methods for Chemical Analysis of Iron, Steel and Alloy - The Perchloric Acid Dehydration Gravimetric Method for the Determination of Silicon Content

GB/T 223.72 Iron, Steel and Alloy - Determination of Sulfur Content - Gravimetric Method

GB/T 223.83 Steel and Iron - Determination of High Sulfur Content - Infrared Absorption Method after Combustion in an Induction Furnace (GB/T 223.83-2009, ISO 13902.1997, IDT)

GB/T 223.86 Steel and Iron - Determination of Total Carbon Content - Infrared Absorption Method after Combustion in an Induction Furnace (GB/T 223.86-2009, ISO 9556.1989, IDT)

GB/T 228.1 Metallic Materials - Tensile Testing - Part 1. Method of Test at Room Temperature (GB/T 228.1-2010, ISO 6892-1.2009, IDT)

GB/T 229 Metallic Materials - Charpy Pendulum Impact Test Method (GB/T 229-2007,