



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 5502 : 2024

(JFSinc/JSA)

Spheroidal graphite cast irons

(Amendment 1)

JIS G 5502: 2022 was revised under date of 21 March 2024.
This Amendment includes the revised items and is to be used
in conjunction with **JIS G 5502: 2022**.

ICS 77.140.80

Reference number : JIS G 5502 : 2024 (E)

PROTECTED BY COPYRIGHT

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Act. This Amendment partially replaces the previous edition (**JIS G 5502 : 2022**), which has been technically revised.

Date of Establishment: 1961-07-01

Date of Revision: 2024-03-21

Date of Public Notice in Official Gazette: 2024-03-21

Developed by: Japanese Industrial Standards Committee

Investigated by: Standards Board for ISO area
Technical Committee on Metal and Inorganic Materials

JIS G 5502 : 2024, First English edition published in 2024-07

Translated and published by: Japanese Standards Association
Mita Avanti, 3-11-28, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2024

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

SW

PROTECTED BY COPYRIGHT

Spheroidal graphite cast irons (Amendment 1)

JIS G 5502 : 2024 is revised as follows.

3.4

Replace with the following.

3.4

graphite spheroidizing treatment

process that brings the liquid iron into graphite spheroidizing form by adding graphite spheroidizing agent

NOTE This process is often followed by a process called inoculation.

3.11

Replace with the following.

3.11

cast-on sample

sample cast attached directly to the cast iron itself (see Table 9)

3.19

Replace with the following.

3.19

white pig-iron sample

sample for a chemical analysis in which carbon is crystallized not as graphite but as cementite (Fe_3C) by quenching molten metal

3.21

Replace with the following.

3.21

test piece for zero point adjustment

rectangular parallelepiped shape of test piece used for obtaining a datum point to measure the propagation time of ultrasonic wave

3.27

Add the following.

3.27**in-process quality assurance procedure**

procedure carried out by the manufacturer in the production process to ensure that cast irons conform to the requirements of the purchaser

7.1 b)

Replace with the following.

- b) The designations in Table 2 and Table 3 are expressed in terms of the combination of tensile strength and elongation after fracture of test pieces worked from cast samples cast with a relevant wall thickness of 30 mm or under. The designation is irrespective of the type of cast sample.

7.1 d)

Change the subdivision symbol **d)** to **e)**.

Add a new subdivision **d)** as follows.

- d) The relevant wall thickness shall be as agreed between the purchaser and the manufacturer. In the absence of such an agreement, the decision shall be left to the manufacturer.

7.1 f)

Change the subdivision symbol **e)** to **g)**.

Add a new subdivision **f)** as follows.

- f) The 0.2 % proof strength in tensile properties is mandatory in SSSGI, but applies in SGI when specified by the purchaser.

NOTE The relationship between 0.2 % proof strength and tensile strength in SSSGI and SGI is given in A.3.2.1.

7.5

Replace with the following.

7.5 Hardness

SSSGI shall be tested in accordance with 11.4, and the results shall be as agreed between the purchaser and the manufacturer. When requested by the purchaser, SGI shall be tested in accordance with 11.4, and the results shall be as agreed between the purchaser and the manufacturer. The hardness of cast irons should be determined as

Brinell hardness (hereafter referred to as the hardness). Alternative hardness tests may also be agreed upon.

NOTE Further information on hardness of SSSGI and SGI is given in Table E.1 and Table E.2 for reference.

7.9

Add the following third sentence at the end.

In the absence of such an agreement, the decision shall be left to the manufacturer.

7.11

Add the following third sentence at the end.

In the absence of such an agreement, the decision shall be left to the manufacturer.

8.1.1 j)

Replace with the following.

- j) Cast samples and samples cut from a casting shall be adequately marked to guarantee full traceability to the cast irons which they represent.

8.1.4, Table 7

Replace the first sentence of the paragraph in the table “The thickness of the sand mould surrounding the samples should be at least 40 mm.” with “The thickness of the sand mould surrounding the samples should be at least 40 mm for Type A, Type B1 and Type B2, and at least 80 mm for Type C and Type D.”

10.1.1, first paragraph

Replace with the following.

The test unit shall be decided at the discretion of the manufacturer. Other test unit may apply as agreed between the purchaser and the manufacturer.

The test unit should be the cast irons cast from one or more ladles, or as necessary, the cast irons heat treated one or more times after casting.

10.1.1, fifth paragraph

In the first, third and fourth subdivisions, replace “the number of cast irons” with “the number of pieces or the tonnage of cast irons”.

10.2.2 a) 2)

Replace the first sentence with the following.

The original gauge length of Test piece No. 14A shall be in accordance with Formula (1).

10.2.3 a), b)

Delete the following second sentence from each subdivision.

The case where two test pieces for retest cannot be cut out shall be as agreed between the purchaser and the manufacturer.

11.4, first paragraph

Replace with the following.

The hardness test shall be in accordance with **JIS Z 2243-1** or as agreed between the purchaser and the manufacturer.

11.4, fifth paragraph

Replace with the following.

Further information on hardness is given in Annex E for reference.

11.8

Replace with the following.

11.8 Internal soundness test

The internal soundness test shall be as agreed between the purchaser and the manufacturer. In the absence of agreement, the decision shall be left to the manufacturer.

11.9

Add the following after the first sentence.

In the absence of agreement, the decision shall be left to the manufacturer.

12.3.2, first paragraph

Replace with the following.

If the results of tensile test do not conform to **7.2**, the manufacturer may perform a retest for the test not conforming to the requirements, using either a cast iron, a sample or a reserve test piece of **10.2.3 a)**.