

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

JIS A 5011-1 : 2018

(NSA)

**Slag aggregate for concrete — Part 1:  
Blast furnace slag aggregate**

A 5011-1 : 2018

Date of Establishment: 1997-08-20

Date of Revision: 2018-01-22

Date of Public Notice in Official Gazette: 2018-01-22

Investigated by: Japanese Industrial Standards Committee  
Standards Board for ISO area  
Technical Committee on Civil Engineering

---

JIS A 5011-1 : 2018, First English edition published in 2018-09

Translated and published by: Japanese Standards Association  
Mita MT Building, 3-13-12, 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 2018

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

KK/HN

PROTECTED BY COPYRIGHT

## Contents

	Page
Introduction .....	1
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	2
4 Classification, division and designation .....	4
4.1 Classification .....	4
4.2 Division according to particle size .....	5
4.3 Division of blast furnace slag coarse aggregates according to density in oven dry condition, water absorption and bulk density .....	6
4.4 Designation .....	6
5 Quality .....	6
5.1 General .....	6
5.2 Chemical composition and physical properties .....	6
5.3 Particle size, fineness modulus and content of materials finer than 75 $\mu\text{m}$ .....	7
5.4 Storage stability of blast furnace slag fine aggregate at high tempera- tures .....	9
5.5 Environmentally sound quality criteria .....	9
6 Test methods .....	10
6.1 Sampling and reduction of sample .....	10
6.2 Chemical analysis .....	10
6.3 Tests for density in oven-dry condition and water absorption .....	10
6.4 Bulk density test .....	10
6.5 Particle size test .....	10
6.6 Test for content of materials finer than 75 $\mu\text{m}$ .....	11
6.7 Tests for environmentally sound quality .....	11
7 Inspection .....	11
7.1 Inspection on chemical composition, physical properties, particle size, fineness modulus and content of materials finer than 75 $\mu\text{m}$ .....	11
7.2 Inspection on environmentally sound quality .....	11
7.3 Management of production lot .....	13
7.4 Storage of inspection data .....	13
8 Marking .....	13
9 Report .....	14
Annex A (normative) Chemical composition analysis of blast furnace slag aggregate .....	23

Annex B (informative)	Testing method of storage stability of blast furnace slag fine aggregate .....	60
Annex C (normative)	Tests for environmentally sound quality of blast furnace slag aggregate .....	64
Annex D (informative)	Comparison table between previous and current editions of this Standard on technically significant revisions .....	70

## Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Nippon Slag Association (NSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS A 5011-1:2013** is replaced with this Standard.

However, **JIS A 5011-1: 2013** may be applied in the **JIS** mark certification based on the relevant provisions of Article 19 Clause 1, etc. of the Industrial Standardization Law until July 21, 2018.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

**JIS A 5011** series consists of the following 4 parts under the general title “*Slag aggregate for concrete*”:

*Part 1: Blast furnace slag aggregate*

*Part 2: Ferronickel slag aggregate*

*Part 3: Copper slag aggregate*

*Part 4: Electric arc furnace oxidizing slag aggregate*

# Slag aggregate for concrete — Part 1 : Blast furnace slag aggregate

## Introduction

This Japanese Industrial Standard was established in 1997 by integrating **JIS A 5011** (established in 1977) and **JIS A 5012** (established in 1981), and has been revised three times since then. A comparison table between previous and current editions of this Standard on technically significant revisions is given in Annex D.

No corresponding International Standard has been established at this point.

## 1 Scope

This Standard provides specification applicable to blast furnace slag aggregate used for concrete.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 0203 *Concrete terminology*

JIS A 1102 *Method of test for sieve analysis of aggregates*

JIS A 1103 *Method of test for amount of material passing test sieve 75  $\mu\text{m}$  in aggregates*

JIS A 1104 *Methods of test for bulk density of aggregates and solid content in aggregates*

JIS A 1109 *Methods of test for density and water absorption of fine aggregates*

JIS A 1110 *Methods of test for density and water absorption of coarse aggregates*

JIS A 1158 *Method for reducing samples of aggregate to testing size*

JIS H 6201 *Platinum crucibles for chemical analysis*

JIS K 0050 *General rules for chemical analysis*

JIS K 0058-1 *Test methods for chemicals in slags — Part 1 : Leaching test method*

JIS K 0058-2 *Test methods for chemicals in slags — Part 2 : Test method for acid extractable contents of chemicals*

JIS K 0115 *General rules for molecular absorptiometric analysis*

JIS K 0116 *General rules for atomic emission spectrometry*

JIS K 0119 *General rules for X-ray fluorescence analysis*