

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

**JIS Z 3352** : 2017

(JWES)

**Fluxes for submerged arc welding and  
electroslag welding**

---

ICS 25.160.20

Reference number : JIS Z 3352 : 2017 (E)

PROTECTED BY COPYRIGHT

12 S

Z 3352 : 2017

Date of Establishment: 1988-01-01

Date of Revision: 2017-03-21

Date of Public Notice in Official Gazette: 2017-03-21

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Metal and Inorganic Materials

---

JIS Z 3352 : 2017, First English edition published in 2017-08

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 2017

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

HT/HN

PROTECTED BY COPYRIGHT

## Contents

	Page
Introduction .....	1
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	3
4 Classification and designation .....	3
5 Quality .....	4
5.1 Technical delivery conditions .....	4
5.2 Chemical composition of flux .....	4
5.3 Particle size of flux .....	6
5.4 Hydrogen content in deposited weld metal (Class 1 fluxes only) .....	6
6 Test methods .....	6
6.1 Lot size and sampling method .....	6
6.2 Chemical analysis test of flux .....	7
6.3 Particle size test of flux .....	7
6.4 Test of hydrogen content in deposited weld metal .....	7
7 Inspection .....	7
8 Designation .....	8
9 Marking .....	9
10 Packaging .....	9
11 Inspection certificate .....	9
Annex A (normative) Characteristic chemical constituents of flux — Determination from elemental analysis .....	10
Annex B (informative) Description of flux types .....	12
Annex JA (informative) Comparison table between JIS and corresponding International Standard .....	15

## Foreword

This translation has been made based on the original Japanese Industrial Standard 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 The Japan Welding Engineering Society (JWES) 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 Z 3352:2010** is replaced with this Standard.

However, **JIS Z 3352: 2010** 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 March 20, 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.

# Fluxes for submerged arc welding and electroslag welding

## Introduction

This Japanese Industrial Standard has been prepared based on the second edition of ISO 14174 published in 2012 with some modifications of the technical contents to reflect the local needs and situations in Japan.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

## 1 Scope

This Standard specifies the fluxes for submerged arc welding and electroslag welding (hereafter referred to as fluxes). It is not applicable to fluxes used for the purpose of backing.

The submerged arc welding fluxes for 9 % nickel steel are specified in **JIS Z 3333**. The electroslag welding fluxes for mild steel and high strength steel of 490 MPa to 590 MPa in tensile strength are specified in **JIS Z 3353**.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 14174 : 2012 *Welding consumables — Fluxes for submerged arc welding and electroslag welding — Classification* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

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

JIS K 1468-2 *Acid-grade fluorspar — Method for chemical analysis Part 2 : Determination of available fluorine content — Potentiometric method after distillation*

JIS M 8202 *Iron ores — General rules for chemical analysis*

JIS M 8212 *Iron ores — Determination of total iron content*

JIS M 8214 *Iron ores — Methods for determination of silicon content*

JIS M 8215-1 *Iron ores — Determination of manganese content — Part 1 : Flame*