

Translated and Published by Japanese Standards Association

JIS Z 3211:2008

(JWES/JSA)

Covered electrodes for mild steel, high tensile strength steel and low temperature service steel

ICS 25.160.20

Reference number: **JIS Z 3211**: **2008** (**E**)

Z 3211:2008

Date of Establishment: 1950-06-20

Date of Revision: 2008-12-20

Date of Public Notice in Official Gazette: 2008-12-22

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Welding

JIS Z 3211:2008, First English edition published in 2009-08

Translated and published by: Japanese Standards Association 4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

© JSA 2009

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

KA/AT

Contents

	Page
Intr	oduction1
1	Scope1
2	Normative references
3	Terms and definitions ————————————————————————————————————
4	Classification and symbol indication method
5 5.1 5.2 5.3 5.4 5.5 5.6	Quality5Dimensions and tolerances of electrode5Product condition6Chemical composition of deposited metal6Mechanical properties of deposited metal11Welding position which electrode can apply and type of current16Hydrogen content of deposited metal16
6 6.1 6.2 6.3 6.4 6.5	Tests16Chemical analysis test of deposited metal16Tensile test and impact test of deposited metal16Fillet weld test19Hydrogen content test for deposited metal20Retest21
7	Inspection21
8	Designation of product21
9 9.1 9.2	Marking22Marking on product22Marking on package22
10	Package22
11	Inspection certification
Ann	ex A (informative) ISO 2560 System A23
Ann	ex B (informative) ISO 18275 System A31
Ann	ex JA (informative) Comparison table between JIS and corresponding International Standards40

Z 3211:2008

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)/Japanese Standards Association (JSA) 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 3211**: 2000 is replaced with this Standard. Also, **JIS Z 3212**: 2000 and **JIS Z 3241**: 1999 are withdrawn and replaced with this Standard.

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

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Covered electrodes for mild steel, high tensile strength steel and low temperature service steel

JIS Z 3211:2008

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of ISO 2560 published in 2002 and the first edition of ISO 18275 published in 2005 with some modifications of the technical contents. ISO 2560 is a combined standard of EN 499 and the standard used around the Pacific Rim, and ISO 18275 is a combined standard of EN 757 and the standard used around the Pacific Rim. Either of them may be used in different global markets. According to this, this Standard gives requirements corresponding to the standards used in Pacific Rim (system B of ISO 2560 and system B of ISO 18275) in the text, and those of EN 499 and EN 757 (system A of ISO 2560 and system A of ISO 18275) in Annex A and Annex B for reference.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standards have been modified. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the covered electrodes (hereafter referred to as "electrodes") to be used for welding of mild steel, high tensile strength steel whose tensile strength is between 490 MPa grade and 830 MPa grade and low temperature service steel.

NOTE: The International Standards corresponding to this Standard are as follows.

ISO 2560: 2002 Welding consumables—Covered electrodes for manual metal arc welding of non-alloy and fine grain steels—Classification

ISO 18275:2005 Welding consumables—Covered electrodes for manual metal arc welding of high-strength steels—Classification

(Overall evaluation: MOD)

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

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 G 0321 Product analysis and its tolerance for wrought steel

JIS G 3101 Rolled steels for general structure

JIS G 3106 Rolled steels for welded structure

JIS G 3126 Carbon steel plates for pressure vessels for low temperature service