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Fluxes for submerged arc welding

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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 3352:2007** is replaced with this Standard.

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Fluxes for submerged arc welding

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of ISO 14174 published in 2004 with some modifications of the technical contents to reflect the actual situation in Japan.

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

Further, general characteristics, application and the like for symbols of chemical composition of each flux which are described in Annex A of corresponding International Standard ISO 14174 are described in Annex A of this Standard as they are.

1 Scope

This Standard specifies the flux applicable to joint welding and overlay welding of mild steel, high-tensile steel, molybdenum steel, chromium-molybdenum steel, steel for low temperature service, atmospheric corrosion resistance steel, stainless steel, heat resisting steel, nickel and nickel alloy using wire electrodes and strip electrodes. Those used for the purpose of backing are excluded.

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

ISO 14174 : 2004 *Welding consumables — Fluxes for submerged arc welding — Classification* (MOD)

The 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 atomic absorption spectrometric method*
- JIS M 8215-2 *Iron ores — Determination of manganese content — Periodate spectrophotometric method*
- JIS M 8219 *Iron ores — Methods for determination of titanium content*
- JIS M 8220 *Iron ores — Methods for determination of aluminium content*
- JIS M 8221 *Iron ores — Methods for determination of calcium content*
- JIS M 8222 *Iron ores — Methods for determination of magnesium content*
- JIS M 8235 *Manganese ores — Determination of silicon content*
- JIS M 8240 *Manganese ores — Methods for determination of calcium content*
- JIS M 8301 *General rule for chemical analysis of titanium ores*
- JIS M 8312 *Methods for determination of iron in titanium ores*
- JIS M 8314 *Methods for determination of silicon dioxide in titanium ores*
- JIS M 8317 *Titanium ores — Methods for determination of manganese*
- JIS M 8318 *Titanium ores — Methods for determination of calcium*
- JIS M 8319 *Titanium ores — Methods for determination of magnesium*
- JIS M 8850 *Methods for chemical analysis of limestone*
- JIS M 8852 *Methods for chemical analysis of high-silica raw materials for ceramics*
- JIS M 8853 *Methods for chemical analysis of aluminosilicate raw materials for ceramics*
- JIS R 9011 *Test methods of lime*
- JIS Z 3001-1 *Welding and allied processes — Vocabulary — Part 1 : General*
- JIS Z 3001-2 *Welding and allied processes — Vocabulary — Part 2 : Welding processes*
- JIS Z 3118 *Method for measurement of amount of hydrogen evolved from steel welds*
- NOTE : Corresponding International Standard : ISO 3690 *Welding and allied processes — Determination of hydrogen content in ferritic steel arc weld metal* (MOD)
- JIS Z 3423 *Procurement guidelines for welding consumables*
- JIS Z 8801-1 *Test sieves — Part 1 : Test sieves of metal wire cloth*

JIS Z 8815 Test sieving — General requirements

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in JIS Z 3001-1, JIS Z 3001-2 and the following apply.

3.1 joint welding

welding method to form the weld joint by butt welding, lap fillet welding and the like

3.2 mixed flux

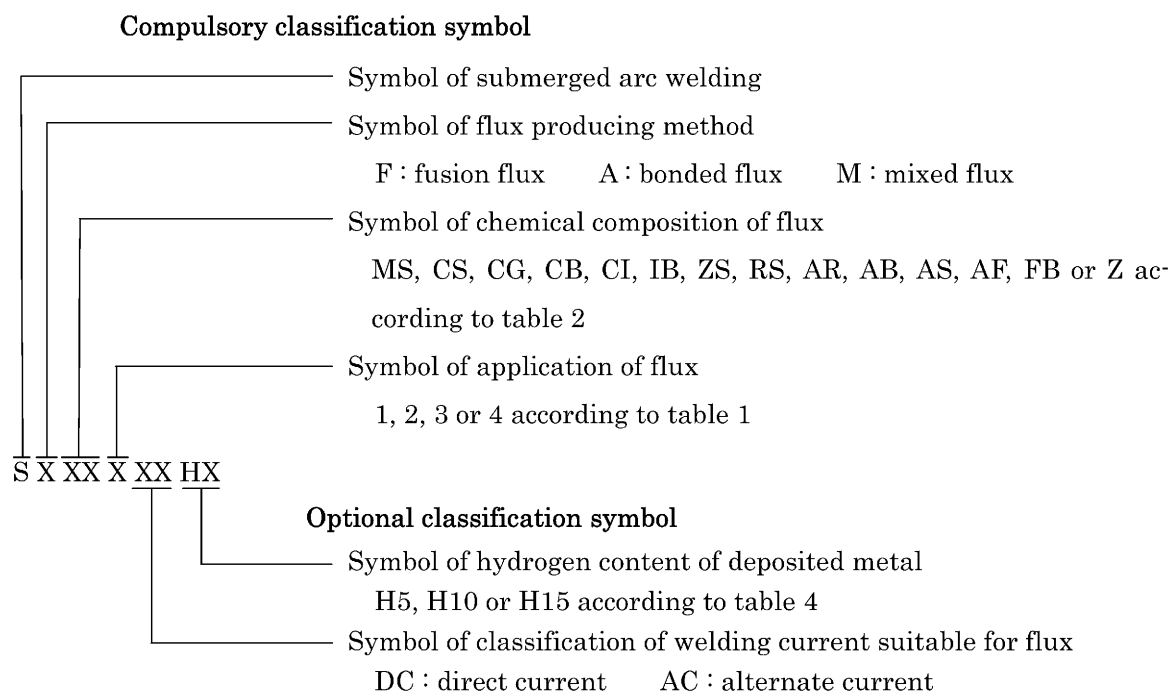
flux produced by mixing two or more of the fused flux and/or the bonded flux

3.3 corresponding mesh

index to express the size of flux particle which is the numeric value of Tyler mesh corresponding to the nominal opening of sieve

4 Indication method of classification and symbol

Flux shall be classified according to the production method, the chemical composition of flux and the application. Also, the classification according to the type of welding current and/or the hydrogen content of deposited metal suitable for flux may be added. The indication method of symbols to show the classification of flux shall be as follows.



NOTE : Flux suitable for a.c. is generally suitable for d.c.