AS/NZS ISO 14174:2013
ISO 14174:2012

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Australian/New Zealand Standard™

Welding consumables—Fluxes for submerged arc welding and electroslag welding—Classification

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WD-002, Welding Consumables. It was approved on behalf of the Council of Standards Australia on 25 January 2013 and on behalf of the Council of Standards New Zealand on 15 September 2012.
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The following are represented on Committee WD-002:

Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
Business New Zealand
New Zealand Heavy Engineering Research Association
Welding Technology Institute of Australia

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This Standard was issued in draft form for comment as DR AS/NZS ISO 14174.

Australian/New Zealand Standard™

Welding consumables—Fluxes for submerged arc welding and electroslag welding—Classification

Originated in Australia as part of AS 1858—1976.
Previous edition in part as part of AS 1858.1—2003 and AS 1858.2—1989.
Jointly revised and redesignated as AS/NZS ISO 14174:2013.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WD-002, Welding Consumables, to supersede, in part, AS 1858.1—2003, *Electrodes and fluxes for submerged-arc welding,* Part 1: *Carbon steels and carbon-manganese steels* and AS 1858.2—1989, *Electrodes and fluxes for submerged-arc welding*, Part 2: *Low and intermediate alloy steels*.

The objective of this Standard is to specify requirements for manufacturers and users for classification of fluxes for submerged arc welding and electroslag welding for joining and overlay welding using wire electrodes, tubular cored electrodes, and strip electrodes.

This Standard is identical with, and has been reproduced from ISO 14174:2012, *Welding consumables—Fluxes for submerged arc welding and electroslag welding—Classification.*

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

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(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS/NZS ISO	
14171	Welding consumables—Solid wire electrodes, tubular cored electrodes and electrode/flux combinations for submerged arc welding of non alloy and fine grain steels—Classification	14171	Welding consumables—Solid wire electrodes, tubular cored electrodes and electrode/flux combinations for submerged arc welding of non alloy and fine grain steels—Classification

Only international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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INTRODUCTION

This International Standard is based on EN 760:1996[1].

AUSTRALIAN/NEW ZEALAND STANDARD

Welding consumables—Fluxes for submerged arc welding and electroslag welding—Classification

1 Scope

This International Standard specifies requirements for classification of fluxes for submerged arc welding and electroslag welding for joining and overlay welding using wire electrodes, tubular cored electrodes, and strip electrodes.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3690, *Welding and allied processes — Determination of hydrogen content in arc weld metal*

ISO 14171, *Welding consumables — Solid wire electrodes, tubular cored electrodes and electrode/flux combinations for submerged arc welding of non alloy and fine grain steels — Classification*

ISO 14343, *Welding consumables — Wire electrodes, strip electrodes, wires and rods for arc welding of stainless and heat resisting steels — Classification*

ISO 80000-1:2009, *Quantities and units — Part 1: General*

3 Classification

Fluxes for submerged arc welding and electroslag welding for joining and overlay welding are granular, fusible products of mainly mineral origin, which are manufactured by various methods. Fluxes influence the chemical composition and the mechanical properties of the weld metal.

The classification of the fluxes is divided into seven parts:

1) the first part gives a symbol indicating the product/process (see 4.1);

2) the second part gives a symbol indicating the method of manufacture (see 4.2);

3) the third part gives a symbol indicating the type of flux, characteristic chemical constituents (see Table 1);

4) the fourth part gives a symbol indicating the applications, flux class (see 4.4);

5) the fifth part gives a symbol indicating the metallurgical behaviour (see 4.5);

6) the sixth part gives a symbol indicating the type of current (see 4.6);

7) the seventh part gives a symbol indicating the diffusible hydrogen content of deposited weld metal (see Table 6) — only applicable for class 1 fluxes.

In order to promote the use of this International Standard, the classification is divided into two sections.

a) Compulsory section.

This section includes the symbols for process, method of manufacture, characteristic chemical constituents, and applications, i.e. the symbols defined in 4.1, 4.2, 4.3, and 4.4.

b) Optional section.

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