
**Welding consumables — Covered
electrodes for manual metal arc
welding of nickel and nickel alloys —
Classification**

*Produits consommables pour le soudage — Électrodes enrobées
pour le soudage manuel à l'arc du nickel et des alliages de nickel —
Classification*



This document is a preview generated by EMS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Classification	1
4 Symbols and requirements	1
4.1 Symbol for the product/process.....	1
4.2 Symbol for the chemical composition of the all-weld metal.....	2
4.3 Rounding procedure.....	2
5 Chemical analysis	2
6 Mechanical properties of the all-weld metal	2
7 Retests	8
8 Technical delivery conditions	8
9 Designation	9
Annex A (informative) System for designation of welding filler metals	10
Annex B (informative) Description of consumables classes	11
Annex C (informative) Equivalent national specifications	17
Bibliography	19

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 3 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

This third edition cancels and replaces the second edition (ISO 14172:2008), which has been technically revised.

Welding consumables — Covered electrodes for manual metal arc welding of nickel and nickel alloys — Classification

1 Scope

This International Standard prescribes requirements for the classification of nickel and nickel-alloy covered electrodes for manual metal arc welding and overlaying. It includes those compositions in which the nickel content exceeds that of any other element.

2 Normative references

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

ISO 544, *Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings*

ISO 6847, *Welding consumables — Deposition of a weld metal pad for chemical analysis*

ISO 14344, *Welding consumables — Procurement of filler materials and fluxes*

ISO 15792-1:2000, *Welding consumables — Test methods — Part 1: Test methods for all-weld metal test specimens in steel, nickel and nickel alloys*. Amended by ISO 15792-1:2000/Amd 1:2011.

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

3 Classification

A covered electrode shall be classified in accordance with the chemical composition of the all-weld metal as given in [Table 1](#) and the mechanical properties listed in [Table 2](#). The symbol for the classification is divided into two parts:

- a) the first part gives a symbol indicating the product/process to be used;
- b) the second part gives a symbol indicating the chemical composition of the all-weld metal.

4 Symbols and requirements

4.1 Symbol for the product/process

The symbol for covered electrodes used for manual metal arc welding shall be the letter “E”.