

Welding consumables — Wire and tubular cored electrodes and electrode-flux combinations for submerged arc welding of high strength steels — Classification

The European Standard EN 14295:2003 has the status of a
British Standard

ICS 25.160.20

National foreword

This British Standard is the official English language version of EN 14295:2003.

The UK participation in its preparation was entrusted to Technical Committee WEE/39, Welding consumables, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, was published under the authority of the Standards Policy and Strategy Committee on 19 November 2003

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 14, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 19 November 2003

ISBN 0 580 42926 1

English version

Welding consumables - Wire and tubular cored electrodes and electrode-flux combinations for submerged arc welding of high strength steels - Classification

Produits consommables pour le soudage - Fils-électrodes pleins et fils-électrodes fourrés et couples fils-flux pour le soudage sous flux des aciers à haute résistance - Classification

Schweißzusätze - Draht- und Fülldrahtelektroden und Drahtpulver-Kombinationen für das Unterpulverschweißen von hochfesten Stählen - Einteilung

This European Standard was approved by CEN on 1 September 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Classification.....	5
4 Symbols and requirements.....	6
4.1 Symbol for the process	6
4.2 Symbol for the tensile properties.....	6
4.3 Symbol for the impact properties of all-weld metal	6
4.4 Symbol for the type of welding flux	7
4.5 Symbol for the chemical composition of wire electrodes or tubular cored electrode-flux combinations.....	8
4.6 Symbol for the stress relief treatment	8
5 Mechanical tests	11
5.1 General.....	11
5.2 Preheating and interpass temperatures	11
5.3 Welding conditions.....	11
6 Chemical analysis.....	11
7 Technical delivery conditions.....	12
8 Designation.....	12
Bibliography	14

Foreword

This document (EN 14295:2003) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This standard proposes a classification in which solid wire electrodes are designated by the chemical composition of the wire and wire-flux combinations in terms of the yield strength, tensile strength and elongation of the all-weld metal. Tubular cored electrode-flux combinations are designated by the chemical composition, yield strength, tensile strength and elongation of the all-weld metal. The ratio of yield to tensile strength of weld metal is generally higher than that of parent metal. Users should note that matching weld metal yield strength to parent metal yield strength will not necessarily ensure that the weld metal tensile strength matches that of the parent material. Where the application requires matching tensile strength, therefore, selection of the consumable should be made by reference to column 3 of Table 1.

Although combinations of electrodes and fluxes supplied by individual companies may have the same grading, the individual electrodes and fluxes from different companies are not interchangeable unless verified according to this standard.

It should be noted that the mechanical properties of all-weld metal test specimens used to classify the electrode-flux combinations will vary from those obtained in production joints because of differences in welding procedures such as electrode size and material composition.