

SLOVENSKI STANDARD

SIST EN ISO 8249:2018

01-december-2018

Nadomešča:

SIST EN ISO 8249:2001

Varjenje - Določanje feritnega števila (FN) v avstenitnih in dupleksnih feritno-avstenitnih Cr-Ni nerjavnih varih (ISO 8249:2018)

Welding - Determination of Ferrite Number (FN) in austenitic and duplex ferritic-austenitic Cr-Ni stainless steel weld metals (ISO 8249:2018)

Schweißen - Bestimmung der Ferrit-Nummer (FN) in austenitischem und ferritisch-austenitischem (Duplex-)Schweißgut von Cr-Ni-Stählen (ISO 8249:2018)

Soudage - Détermination de l'indice de ferrite (FN) dans le métal fondu en acier inoxydable austénitique et duplex ferritique-austénitique au chrome-nickel (ISO 8249:2018)

Ta slovenski standard je istoveten z: EN ISO 8249:2018

ICS:

25.160.40 Varjeni spoji in vari Welded joints and welds

SIST EN ISO 8249:2018

en,fr,de

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EUROPEAN STANDARD

EN ISO 8249

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2018

ICS 25.160.40

Supersedes EN ISO 8249:2000

English Version

Welding - Determination of Ferrite Number (FN) in austenitic and duplex ferritic-austenitic Cr-Ni stainless steel weld metals (ISO 8249:2018)

Soudage - Détermination de l'indice de ferrite (FN) dans le métal fondu en acier inoxydable austénitique et duplex ferritique-austénitique au chrome-nickel (ISO 8249:2018)

Schweißen - Bestimmung der Ferrit-Nummer (FN) in austenitischem und ferritisch-austenitischem (Duplex-)Schweißgut von Cr-Ni-Stählen (ISO 8249:2018)

This European Standard was approved by CEN on 8 September 2018.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 8249:2018) has been prepared by Technical Committee ISO/TC IIW "International Institute of Welding" in collaboration with Technical Committee CEN/TC 121 "Welding and allied processes" the secretariat of which is held by DIN.

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 March 2019, and conflicting national standards shall be withdrawn at the latest by March 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 8249:2000.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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INTERNATIONAL
STANDARD

ISO
8249

Third edition
2018-07

**Welding — Determination of Ferrite
Number (FN) in austenitic and duplex
ferritic-austenitic Cr-Ni stainless steel
weld metals**

*Soudage — Détermination de l'indice de ferrite (FN) dans le
métal fondu en acier inoxydable austénitique et duplex ferritique-
austénitique au chrome-nickel*

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ISO 8249:2018(E)

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).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by IIW, the International Institute of Welding, Commission II.

Any feedback, question or request for official interpretation related to any aspect of this document should be directed to IIW via your national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This third edition cancels and replaces the second edition (ISO 8249:2000), which has been technically revised. The main changes compared to the previous edition are as follows:

- corrections have been made to [Table 2](#) (previously Table 1);
- minor editorial changes in [Clause 9](#) (previously Clause 8) and throughout the document have been made.

Introduction

At present, there is no universal opinion concerning the best experimental method that gives an absolute measurement of the amount of ferrite in a weld metal, either destructively or non-destructively. This situation has led to the development and use, internationally, of the concept of a "Ferrite Number" or FN. A Ferrite Number is a description of the ferrite content of a weld metal determined using a standardized procedure. Such procedures are laid down in this document. The Ferrite Number of a weld metal has been considered approximately equivalent to the percentage ferrite content, particularly at low FN values. More recent information suggests that the FN can overstate the volume percent ferrite at higher FN by a factor in the order of 1,3 to 1,5, which depends to a certain extent on the actual composition of the alloy in question.

Although other methods are available for determining the Ferrite Number, the standardized measuring procedure, laid down in this document, is based on assessing the tear-off force needed to pull the weld metal sample from a magnet of defined strength and size. The relationship between tear-off force and FN is obtained using primary standards consisting of a non-magnetic coating of specified thickness on a magnetic base. Each non-magnetic coating thickness is assigned an FN value.

The ferrite content determined by this method is arbitrary and is not necessarily the true or absolute ferrite content. In recognition of this fact, the term "Ferrite Number" (FN) is used instead of "ferrite per cent" when quoting a ferrite content determined by this method. To help convey the message that this standardized calibration procedure has been used, the terms "Ferrite Number" and "FN" are capitalized as proper nouns.

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