

<b>STN</b>	<b>Zinkové povlaky</b> <b>Návody a odporúčania na protikoróznú ochranu</b> <b>železných a ocelových konštrukcií</b> <b>Časť 2: Žiarové zinkovanie ponorom (ISO 14713-2:</b> <b>2019)</b>	<b>STN</b> <b>EN ISO 14713-2</b>  03 8261
------------	--	--

Zinc coatings - Guidelines and recommendations for the protection against corrosion of iron and steel in structures - Part 2: Hot dip galvanizing (ISO 14713-2:2019)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/20

Obsahuje: EN ISO 14713-2:2020, ISO 14713-2:2019

Oznámením tejto normy sa ruší  
STN EN ISO 14713-2 (03 8261) z augusta 2010

**130820**

EUROPEAN STANDARD

EN ISO 14713-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2020

ICS 25.220.40

Supersedes EN ISO 14713-2:2009

English Version

Zinc coatings - Guidelines and recommendations for the  
protection against corrosion of iron and steel in structures  
- Part 2: Hot dip galvanizing (ISO 14713-2:2019)

Revêtements de zinc - Lignes directrices et  
recommandations pour la protection contre la  
corrosion du fer et de l'acier dans les constructions -  
Partie 2: Galvanisation à chaud (ISO 14713-2:2019)

Zinküberzüge - Leitfäden und Empfehlungen zum  
Schutz von Eisen- und Stahlkonstruktionen vor  
Korrosion - Teil 2: Feuerverzinken (ISO 14713-2:2019)

This European Standard was approved by CEN on 20 December 2019.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 12 February 2020.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN ISO 14713-2:2020 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

This document (EN ISO 14713-2:2020) has been prepared by Technical Committee ISO/TC 107 "Metallic and other inorganic coatings" in collaboration with Technical Committee CEN/TC 262 "Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys" the secretariat of which is held by BSI.

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 July 2020, and conflicting national standards shall be withdrawn at the latest by July 2020.

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 14713-2:2009.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 14713-2:2019 has been approved by CEN as EN ISO 14713-2:2020 without any modification.

INTERNATIONAL  
STANDARD

ISO  
14713-2

Second edition  
2019-10

---

---

**Zinc coatings — Guidelines and  
recommendations for the protection  
against corrosion of iron and steel in  
structures —**

Part 2:  
**Hot dip galvanizing**

*Revêtements de zinc — Lignes directrices et recommandations  
pour la protection contre la corrosion du fer et de l'acier dans les  
constructions —*

*Partie 2: Galvanisation à chaud*



Reference number  
ISO 14713-2:2019(E)

© ISO 2019

**ISO 14713-2:2019(E)****COPYRIGHT PROTECTED DOCUMENT**

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, 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  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Design for hot dip galvanizing</b> .....	<b>2</b>
4.1 General.....	2
4.2 Surface preparation.....	2
4.3 Procedures related to design considerations.....	2
4.4 Design features.....	3
4.5 Tolerances.....	3
<b>5 Design for storage and transport</b> .....	<b>3</b>
<b>6 Effect of article condition on quality of hot dip galvanizing</b> .....	<b>4</b>
6.1 General.....	4
6.2 Material composition.....	4
6.3 Castings.....	5
6.4 Surface condition.....	6
6.5 Influence of steel surface roughness on the hot dip galvanized coating thickness.....	6
6.6 Influence of thermal cutting processes and welding.....	6
6.6.1 Thermal cutting.....	6
6.6.2 Welding.....	6
6.6.3 Free edges.....	6
6.7 Effect of internal stresses in the steel article.....	7
6.7.1 General.....	7
6.7.2 Distortion cracking.....	7
6.7.3 Hydrogen embrittlement.....	7
6.7.4 Strain age embrittlement.....	7
6.7.5 Liquid metal assisted cracking or liquid metal embrittlement.....	8
6.8 Large objects or thick steels.....	8
6.9 Hot dip galvanizing practice.....	8
<b>7 Effect of hot dip galvanizing process on the article</b> .....	<b>8</b>
7.1 Dimensional tolerances on mating threads.....	8
7.2 Effect of process heat.....	9
<b>8 After-treatments</b> .....	<b>9</b>
<b>Annex A (informative) Preferred designs of articles for hot dip galvanizing</b> .....	<b>10</b>
<b>Bibliography</b> .....	<b>21</b>

# ISO 14713-2:2019(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](http://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](http://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 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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 4, *Hot dip coatings (galvanized, etc.)*.

This second edition cancels and replaces the first edition (ISO 14713-2:2009), which has been technically revised. The main changes compared with the previous edition are as follows:

- minor technical changes have been made and two new notes have been added to [Table 1](#);
- improvements have been made to the clarity of recommendations throughout [Clause 6](#);
- extensive revisions have been made to the figures in [Annex A](#);
- [Tables A.1, A.2](#) and [A.3](#) have been added in [Annex A](#).

A list of all parts in the ISO 14713 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



## Introduction

The protection afforded by the hot dip galvanized coating to the article will depend upon the method of application of the coating, the design of the article and the specific environment to which the article is exposed. The hot dip galvanized article can be further protected by the application of additional coatings (outside the scope of this document), such as organic coatings (paints or powder coatings). When applied to hot dip galvanized articles, this combination of coatings is often known as a “duplex system”.

Specific product-related requirements, for which specific standards could exist (e.g. for hot dip galvanized coatings on tubes or fasteners), take precedence over these general recommendations.



# Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures —

## Part 2: Hot dip galvanizing

### 1 Scope

This document gives guidelines and recommendations for the general principles of design appropriate to articles to be hot dip galvanized after fabrication (e.g. in accordance with ISO 1461) for the corrosion protection of, for example, articles that have been manufactured in accordance with EN 1090-2.

This document does not apply to hot dip galvanized coatings applied to continuous wire or sheet (e.g. to EN 10346).

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 8044, *Corrosion of metals and alloys — Basic terms and definitions*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**