SLOVENSKI STANDARD

oSIST prEN ISO 2081:2016

01-junij-2016

Kovinske in druge anorganske prevleke - Galvanske prevleke cinka z dodatno obdelavo na železu in jeklu (ISO/DIS 2081:2016)

Metallic and other inorganic coatings - Electroplated coatings of zinc with supplementary treatments on iron or steel (ISO/DIS 2081:2016)

Metallische und andere anorganische Überzüge - Galvanische Zinküberzüge auf Eisenwerkstoffen mit zusätzlicher Behandlung (ISO/DIS 2081:2016)

Revêtements métalliques et autres revêtements inorganiques - Dépôts électrolytiques de zinc avec traitements supplémentaires sur fer ou acier (ISO/DIS 2081:2016)

Ta slovenski standard je istoveten z: **prEN ISO 2081**

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25.220.40	Kovinske prevleke	Metallic coatings

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DRAFT INTERNATIONAL STANDARD

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Metallic and other inorganic coatings — Electroplated coatings of zinc with supplementary treatments on iron or steel

Revêtements métalliques et autres revêtements inorganiques — Dépôts électrolytiques de zinc avec traitements supplémentaires sur fer ou acier

ICS: 25.220.40

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel three month enquiry.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

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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

ISO 2081 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 3, *Electrodeposited coatings and related finishes*, and CEN/TC 262 *Metallic and other inorganic coatings.*

This fourth edition cancels and replaces the third edition (ISO 2081:2008), which has been technically revised.

Introduction

Zinc coatings are applied to iron or steel articles for protective and decorative purposes by electrodeposition from acid zinc chloride, alkaline non-cyanide zinc, and alkaline zinc cyanide solutions. Electroplated, bright zinc coatings are popular and the processes for preparing bright zinc coatings are widely used.

The ability of a zinc coating to prevent corrosion is a function of its thickness and the type of service conditions to which it is exposed. For example, the rate of corrosion of zinc will generally be greater in industrial exposures than in rural ones. The type of service condition should, therefore, be taken into consideration when specifying the minimum coating thickness. Chromate conversion coatings and other supplementary treatments enhance the corrosion resistance of electrodeposited zinc coatings and are commonly applied after electroplating.

Because the appearance and serviceability of zinc coatings depends on the surface condition of the basis metal, agreement should be reached between the interested parties that the surface finish of the basis metal is satisfactory for electroplating.

Chromate conversion coatings are omitted, or replaced by other conversion coatings, at the specific request of the purchaser. This International Standard provides the codes for all types of chromate conversion and other supplementary coatings.

Due to the REACH Regulations the use of hexavalent chromium compounds will be banned in Europe from September 2017 except where specifically authorised. Alternative conversion coatings or substitutes,can be used and are required to satisfy the corrosion requirements given in this International Standard.

Standard designations for metals and alloys can be found in References [6] to [10] in the Bibliography.

Metallic and other inorganic coatings — Electroplated coatings of zinc with supplementary treatments on iron or steel

WARNING — This International Standard may not be compliant with some countries' health, safety and environmental legislations and calls for the use of substances and/or procedures that may be injurious to health if adequate safety measures are not taken. This International Standard does not address any health hazards, safety or environmental matters and legislations associated with its use. It is the responsibility of the producers, purchasers and/or user of this International Standard to establish appropriate health, safety and environmentally acceptable practices and take appropriate actions to comply with any national, regional and/or international rules and regulations. Compliance with this International Standard does not, of itself, confer immunity from legal obligations.

1 Scope

This International Standard specifies requirements for electroplated coatings of zinc with supplementary treatments on iron or steel. It includes information to be supplied by the purchaser to the electroplater, and the requirements for heat treatment before and after electroplating.

It is not applicable to zinc coatings applied

— to sheet, strip or wire in the non-fabricated form,

— to close-coiled springs, or

— for purposes other than protective or decorative.

This International Standard does not specify requirements for the surface condition of the basis metal prior to electroplating with zinc. However, defects in the surface of the basis metal can adversely affect the appearance and performance of the coating.

The coating thickness that can be applied to threaded components can be limited by dimensional requirements, including class or fit.

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 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method*

ISO 2064, *Metallic and other inorganic coatings — Definitions and conventions concerning the measurement of thickness*

ISO 2080, *Metallic and other inorganic coatings — Surface treatment, metallic and other inorganic coatings — Vocabulary*

ISO 2177, *Metallic coatings — Measurement of coating thickness — Coulometric method by anodic dissolution*

ISO 2178, *Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method*

ISO 2819, *Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion*

ISO 3497, *Metallic coatings — Measurement of coating thickness — X-ray spectrometric methods*

ISO 3543, *Metallic and non-metallic coatings — Measurement of thickness — Beta backscatter method*

ISO 3892, *Conversion coatings on metallic materials — Determination of coating mass per unit area — Gravimetric methods*

ISO 4518, *Metallic coatings — Measurement of coating thickness — Profilometric method*

ISO 4519, *Electrodeposited metallic coatings and related finishes — Sampling procedures for inspection by attributes*

ISO 9587, *Metallic and other inorganic coatings — Pretreatment of iron or steel to reduce the risk of hydrogen embrittlement*

ISO 9588, *Metallic and other inorganic coatings — Post-coating treatments of iron or steel to reduce the risk of hydrogen embrittlement*

ISO 10289, *Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates — Rating of test specimens and manufactured articles subjected to corrosion tests*

ISO 10587, *Metallic and other inorganic coatings — Test for residual embrittlement in both metallic-coated and uncoated externally-threaded articles and rods — Inclined wedge method*

ISO 15724, *Metallic and other inorganic coatings — Electrochemical measurement of diffusible hydrogen in steels — Barnacle electrode method*

ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

3 Terms, definitions, abbreviated terms and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2064 and ISO 2080 apply.

3.2 Abbreviated terms

ER hydrogen embrittlement relief heat treatment

NM non-metallic materials

PL plateable plastics materials

