ICS 25.220.40 SLOVENSKÁ TECHNICKÁ NORMA Marec 2026

STN	**Kovové a iné anorganické povlaky Elektrolyticky vylúčené povlaky na železe a oceli s použitím zinku upraveného roztokmi obsahujúcimi chróm (VI) (ISO 2081: 2025)**	**STN EN ISO 2081** 03 8511

Metallic and other inorganic coatings - Electroplated coatings on iron and steel using zinc treated with solutions containing chromium (VI) (ISO 2081:2025)

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. 02/26

Obsahuje: EN ISO 2081:2025, ISO 2081:2025

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 2081

November 2025

ICS 25.220.40 Supersedes EN ISO 2081:2018

English Version

Metallic and other inorganic coatings - Electroplated coatings on iron and steel using zinc treated with solutions containing chromium (VI) (ISO 2081:2025)

Revêtements métalliques et autres revêtements inorganiques - Dépôts électrolytiques de zinc traité par des solutions contenant du chrome (VI) sur fer ou acier (ISO 2081:2025)

Metallische und andere anorganische Überzüge- Mit Chrom(VI)-haltigen Lösungen behandelte galvanische Überzüge auf Eisen und Stahl unter Verwendung von Zink (ISO 2081:2025)

This European Standard was approved by CEN on 18 October 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. EN ISO 2081:2025 E

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European foreword

This document (EN ISO 2081:2025) 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of an identical text or by endorsement, at the latest by May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.

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 2081:2018.

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Endorsement notice

The text of ISO 2081:2025 has been approved by CEN as EN ISO 2081:2025 without any modification.

International Standard

ISO 2081

Metallic and other inorganic coatings — Electroplated coatings on iron and steel using zinc treated with solutions containing chromium (VI)

Revêtements métalliques et autres revêtements inorganiques — Dépôts électrolytiques de zinc traité par des solutions contenant du chrome (VI) sur fer ou acier

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Foreword

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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 document 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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This document was prepared by ISO Technical Committee TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 3, *Electrodeposited coatings and related finishes*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 2081:2018), which has been technically revised.

The main changes are as follows:

— Table 2 has been added.

— References to trivalent chromium [Cr (III)] passivate have been removed, as these systems are addressed in ISO 19598.

— References to sampling have been updated to reflect actual industry practice.

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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 is generally greater in industrial atmospheres 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.

Chromium (VI) conversion coatings are omitted or replaced by other conversion coatings at the specific request of the purchaser. This document provides the codes for all types of chromium (VI) conversion and other supplementary coatings.

With reference to chromium (VI)-free conversion coatings, attention is drawn to ISO 19598. ISO 19598 is applicable to zinc, zinc-iron and zinc-nickel plating, where only trivalent systems are required.

Due to the REACH Regulations, the use of hexavalent chromium compounds was banned in Europe except where specifically authorized in September 2017. Alternative conversion coatings or substitutes can be used where required to satisfy the corrosion requirements given in this document.

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International Standard **ISO 2081:2025(en)**

Metallic and other inorganic coatings — Electroplated coatings on iron and steel using zinc treated with solutions containing chromium (VI)

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1 Scope

This document specifies requirements for electroplated coatings of zinc with supplementary treatments using hexavalent chromium compounds 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.

This document is not applicable to zinc coatings applied:

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

— to close-coiled springs;

— for purposes other than protective and decorative.

This document 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 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 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 coating — Vocabulary*

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

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

ISO 3613, *Metallic and other inorganic coatings — Chromate conversion coatings on zinc, cadmium, aluminium-zinc alloys and zinc-aluminium alloys — Test methods*

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

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 24251-1, *Prevention of hydrogen assisted brittle fracture of high-strength steel components — Part 1: Fundamentals and measures*

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 15330, *Fasteners — Preloading test for the detection of hydrogen embrittlement — Parallel bearing surface method*

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

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

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