ICS 25.220.10, 87.020 SLOVENSKÁ TECHNICKÁ NORMA Júl 2018

STN	**Náterové látky Protikorózna ochrana oceľových konštrukcií ochrannými náterovými systémami Časť 4: Typy povrchov a ich príprava (ISO 12944-4: 2017)**	**STN EN ISO 12944-4 67 3110**

Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation (ISO 12944-4:2017)

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. 06/18

Obsahuje: EN ISO 12944-4:2017, ISO 12944-4:2017

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD

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EN ISO 12944-4

December 2017

ICS 25.220.10; 87.020; 91.080.13

Supersedes EN ISO 12944-4:1998

English Version

Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation (ISO 12944-4:2017)

Peintures et vernis - Anticorrosion des structures en acier par systèmes de peinture - Partie 4: Types de surface et de préparation de surface (ISO 12944-4:2017)

Beschichtungsstoffe - Korrosionsschutz von Stahlbauten durch Beschichtungssysteme - Teil 4: Arten von Oberflächen und Oberflächenvorbereitung (ISO 12944-4:2017)

This European Standard was approved by CEN on 30 October 2017.

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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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COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. EN ISO 12944-4:2017 E

EN ISO 12944-4:2017 (E)

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European foreword

This document (EN ISO 12944-4:2017) has been prepared by Technical Committee ISO/TC 35 “Paints and varnishes” in collaboration with Technical Committee CEN/TC 139 “Paints and varnishes” 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 June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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 12944-4:1998.

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.

Endorsement notice

The text of ISO 12944-4:2017 has been approved by CEN as EN ISO 12944-4:2017 without any modification.

INTERNATIONAL STANDARD

ISO 12944-4

Second edition
2017-11

Paints and varnishes — Corrosion protection of steel structures by protective paint systems —

Part 4: Types of surface and surface preparation

Peintures et vernis — Anticorrosion des structures en acier par systèmes de peinture —

Partie 4: Types de surface et de préparation de surface

Reference number
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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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 14, *Protective paint systems for steel structures*.

This second edition cancels and replaces the first edition (ISO 12944-4:1998), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the terms and definitions which were not used in the main part of the standard have been deleted;

— the normative references have been updated;

— 5.6 “Surfaces with chemical treatment” has been included;

— 6.2.8 “Chemical treatment” has been included;

— Annex C has been restructured to contain two tables for distinction between “extraneous layers and foreign matter” and “native layers and contaminants”;

— the bibliography has been updated;

— the text has been editorially revised.

A list of all parts in the ISO 12944 series can be found on the ISO website.

Introduction

Unprotected steel in the atmosphere, in water and in soil is subjected to corrosion that can lead to damage. Therefore, to avoid corrosion damage, steel structures are normally protected to withstand the corrosion stresses to which they will be subjected during the service life required of the structure.

There are different ways of protecting steel structures from corrosion. ISO 12944 (all parts) deals with protection by paint systems and covers, in the various parts, all features that are important in achieving adequate corrosion protection. Additional or other measures are possible but require particular agreement between the interested parties.

In order to ensure effective corrosion protection of steel structures, owners of such structures, planners, consultants, companies carrying out corrosion protection work, inspectors of protective coatings and manufacturers of coating materials need to have at their disposal state-of-the-art information in concise form on corrosion protection by paint systems. It is vital that such information is as complete as possible, unambiguous and easily understandable to avoid difficulties and misunderstandings between the parties concerned with the practical implementation of protection work.

ISO 12944 (all parts) is intended to give this information in the form of a series of instructions. It is written for those who have some technical knowledge. It is also assumed that the user of ISO 12944 (all parts) is familiar with other relevant International Standards, in particular those dealing with surface preparation.

Although ISO 12944 (all parts) does not deal with financial and contractual questions, attention is drawn to the fact that, because of the considerable implications of inadequate corrosion protection, non-compliance with requirements and recommendations given in ISO 12944 (all parts) can result in serious financial consequences.

ISO 12944-1 defines the overall scope of ISO 12944. It gives some basic terms and definitions and a general introduction to the other parts of ISO 12944. Furthermore, it includes a general statement on health, safety and environmental protection, and guidelines for using ISO 12944 (all parts) for a given project.

This document describes the different types of surface to be protected and gives information on surface preparation methods such as chemical and mechanical cleaning. It deals with surface preparation grades, surface profile (roughness), assessment of prepared surfaces, temporary protection of prepared surfaces, preparation of temporarily protected surfaces for further coatings, preparation of existing metal coatings, and environmental aspects. As far as possible, reference is made to the basic International Standards on the surface preparation of steel substrates before application of paints and related products.

INTERNATIONAL STANDARD **ISO 12944-4:2017(E)**

Paints and varnishes — Corrosion protection of steel structures by protective paint systems —

Part 4: Types of surface and surface preparation

1 Scope

This document covers the following types of surfaces of steel structures consisting of carbon or low-alloy steel, and their preparation:

— uncoated surfaces;

— surfaces thermally sprayed with zinc, aluminium or their alloys;

— hot-dip-galvanized surfaces;

— zinc-electroplated surfaces;

— sherardized surfaces;

— surfaces painted with prefabrication primer;

— other painted surfaces.

This document defines a number of surface preparation grades but does not specify any requirements for the condition of the substrate prior to surface preparation.

Highly polished surfaces and work-hardened surfaces are not covered by this document.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods*

ISO 2063 (all parts), *Thermal spraying — Zinc, aluminium and their alloys*

ISO 4628-1, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 1: General introduction and designation system*

ISO 4628-2, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 2: Assessment of degree of blistering*

ISO 4628-3, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 3: Assessment of degree of rusting*

ISO 4628-4, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 4: Assessment of degree of cracking*

ISO 4628-5, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 5: Assessment of degree of flaking*

ISO 4628-6, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 6: Assessment of degree of chalking by tape method*

ISO 8501-1:2007, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

ISO 8501-2:1994, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings*

ISO 8501-3, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 3: Preparation grades of welds, edges and other areas with surface imperfections*

ISO 8501-4, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 4: Initial surface conditions, preparation grades and flash rust grades in connection with high-pressure water jetting*

ISO 8504 (all parts), *Preparation of steel substrates before application of paints and related products — Surface preparation methods*

ISO 12944-1, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 1: General introduction*

ISO 16276 (all parts), *Corrosion protection of steel structures by protective paint systems — Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating*

EN 10238, *Automatically blast-cleaned and automatically prefabrication primed structural steel products*