

SLOVENSKI STANDARD oSIST prEN ISO 8501-4:2019

01-junij-2019

Priprava jeklenih podlag pred nanašanjem barvnih in sorodnih premazov -Vizualno ocenjevanje čistosti površine - 4. del: Začetno stanje površine, stopnje priprave in stopnje površinske korozije v povezavi z visokotlačnim vodnim brizganjem (ISO/DIS 8501-4:2019)

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/DIS 8501-4:2019)

Vorbereitung von Stahloberflächen vor dem Auftragen von Beschichtungsstoffen -Visuelle Beurteilung der Oberflächenreinheit - Teil 4: Ausgangszustände, Vorbereitungsgrade und Flugrostgrade in Verbindung mit Hochdruck-Wasserwaschen (ISO/DIS 8501-4:2019)

Préparation des subjectiles d'acier avant application de peintures et de produits assimilés - Évaluation visuelle de la propreté d'un subjectile - Partie 4: États de surface initiaux, degrés de préparation et degrés de fleurette de rouille après décapage à l'eau sous haute pression (ISO/DIS 8501-4:2019)

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DRAFT INTERNATIONAL STANDARD **ISO/DIS 8501-4**

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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 water jetting

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Partie 4: États de surface initiaux, degrés de préparation et degrés de fleurette de rouille après décapage à *l'eau sous haute pression*

ICS: 25.220.10

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ISO/DIS 8501-4:2019(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).

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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 12, Preparation of steel substrates before application of paints and related products.

This second edition cancels and replaces the first edition (ISO 8501-4:2006), which has been technically revised.

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

- definitions of preparation grades clarified, definition of Wa3 added;
- descriptive notes added to <u>Table 2</u>
- some notes have been moved to <u>Annex A</u>
- photos showing Wa3 are added;
- photos for grade C steel replaced
- photos for zinc silicate primer replaced

A list of all parts in the ISO 8501- series can be found on the ISO website.

Introduction

The performance of protective coatings of paint and related products applied to steel is significantly affected by the state of the steel surface immediately prior to painting. The principal factors that are known to influence this performance are

- a) the presence of rust, mill scale and previous coatings;
- b) the presence of surface contaminants, including salts, dust, oils and greases;
- c) the surface roughness.

International standards ISO 8501, ISO 8502 and ISO 8503 have been prepared to provide methods of assessing these factors, while ISO 4628-3 provides guidance on evaluating the degradation of paint coatings by assessing the degree of rusting.

ISO 8501, ISO 8502 and ISO 8503 do not contain recommendations for the protective systems to be applied to the steel surface. Neither do they contain recommendations for the preparation grades for specific situations even though surface quality can have a direct influence on the choice of protective coating to be applied and on its performance. Such recommendations are found in other documents such as national standards and codes of practice. It will be necessary for the users of these International Standards to ensure that the qualities specified are

- compatible and appropriate both for the environmental conditions to which the steel will be exposed and for the protective coating system to be used;
- compatible with any previous coatings remaining after cleaning;
- within the capability of the cleaning procedure specified.

ISO 8501, ISO 8502 and ISO 8503 deal with aspects of preparation of steel substrates under the general heading Preparation of steel substrates before application of paints and related products. They have the following titles:

- ISO 8501 Visual assessment of surface cleanliness;
- ISO 8502 Tests for the assessment of surface cleanliness;
- ISO 8503 Surface roughness characteristics of blast-cleaned steel substrates.

Each of these International Standards is in turn divided into separate parts. This part of ISO 8501 identifies

- five initial surface conditions, three of them applicable to degraded paint coatings and two of them to damaged pre-fabrication (shop) primer coatings;
- four preparation grades for each initial surface condition, after partial or full removal of previous paint coatings by high-pressure water jetting;
- three flash rust grades after pretreatment by high-pressure water jetting.

This part of ISO 8501 is intended to be a tool for the visual assessment of initial surface conditions, preparation grades and flash rust grades in connection with high-pressure water jetting. It includes 28 representative photographic examples.

The photographs showing the five initial surface conditions and each preparation grade are reproduced by permission of Hempel A/S. The photographs representing each of the three flash rust grades are reproduced by permission of International Paint, Ltd.

NOTE This part of ISO 8501 contains the text in two of the three official languages of ISO, English and French. It also contains the text in German, published under the responsibility of DIN.

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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 water jetting

1 Scope

This part of ISO 8501 specifies a series of preparation grades for steel surfaces after removal/partial removal of water-soluble contaminants, rust, previous paint coatings and other foreign matter by high-pressure water jetting. The various grades are defined by written descriptions together with photographs that are representative examples within the tolerances for each grade as described in words. In addition, this part of ISO 8501 specifies both initial surface conditions and after-cleaning flash rust grades, also defined by written descriptions together with representative photographic examples.

NOTE 1 Examples of foreign matter, other than paint residues, are salt, grime, dirt, mill scale, oil, grease and marine growth, e.g. algae.

This part of ISO 8501 relates the cleanliness of the surface to its visual appearance. In many instances, this is sufficient for the purpose but, for coatings likely to be exposed to severe environments, such as water immersion and continuous condensation conditions, consideration should be given to testing for soluble salts and other invisible contaminants on the visually clean surface by the physical and chemical methods which form the subjects of the various parts of ISO 8502.

The roughness characteristics of the surface should also be considered by reference to ISO 8503, although it must be noted that preparation by high- pressure water jetting does not create a profile or significantly change an existing profile.

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 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 8501-1, 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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <u>https://www.iso.org/obp</u>
- IEC Electropedia: available at http://www.electropedia.org/