

This is a preview of "DS/ISO 8501-4:2020". [Click here to purchase the full version from the ANSI store.](#)

Forbehandling af ståloverflader før påføring af maling og lignende produkter – Visuel vurdering af overfladens renhed – Del 4: Overfladens oprindelige tilstand, forbehandlingsgrad og graden af flyverust i forbindelse med højtryksrensning med vand

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

DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01
dansk.standard@ds.dk
www.ds.dk

This is a preview of "DS/ISO 8501-4:2020". [Click here to purchase the full version from the ANSI store.](#)

DS projekt: M333736

ICS: 25.220.10

Første del af denne publikations betegnelse er:

DS/ISO, hvilket betyder, at det er en international standard, der har status som dansk standard.

Denne publikations overensstemmelse er:

IDT med: ISO 8501-4:2020

DS-publikationen er på engelsk.

DS-publikationstyper

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

Dansk standard

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

DS-information

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

DS-håndbog

- samling af standarder, eventuelt suppleret med informativt materiale

DS-hæfte

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

DS-publikationsform

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldttekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

DS-betegnelse

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

Overensstemmelse med anden publikation:

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

**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**

*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 8501-4:2020(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iii
Introduction.....	v
1 Scope.....	1
2 Normative references.....	2
3 Terms and definitions	2
4 Initial surface conditions	3
5 Preparation grades.....	4
6 Flash rust grades	6
7 Procedure for the visual assessment of steel substrates	7
8 Photographs.....	8
Annex A (informative) Guidance on cleaning with water.....	11
Bibliography	13
Photographs	

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 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.

DS/ISO 8501-4:2020

ISO 8501-4:2020(E)

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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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:

- the definitions of preparation grades have been clarified;
- the definition of Wa3 has been added;
- descriptive notes have been added to Table 2;
- photos showing Wa3 have been added;
- photos for grade C steel have been replaced;
- photos for zinc silicate primer have been replaced.

A list of all parts in the ISO 8501 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.

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, and
- c) the surface roughness.

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 provisions on the protective systems to be applied to the steel surface. Neither do they contain provisions on 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 provisions are found in other documents such as national standards and codes of practice. It will be necessary for the users of ISO 8501, ISO 8502 and ISO 8503 to ensure that the surface 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.

DS/ISO 8501-4:2020

ISO 8501-4:2020(E)

ISO 8501, ISO 8502 and ISO 8503 deal with aspects of preparation of steel substrates before application of paints and related products.

- The ISO 8501 series is on the visual assessment of surface cleanliness;
- The ISO 8502 series concerns tests for the assessment of surface cleanliness;
- The ISO 8503 series deals with surface roughness characteristics of blast-cleaned steel substrates.

For coatings likely to be exposed to severe environments, such as water immersion and continuous condensation conditions, the assessment of visual cleanliness is supplemented with the physical and chemical methods of the ISO 8502 series and the roughness characteristics of the ISO 8503 series.

This document 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, and
- three flash rust grades after pre-treatment by high-pressure water jetting.

This document 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.

Photographs for deteriorated coatings DC A and DC B and deteriorated primer DP I are reproduced by permission of Hempel, Copenhagen, 150 Lundtoftevej, 2800 Lyngby, Denmark.

Photographs for deteriorated coating DC C and deteriorated primer DP Z are reproduced by permission of Lydia Frenzel, Advisory Council, 620 SE 168th Ave. # 103, Vancouver, WA 98684 USA.

Photographs for flash rust FR L, FR M and FR H are reproduced by permission of International Paint Ltd., Akzo Nobel, Stoneygate Lane, Felling, Gateshead, Tyne & Wear, UK.

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

WARNING — The reference photographs represented in this document can be neither viewed on screen nor printed as true representations. It is important that only the photographs contained in officially printed versions of this document, purchased from ISO or from ISO member bodies or their distributors, are used when carrying out assessments.

1 Scope

This document 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.

This document specifies both initial surface conditions and after-cleaning flash rust grades, also defined by written descriptions together with representative photographic examples.

This document applies the cleanliness of the surface to its visual appearance.

DS/ISO 8501-4:2020

ISO 8501-4:2020(E)

Consideration in addition to visual appearance is given to invisible contaminants and roughness or profile. Physical and chemical methods for testing for soluble salts and other invisible contaminants on the visually clean surface are found in the ISO 8502 series. The roughness or profile characteristics of the surface are found in the ISO 8503 series.

2 Normative references

There are no normative references in this document.