
**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**

*Préparation des subjectiles d'acier avant application de peintures et de
produits assimilés — Évaluation visuelle de la propreté d'un
subjectile —*

*Partie 3: Degrés de préparation des soudures, arêtes et autres zones
présentant des imperfections*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 8501-3 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 8501-3:2001). The main changes are:

- revision of the description of preparation grade P1 in Clause 4 and the preparation grades for welding spatter and undercut in Table 1;
- replacement of the phrases “as found”, “as welded”, etc., with “no preparation”;
- deletion of Annex A “Correlation between preparation grades and corrosivity categories”.

ISO 8501 consists of the following parts, under the general title *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*
- *Informative Supplement to Part 1: Representative photographic examples of the change of appearance imparted to steel when blast-cleaned with different abrasives*
- *Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings*
- *Part 3: Preparation grades of welds, edges and other areas with surface imperfections*
- *Part 4: Initial surface conditions, preparation grades and flash rust grades in connection with high-pressure water jetting*

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 and mill scale;
- b) the presence of surface contaminants, including salts, dust, oils and greases;
- c) the surface profile.

International Standards ISO 8501, ISO 8502 and ISO 8503 have been prepared to provide methods of assessing these factors, while ISO 8504 provides guidance on the preparation methods that are available for cleaning steel substrates, indicating the capabilities of each in attaining specified levels of cleanliness.

These International Standards do not contain recommendations for the protective coating system to be applied to the steel surface. Neither do they contain recommendations for the surface quality requirements 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 given in other documents such as national standards and codes of practice. Users of these International Standards should ensure 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;
- within the capability of the cleaning procedure specified.

The four International Standards referred to above deal with the following aspects of preparation of steel substrates:

- | | |
|----------|---|
| ISO 8501 | <i>Visual assessment of surface cleanliness;</i> |
| ISO 8502 | <i>Tests for the assessment of surface cleanliness;</i> |
| ISO 8503 | <i>Surface roughness characteristics of blast-cleaned steel substrates;</i> |
| ISO 8504 | <i>Surface preparation methods.</i> |

Each of these International Standards is in turn divided into separate parts.

Imperfections at welds, edges and other areas of steel substrates are generally starting points for corrosion. Such areas are also difficult to protect by application of paints and related products. To assist in achieving efficient corrosion protection, this part of ISO 8501 defines certain imperfections and preparation grades for such areas.

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

1 Scope

This part of ISO 8501 describes preparation grades of welds, edges and other areas, on steel surfaces with imperfections. Such imperfections can become visible before and/or after an abrasive blast-cleaning process.

The preparation grades given in this part of ISO 8501 are to make steel surfaces with imperfections, including welded and fabricated surfaces, suitable for the application of paints and related products.

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 12944-2, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 2: Classification of environments*

ISO 12944-3, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 3: Design considerations*

3 Types of imperfection

This part of ISO 8501 deals with imperfections on:

- welds;
- edges;
- steel surfaces generally.

The various types of imperfection are illustrated and described in Table 1.