

This document is a preview generated by EVS

Preparation of steel substrates before application of paints and related products - Surface preparation methods - Part 3: Hand- and power-tool cleaning

Preparation of steel substrates before application of paints and related products - Surface preparation methods - Part 3: Hand- and power-tool cleaning

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 8504-3:2002 sisaldab Euroopa standardi EN ISO 8504-3:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.01.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 8504-3:2002 consists of the English text of the European standard EN ISO 8504-3:2001.</p> <p>This document is endorsed on 16.01.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This part of EN ISO 8504 describes methods for hand-tool and power-tool cleaning of steel substrates before application of paints and related products.</p>	<p>Scope: This part of EN ISO 8504 describes methods for hand-tool and power-tool cleaning of steel substrates before application of paints and related products.</p>
--	--

ICS 25.220.10

Võtmesõnad: area, machine t, metal coatings, paints, preparation, pre-treatment of surfaces, protective coatings, specification (approval), specifications, steel products, steels, structural steel work, surface finishes, surface treatment, surfaces, testing, tools, varnishes

ICS 25.220.10

English version

Preparation of steel substrates before application of paints
and related products – Surface preparation methods

Part 3: Hand- and power-tool cleaning
(ISO 8504-3 : 1993)

Préparation des subjectiles d'acier
avant application de peintures et de
produits assimilés – Méthodes de
préparation des subjectiles – Partie 3:
Nettoyage à la main et à la machine
(ISO 8504-3 : 1993)

Vorbereitung von Stahloberflächen
vor dem Auftragen von Beschichtungs-
stoffen – Verfahren für die
Oberflächenvorbereitung – Teil 3:
Reinigen mit Handwerkzeugen und mit
maschinell angetriebenen Werkzeugen
(ISO 8504-3 : 1993)

This European Standard was approved by CEN on 2001-03-07.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 8504-3 : 1993 Preparation of steel substrates before application of paints and related products – Surface preparation methods – Part 3: Hand- and power-tool cleaning,

which was prepared by ISO/TC 35 'Paints and varnishes' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 139 'Paints and varnishes', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 8504-3 : 1993 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

This document is a preview generated by EVS

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 systems 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 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;
- 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 — *Visual assessment of surface cleanliness;*
- ISO 8502 — *Tests for the assessment of surface cleanliness;*
- ISO 8503 — *Surface roughness characteristics of blast-cleaned steel substrates;*
- ISO 8504 — *Surface preparation methods.*

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

The primary objective of surface preparation is to ensure the removal of deleterious matter and to obtain a surface that permits satisfactory adhesion of the priming paint to the steel. It should also assist in reducing the amounts of contaminants that initiate corrosion.

This part of ISO 8504 describes methods for hand- and power-tool cleaning. It should be read in conjunction with ISO 8504-1.

Hand- and power-tool cleaning are methods of surface preparation that generally provide a surface cleanliness which is inferior to that achieved by abrasive blast-cleaning. When a result similar to that of abrasive blast-cleaning is required, these methods need in most cases the use of more than one type of power tool which makes surface preparation complicated and expensive. It is usually not possible to remove oil, grease and corrosion-stimulating substances such as chlorides and sulfates.

Power-tool cleaning will generally provide a better foundation for the priming paint than hand-tool cleaning, which will result in better paint performance.

Hand- and power-tool cleaning are both suitable methods for surface preparation. Hand-tool cleaning particularly requires the use of priming paints having good surface wetting ability. Power-tool cleaning is appropriate when a higher-quality surface preparation grade is required and when blast-cleaning is not permitted or the interested parties decide that it is not feasible.

Representative photographic examples for St 2, St 3, PSt 2, PSt 3 and PMA are available (see ISO 8501-1 and ISO 8501-2) for assessing some new and previously coated steel surfaces cleaned using hand or power tools. Because of the many different situations that arise in the preparation of surfaces, these photographs may not be sufficient to describe specific instances and it is recommended that special photographs of a treated reference area that are acceptable to the interested parties be produced for use as a basis for further surface preparation procedures.

Document preview generated by EVS

1 Scope

This part of ISO 8504 describes methods for hand-tool and power-tool cleaning of steel substrates before application of paints and related products. It applies both to new steelwork and to steel surfaces that have been coated previously and that show areas of breakdown requiring maintenance painting. It describes the equipment to be used and the procedure to be followed.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8504. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8504 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8501-1:1988, *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:—¹⁾, *Preparation of steel substrates before application of paints and related products — Visual*

1) To be published.

assessment of surface cleanliness — Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings.

ISO 8504-1:1992, *Preparation of steel substrates before application of paints and related products — Surface preparation methods — Part 1: General principles.*

3 Definitions

For the purposes of this part of ISO 8504, the following definitions apply.

3.1 hand-tool cleaning: Method of preparing steel substrates by the use of hand tools, without power assistance.

NOTE 1 Chipping hammers, hand scrapers, hand wire brushes, abrasive papers and plastic fleece with embedded abrasive are generally used. Hand-tool cleaning is sometimes carried out initially in order to remove relatively loose contaminants prior to the use of power tools.

3.2 power-tool cleaning: Method of preparing steel substrates by the use of power-assisted hand tools, but excluding blast-cleaning.

NOTE 2 Rotary de-scalers, rotary wire brushes, sanding machines, sanding discs, rotary abrasive-coated paper wheels (flap wheels), abrasive grinders, plastic fleece with embedded abrasive, chipping hammers and needle guns, driven by electric or pneumatic power, are examples of equipment generally used.

document for review generated by EVS