SLOVENSKI STANDARD
SIST EN ISO 8502-8:2005

01-april-2005

Priprava jeklenih podlag pred nanaġanjem barv in sorodnih proizvodov - Preskusi za ugotavljanje ļ istosti povrġine - 8. del: - Terenska metoda za refraktometrijsko doloļ anje vlage (ISO 8502-8:2001)

Preparation of steel substrates before application of paints and related products - Tests for the assessment of surface cleanliness - Part 8: Field method for the refractometric dedetermination of moisture (ISO 8502-8:2001)

Vorbereitung von Stahloberflächen vor dem Auftragen von Beschichtungsstoffen - Prüfungen zur Bewertung der Oberflächenreinheit - Teil 8: Feldprüfung zur refraktometrischen Bestimmung von Wasser (Feuchte) (ISO 8502-8:2001)

Préparation des subjectiles d'acier avant application de peintures et de produits assimilés - Essais pour apprécier la propreté d'une surface - Partie 8: Méthode in situ pour la détermination réfractométrique de l'humidité (ISO 8502-8:2001)

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ICS:

25.220.10	Priprava površine	Surface preparation

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 8502-8

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ICS 25.220.10

English version

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This European Standard was approved by CEN on 21 December 2004.

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 Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

The text of ISO 8502-8:2001 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 8502-8:2004 by 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 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 8502-8:2001 has been approved by CEN as EN ISO 8502-8:2004 without any modifications.

INTERNATIONAL STANDARD

ISO 8502-8

First edition
2001-08-01

Preparation of steel substrates before application of paints and related products — Tests for the assessment of surface cleanliness —

Part 8: Field method for the refractometric determination of moisture

Préparation des subjectiles d'acier avant application de peintures et de produits assimilés — Essais pour apprécier la propreté d'une surface — Partie 8: Méthode in situ pour la détermination réfractométrique de l'humidité

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 part of ISO 8502 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8502-8 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*.

ISO 8502 consists of the following parts, under the general title *Preparation of steel substrates before application of paints and related products — Tests for the assessment of surface cleanliness*:

— *Part 1: Field test for soluble iron corrosion products* [Technical Report]

— *Part 2: Laboratory determination of chloride on cleaned surfaces*

— *Part 3: Assessment of dust on steel surfaces prepared for painting (pressure-sensitive tape method)*

— *Part 4: Guidance on the estimation of the probability of condensation prior to paint application*

— *Part 5: Measurement of chloride on steel surfaces prepared for painting (ion detection tube method)*

— *Part 6: Extraction of soluble contaminants for analysis — The Bresle method*

— *Part 8: Field method for the refractometric determination of moisture*

— *Part 9: Field method for the conductometric determination of water-soluble salts*

— *Part 10: Field method for the titrimetric determination of water-soluble chloride*

— *Part 12: Field method for the titrimetric determination of water-soluble ferrous ions*

The following parts are in the process of preparation:

— *Part 7: Field method for determination of oil and grease*

— *Part 11: Field method for the turbidimetric determination of water-soluble sulfate*

— *Part 13: Field method for the determination of soluble salts by conductometric measurement*

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 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 below deal with the stated 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 protective properties of paints and related products depend on the type of coating system that is used and on the amount of moisture (often in microscopic layers of water) on the steel surface when the coating is applied.

In sub-clause 5.2 of ISO 12944-7:1998, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 7: Execution and supervision of paint work*, it is specified that coating materials shall not be applied at temperatures below 3 °C above the dew point, determined in accordance with ISO 8502-4. Wet surfaces shall only be painted with those coating materials which are permitted in the technical data sheet or approved by the paint manufacturer.

In many cases, however, application of paint must take place even if there is an obvious risk that the steel surface will not be perfectly dry. This happens not only in hot and humid areas (e.g. Singapore), where the temperature of the steel is often less than 1 °C above the dew point for long periods of time, but also in less extreme environments.

Under these circumstances, a field method for direct measurement of the surface density of moisture (water) can be most helpful and even a must when it comes to the decision “to paint, or not to paint”. This part of ISO 8502 describes such a method.