



**SLOVENSKI STANDARD**  
**SIST EN ISO 12944-5:1998**  
**01-september-1998**

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**Barve in laki - Korozijska zaščita jeklenih konstrukcij z zaščitnimi premaznimi sistemi - 5. del: Zaščitni premazni sistemi (ISO 12944-5:1998)**

Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems (ISO 12944-5:1998)

Beschichtungsstoffe - Korrosionsschutz von Stahlbauten durch Beschichtungssysteme - Teil 5: Beschichtungssysteme (ISO 12944-5:1998)

Peintures et vernis - Anticorrosion des structures en acier par systemes de peinture - Partie 5: Systemes de peinture (ISO 12944-5:1998)

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**Ta slovenski standard je istoveten z: EN ISO 12944-5:1998**

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**ICS:**

25.220.20	Površinska obdelava	Surface treatment
87.040	Barve in laki	Paints and varnishes
91.080.13	Jeklene konstrukcije	Steel structures

**SIST EN ISO 12944-5:1998**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 12944-5

May 1998

ICS 87.020; 91.080.10

Descriptors: see ISO document

English version

Paints and varnishes - Corrosion protection of steel structures  
by protective paint systems - Part 5: Protective paint systems  
(ISO 12944-5:1998)

Peintures et vernis - Anticorrosion des structures en acier  
par systèmes de peinture - Partie 5: Systèmes de peinture  
(ISO 12944-5:1998)

Beschichtungsstoffe - Korrosionsschutz von Stahlbauten  
durch Beschichtungssysteme - Teil 5:  
Beschichtungssysteme (ISO 12944-5:1998)

This European Standard was approved by CEN on 13 November 1997.

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

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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## Foreword

The text of the International Standard ISO 12944-5:1998 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with 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 November 1998, and conflicting national standards shall be withdrawn at the latest by November 1998.

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

## Endorsement notice

The text of the International Standard ISO 12944-5:1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA (normative)****Normative references to international publications  
with their relevant European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 8503-2	1988	Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 2: Method for the grading of surface profile of abrasive blast-cleaned steel - Comparator procedure	EN ISO 8503-2	1995
ISO 12944-1	1998	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 1: General introduction	EN ISO 12944-1	1998
ISO 12944-2	1998	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 2: Classification of environments	EN ISO 12944-2	1998
ISO 12944-4	1998	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation	EN ISO 12944-4	1998
ISO 12944-6	1998	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods	EN ISO 12944-6	1998

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INTERNATIONAL  
STANDARD

ISO  
12944-5

First edition  
1998-05-15

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**Paints and varnishes — Corrosion  
protection of steel structures by protective  
paint systems —**

**Part 5:  
Protective paint systems**

**iTeh STANDARD PREVIEW**  
*Peintures et vernis — Anticorrosion des structures en acier par systèmes  
de peinture —*  
**(standards.iteh.ai)**  
*Partie 5. Systèmes de peinture*

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Reference number  
ISO 12944-5:1998(E)

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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.

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.

International Standard ISO 12944-5 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 14, *Protective paint systems for steel structures*.

ISO 12944 consists of the following parts under the general title *Paints and varnishes - Corrosion protection of steel structures by protective paint systems*:

- Part 1: *General introduction*
- Part 2: *Classification of environments*
- Part 3: *Design considerations*
- Part 4: *Types of surface and surface preparation*
- Part 5: *Protective paint systems*
- Part 6: *Laboratory performance test methods*
- Part 7: *Execution and supervision of paint work*
- Part 8: *Development of specifications for new work and maintenance*

Annexes A to C of this part of ISO 12944 are for information only.

## INTRODUCTION

Unprotected steel in the atmosphere, in water and in soil is subjected to corrosion that may lead to damage. Therefore, to avoid corrosion damage, steel structures are normally protected to withstand the corrosion stresses during the service life required of the structure.

There are different ways of protecting steel structures from corrosion. ISO 12944 deals with protection by paint systems and covers, in the various parts, all features that are important in achieving adequate corrosion protection. Additional or other measures are possible but require particular agreement between the interested parties.

In order to ensure effective corrosion protection of steel structures, it is necessary for owners of such structures, planners, consultants, companies carrying out corrosion protection work, inspectors of protective coatings and manufacturers of coating materials to have at their disposal state-of-the-art information in concise form on corrosion protection by paint systems. Such information has to be as complete as possible, unambiguous and easily understandable to avoid difficulties and misunderstandings between the parties concerned with the practical implementation of protection work.

This International Standard - ISO 12944 - is intended to give this information in the form of a series of instructions. It is written for those who have some technical knowledge. It is also assumed that the user of ISO 12944 is familiar with other relevant International Standards, in particular those dealing with surface preparation, as well as relevant national regulations.

## iTeh STANDARD PREVIEW

Although ISO 12944 does not deal with financial and contractual questions, attention is drawn to the fact that, because of the considerable implications of inadequate corrosion protection, non-compliance with requirements and recommendations given in this standard may result in serious financial consequences.

ISO 12944-1 defines the overall scope of all parts of ISO 12944. It gives some basic terms and definitions and a general introduction to the other parts of ISO 12944. Furthermore, it includes a general statement on health, safety and environmental protection, and guidelines for using ISO 12944 for a given project.

This part of ISO 12944 gives some terms and definitions related to paint systems in combination with guidance for the selection of different types of protective paint system.

# Paints and varnishes — Corrosion protection of steel structures by protective paint systems —

## Part 5: Protective paint systems

### 1 SCOPE

This part of ISO 12944 describes the types of paint and paint system commonly used for corrosion protection of steel structures. It also provides guidance for the selection of paint systems available for different environments (see ISO 12944-2), surface preparation grades (see ISO 12944-4) and durabilities to be expected (see ISO 12944-1). The durability of paint systems is classified in terms of low, medium and high.

### 2 NORMATIVE REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 12944. 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 12944 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 2808:1997	<i>Paints and varnishes - Determination of film thickness.</i>
ISO 3549:1995	<i>Zinc dust pigments for paints - Specifications and test methods.</i>
ISO 4628-1:1982	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 1: General principles and rating schemes.</i>
ISO 4628-2:1982	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 2: Designation of degree of blistering.</i>
ISO 4628-3:1982	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 3: Designation of degree of rusting.</i>
ISO 4628-4:1982	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 4: Designation of degree of cracking.</i>
ISO 4628-5:1982	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 5: Designation of degree of flaking.</i>
ISO 4628-6:1990	<i>Paints and varnishes - Evaluation of degradation of paint coatings - Designation of intensity, quantity and size of common types of defect - Part 6: Rating of degree of chalking by tape method.</i>

- 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 8503-2:1988 *Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 2: Method for the grading of surface profile of abrasive blast-cleaned steel - Comparator procedure.*
- ISO 12944-1:1998 *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 1: General introduction.*
- ISO 12944-2:1998 *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 2: Classification of environments.*
- ISO 12944-4:1998 *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 4: Types of surface and surface preparation.*
- ISO 12944-6:1998 *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods.*

### 3 DEFINITIONS

This clause covers those expressions which are used in this part of ISO 12944 and not covered by ISO 12944-1.

#### 3.1 High-build

The property of a coating material which permits the application of a coat of greater thickness than usually considered as normal for that type of coating. For the purposes of this part of ISO 12944, this means  $\geq 80 \mu\text{m}$  dry film thickness.

#### 3.2 High-solid

A term used to describe paint materials with a greater than normal volume of solids.

#### 3.3 Compatibility

(I) of products in a paint system:

The ability of two or more products to be used in a paint system without causing undesirable effects.

(II) of a product with the substrate:

The ability of a product to be applied to a substrate without causing undesirable effects.

#### 3.4 Priming coat(s)

The first coat(s) of a paint system, obtained by application of a primer.

Priming coats provide good adhesion to sufficiently roughened, cleaned metal and/or cleaned old coating, ensuring a sound base for and offering adhesion to the subsequent coats. They normally also provide corrosion protection during the overcoating interval and the whole service life of the paint system.

#### 3.5 Intermediate coat(s)

Coat(s) between priming and top coat(s).

NOTE 1 In the English language, the term "undercoat" is sometimes used synonymously, normally for a coat applied directly before the top coat(s).