

SLOVENSKI STANDARD
oSIST prEN ISO 12944-1:2016
01-april-2016

Barve in laki - Korozijska zaščita jeklenih konstrukcij z zaščitnimi premaznimi sistemi - 1. del: Splošna predstavitev (ISO/DIS 12944-1:2016)

Paints and varnishes - Corrosion protection of steel structures by protective coating systems - Part 1: General introduction (ISO/DIS 12944-1:2016)

Beschichtungsstoffe - Korrosionsschutz von Stahlbauten durch Beschichtungssysteme - Teil 1: Allgemeine Einleitung (ISO/DIS 12944-1:2016)

Peintures et vernis - Anticorrosion des structures en acier par systèmes de revêtement - Partie 1: Introduction générale (ISO/DIS 12944-1:2016)

Ta slovenski standard je istoveten z: prEN ISO 12944-1

ICS:

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87.020	Postopki za nanašanje barvnih premazov	Paint coating processes
91.080.10	Kovinske konstrukcije	Metal structures

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DRAFT INTERNATIONAL STANDARD

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

Part 1: General introduction

*Peintures et vernis — Anticorrosion des structures en acier par systèmes de revêtement —
Partie 1: Introduction générale*

ICS: 87.020

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.



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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 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 12944-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 14, *Protective paint systems for steel structures*.

This second edition cancels and replaces the first edition (ISO 12944-1:1998), which has been technically revised.

ISO 12944 consists of the following parts, under the general title *Paints and varnishes — Corrosion protection of steel structures by protective coating 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*
- *Part 9: Protective paint systems and laboratory performance test methods for offshore and related structures*

Annex A of this part of ISO 12944 is for information only.

Introduction

Unprotected steel in the atmosphere, in water and in soil is subject 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.

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.

Paints and varnishes — Corrosion protection of steel structures by protective coating systems — Part 1: General introduction

1 Scope

1.1 ISO 12944 deals with the corrosion protection of steel structures by protective paint systems.

1.2 ISO 12944 covers only the corrosion-protective function of paint systems. Other protective functions, like the protection against:

- microorganisms (marine fouling, bacteria, fungi, etc.),
- chemicals (acids, alkalis, organic solvents, gases, etc.),
- mechanical action (abrasion, etc.) and
- fire

are not covered by ISO 12944.

1.3 The field of application is characterized by:

- the type of structure,
- the type of surface and surface preparation,
- the type of environment,
- the type of protective paint system,
- the type of work and
- the durability of the protective paint system.

Although ISO 12944 does not cover all types of structure, surface and surface preparation, it may, by agreement, also be applied to those cases which are not covered by the standard.

The various aspects of the field of application are described in more detail in 1.3.1 to 1.3.6.

1.3.1 Type of structure

ISO 12944 concerns structures made of carbon or low-alloy steel (e.g. in accordance with EN 10025) of not less than 3 mm thickness, which are designed using an approved strength calculation.

Not covered by ISO 12944 are concrete structures reinforced with steel.

1.3.2 Type of surface and surface preparation

ISO 12944 deals with the following types of surface consisting of carbon or low-alloy steel, and their preparation:

- uncoated surfaces;

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- surfaces thermally sprayed with zinc, aluminium or their alloys;
- hot-dip-galvanized surfaces;
- zinc-electroplated surfaces;
- sherardized surfaces;
- surfaces painted with prefabrication primer;
- other painted surfaces.

1.3.3 Type of environment

ISO 12944 deals with:

- six corrosivity categories for atmospheric environments,
- three categories for structures immersed in water or buried in soil,
- special cases.

1.3.4 Type of protective paint system

ISO 12944 covers a range of paint products which dry or cure at ambient conditions. Not covered by ISO 12944 are:

- powder coating materials,
- stoving enamels,
- heat-cured paints,
- coatings of more than 2 mm dry-film thickness,
- linings of tanks,
- products for the chemical treatment of surfaces (e.g. phosphating solutions).

1.3.5 Type of work

ISO 12944 covers both new work and maintenance.

1.3.6 Durability of the protective paint system

ISO 12944 considers four different durability ranges (low, medium, high, very high). See 3.5 and Clause 4.

The durability range is not a “guarantee time”.