

**Värvid ja lakid. Teraskonstruksioonide
korrosioonitõrje värvkattesüsteemidega.
Osa 8: Tehniliste andmete väljatöötamine
uute toodete ja korrashoiu jaoks**

Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 8: Development of specifications for new work and maintenance

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 12944-8:2000 sisaldab Euroopa standardi EN ISO 12944-8:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 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 12944-8:2000 consists of the English text of the European standard EN ISO 12944-8:1998.</p> <p>This document is endorsed on 11.01.2000 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:</p> <p>Standardi see osa käsitleb tehniliste andmete väljatöötamist teraskonstruktsioonide korrosioonitõrjel värvkattesüsteemidega. Standardi see osa käsitleb uusi tooteid ja korrashoidu nii töökojas kui ka ehitusplatsil ja on kohaldatav ka sisseehitatud komponentide korrosioonitõrjel. Standardi see osa käsitleb teraskonstruktsioone, mis paiknevad eri keskkondades: nii sees, väljas, vees või pinnasesse kaevatuna, samuti lisamõjuri korral, nagu näiteks mõõdukas või kõrge temperatuur. Arvestatud on erisuguste vastupidavustasemete vajadust.</p>	<p>Scope:</p>
--	----------------------

ICS 87.020

Võtmesõnad: kaitsekatted, korrosioon, korrosioonitõrje, lakid, tehnilised andmed, teraskonstruktsioon, värvid, värvimine

ICS 87.020.00

Descriptors: Paint coatings, corrosion protection, structural steelwork.

English version

Paints and varnishes

**Corrosion protection of steel structures by
protective paint systems**

**Part 8: Development of specifications for new work and maintenance
(ISO 12944-8 : 1998)**

Peintures et vernis – Anticorrosion
des structures en acier par systèmes
de peinture – Partie 8: Développe-
ment de spécifications pour les
travaux neufs et l'entretien
(ISO 12944-8 : 1998)

Beschichtungsstoffe – Korrosions-
schutz von Stahlbauten durch
Beschichtungssysteme –
Teil 8: Erarbeiten von Spezifikationen
für Erstschutz und Instandsetzung
(ISO 12944-8 : 1998)

This European Standard was approved by CEN on 1998-03-02.

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.

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 Central Secretariat 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

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

Foreword

International Standard

ISO 12944-8 : 1998 Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 8: Development of specifications for new work and maintenance,

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 1998 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 12944-8 : 1998 was approved by CEN as a European Standard without any modification.

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

Contents

Page

1	Scope	4
2	Normative references	4
3	Definitions	7
4	How to develop a specification for new work or maintenance	8
5	Contents of a specification	9
	Annex A (informative) Basic information for inclusion in a protective paint system specification for new work and maintenance	19
	Annex B (informative) Reference areas	21
	Annex C (informative) Flow chart for planning new work	24
	Annex D (informative) Flow chart for planning maintenance work	25
	Annex E (informative) Classification of environments — Checklist	26
	Annex F (informative) Example of a simple project specification	27
	Annex G (informative) Recommended form for a protective paint system specification — New work	32
	Annex H (informative) Recommended form for a protective paint system specification — Maintenance	33
	Annex I (informative) Recommended form for a report on paint work progress and application conditions	34
	Annex J (informative) Recommended form for final report on corrosion protection work	35
	Annex K (informative) Recommended form for a detailed inspection report on the condition of an existing protective paint system, including the assessment of the need for maintenance	38

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.

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 is intended as an aid when a corrosion protection specification is to be drawn up.

1 Scope

This part of ISO 12944 deals with the development of specifications for corrosion protection of steel structures, using protective paint systems. It relates to new work and maintenance in the workshop or on site and is also applicable to the corrosion protection of individual components. This part of ISO 12944 concerns the corrosion protection of steel structures exposed to different corrosion stresses by environments such as indoors, open-air and immersion in water or burial in soil, as well as special stresses, for example due to medium or high temperatures. The need for different durability ranges is considered.

Steel surfaces that have been hot-dip-galvanized, metal-sprayed, zinc-electroplated or sherardized, and previously painted steel surfaces, are also covered by this part of ISO 12944.

In annex B, reference areas for assessing the quality of the corrosion protection work and the performance of the protective paint systems used are dealt with. Annexes C and D provide detailed flow charts for planning new work and maintenance, which should be taken into account when writing a specification.

If extreme corrosion stresses or high temperatures occur, or the protective paint systems are to be used on other substrates such as non-ferrous metals or concrete, the specifications will have to take this into account. This part of ISO 12944 may also be used as a guide in such cases.

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 2409:1992, *Paints and varnishes - Cross-cut test.*

ISO 2808:1997, *Paints and varnishes - Determination of film thickness.*

ISO 4623:1984, *Paints and varnishes - Filiform corrosion test on steel.*

ISO 4624:1978, *Paints and varnishes - Pull-off test for adhesion.*

ISO 4628-2:1982, *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.*

ISO 4628-3:1982, *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.*

ISO 4628-4:1982, *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.*

ISO 4628-5:1982, *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.*

ISO 4628-6:1990, *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.*

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 8501-2:1994, *Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 2: Preparation grades of previously coated steel substrates after localized removal of previous coatings.*

ISO 8503-1:1988, *Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces.*

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 8503-3:1988, *Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 3: Method for the calibration of ISO surface profile comparators and for the determination of surface profile - Focusing microscope procedure.*

ISO 8503-4:1988, *Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 4: Method for the calibration of ISO surface profile comparators and for the determination of surface profile - Stylus instrument procedure.*

ISO 11124-1:1993, *Preparation of steel substrates before application of paints and related products - Specifications for metallic blast-cleaning abrasives - Part 1: General introduction and classification.*

ISO 11124-2:1993, *Preparation of steel substrates before application of paints and related products - Specifications for metallic blast-cleaning abrasives - Part 2: Chilled-iron grit.*

ISO 11124-3:1993, *Preparation of steel substrates before application of paints and related products - Specifications for metallic blast-cleaning abrasives - Part 3: High-carbon cast-steel shot and grit.*

ISO 11124-4:1993, *Preparation of steel substrates before application of paints and related products - Specifications for metallic blast-cleaning abrasives - Part 4: Low-carbon cast-steel shot.*

ISO 11126-1:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 1: General introduction and classification.*

ISO 11126-3:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 3: Copper refinery slag.*

ISO 11126-4:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 4: Coal furnace slag.*

ISO 11126-5:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 5: Nickel refinery slag.*

ISO 11126-6:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 6: Iron furnace slag.*

ISO 11126-7:1995, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 7: Fused aluminium oxide.*

ISO 11126-8:1993, *Preparation of steel substrates before application of paints and related products - Specifications for non-metallic blast-cleaning abrasives - Part 8: Olivine sand.*

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 12944-3:1998, *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 3: Design considerations.*

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 12944-5:1998, *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 5: Protective paint systems.*

ISO 12944-6:1998, *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods.*

ISO 12944-7:1998, *Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 7: Execution and supervision of paint work.*