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Third edition
2018-02

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

Part 5: Protective paint systems

*Peintures et vernis — Anticorrosion des structures en acier par
systèmes de peinture —*

Partie 5: Systèmes de peinture



Reference number
ISO 12944-5:2018(E)

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Published in Switzerland

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Contents

	Page
Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification of environments	3
5 New work and refurbishment	3
5.1 New work and total refurbishment.....	3
5.2 Partial refurbishment.....	4
6 Types of paint	4
6.1 General.....	4
6.2 Examples of generic type of paints.....	4
6.2.1 Alkyd paints (AK).....	4
6.2.2 Acrylic paints (AY).....	4
6.2.3 Ethyl silicate paints (ESI).....	5
6.2.4 Paints for epoxy coatings (EP).....	5
6.2.5 Paints for polyurethane coatings (PUR).....	5
6.2.6 Paints for polyaspartic coatings (PAS).....	6
6.2.7 Paints for polysiloxane coatings (PS).....	6
7 Paint systems	6
7.1 Priming coats and type of primers.....	6
7.1.1 General.....	6
7.1.2 Types of primer.....	6
7.2 Subsequent coats.....	7
7.2.1 General.....	7
7.2.2 Intermediate coats.....	7
7.2.3 Topcoats.....	7
7.3 Dry film thickness.....	7
7.4 Durability.....	7
7.5 Shop and site application.....	8
8 Tables for protective paint systems for C2 to C5, Im1, Im2 and Im3	9
8.1 Reading the tables.....	9
8.2 Parameters influencing durability.....	9
8.3 Designation of the paint systems listed.....	9
8.4 Guidelines for selecting the appropriate paint system.....	9
Annex A (normative) Abbreviated terms and descriptions	10
Annex B (normative) Minimum requirements for corrosion protection systems	11
Annex C (informative) Paint systems for carbon steel	14
Annex D (informative) Paint systems on hot dip galvanized steel	17
Annex E (informative) Paint systems on thermal-sprayed metallic coatings	19
Annex F (informative) Pre-fabrication primers	20
Bibliography	22

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

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

This third edition cancels and replaces the second edition (ISO 12944-5:2007) which has been technically revised.

The main changes compared to the previous edition are as follows:

- a) the normative references in [Clause 2](#) have been updated;
- b) the terms and definitions in [Clause 3](#) have been revised;
- c) the document has been restructured and editorially revised;
- d) new types of coatings (polyaspartic, fluoropolymer, fluoroethylene/vinyl ether co-polymer and polysiloxanes coatings) have been added;
- e) descriptions for intermediate coats and topcoats have been added;
- f) the former [Annex A](#) has been divided into the new Annexes C, D and E;
- g) the former [Annex B](#) has been renumbered to become [Annex F](#);
- h) a new normative [Annex A](#) containing abbreviated terms and descriptions has been added;
- i) a new normative [Annex B](#), "Minimum requirements for corrosion protection systems", has been added;
- j) the former [Annex C](#) has been deleted;
- k) the former [Annex D](#) has been deleted;
- l) a Bibliography has been added;

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A list of all parts in the ISO 12944 series can be found on the ISO website.

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 required service life required of the structure.

There are different ways of protecting steel structures from corrosion. ISO 12944 (all parts) 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, owners of such structures, planners, consultants, companies carrying out corrosion protection work, inspectors of protective coatings and manufacturers of coating materials need to have at their disposal state-of-the-art information in concise form on corrosion protection by paint systems. It is vital that such information is as complete as possible, unambiguous and easily understandable to avoid difficulties and misunderstandings between the parties concerned with the practical implementation of protection work.

ISO 12944 (all parts) 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 (all parts) is familiar with other relevant International Standards, in particular those dealing with surface preparation.

Although ISO 12944 (all parts) 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 ISO 12944 (all parts) can result in serious financial consequences.

ISO 12944-1 defines the overall scope 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 (all parts) for a given project.

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