



SLOVENSKI STANDARD SIST ENV 12837:2001

01-februar-2001

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Paints and varnishes - Qualification of inspectors for corrosion protection of steel structures by protective paint systems

Beschichtungsstoffe - Qualifikation von Inspektoren für den Korrosionsschutz von Stahlbauten durch Beschichtungssysteme

Peintures et vernis - Qualification des inspecteurs de peinture dans le domaine de la protection des structures en acier par systemes de peinture anticorrosion

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Ta slovenski standard je istoveten z: **ENV 12837:2000**

ICS:

87.040	Barve in laki	Paints and varnishes
91.080.10	Kovinske konstrukcije	Metal structures

SIST ENV 12837:2001

en

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EUROPEAN PRESTANDARD
PRÉNORME EUROPÉENNE
EUROPÄISCHE VORNORM

ENV 12837

April 2000

ICS 87.020; 91.080.10

English version

Paints and varnishes - Qualification of inspectors for corrosion protection of steel structures by protective paint systems

Peintures et vernis - Qualification des inspecteurs de peinture dans le domaine de la protection des structures en acier par systèmes de peinture anticorrosion

Beschichtungsstoffe - Qualifikation von Inspektoren für den Korrosionsschutz von Stahlbauten durch Beschichtungssysteme

This European Prestandard (ENV) was approved by CEN on 4 March 2000 as a prospective standard for provisional application.

The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard.

CEN members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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

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Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 139 "Paints and varnishes", the secretariat of which is held by DIN.

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

Annex A is informative.

Introduction

Corrosion of steel structures may lead to structures becoming unsafe. Loss of steel due to corrosion may also lead to extensive costs for replacement and/or renewal of the structures.

The protection of steel structures from corrosion by use of protective paint coatings is a common way of ensuring protection. However, poor practice may lead to a premature breakdown of the protective paint systems.

A quality assurance system may help to ensure compliance with specifications, standards and good workmanship. EN ISO 9000 series provide guidance for a suitable system, and provide for operations to be carried out by trained personnel.

This European Prestandard – ENV 12837 – is intended to ensure the professional competence of paint inspection personnel involved in the corrosion protection of steel structures by paint systems, including the condition of on-site thermally sprayed zinc, aluminium and their alloys. It is written for those who have technical knowledge within the field of corrosion protection. It is further assumed that the user of this Prestandard is familiar with other European and/or international Standards dealing with corrosion protection, as well as relevant national regulations and national standardization strategies.

EN ISO 12944, *Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Parts 1 to 8*, provides guidance for proper protection of steel structures by protective paint systems.

It is intended that this European Prestandard forms the basis for national certification schemes or any other third party assessment.

1 Scope

This European Prestandard gives qualification criteria for inspectors involved in corrosion protection of steel structures by protective paint systems. The Prestandard is intended to ensure a minimum level of professional competence of personnel engaged in inspection work during the various stages of corrosion protection. Included in the scope is both new construction and maintenance work.

In this document, steel structures are regarded as any structures which derive their structural integrity wholly or partly from their steel content.

2 Normative references

This European Prestandard incorporates, by dated or undated reference, provisions from other publications. These normative references are listed below and are also cited at the appropriate places in the text. For dated references,

subsequent amendments to or revisions of any of these publications apply to this European Prestandard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 45013

General criteria for certification bodies operating certification of personnel

EN ISO 12944-2

Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 2: Classification of environments (ISO 12944-2:1998)

EN ISO 12944-4

Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 4: Types of surface and surface preparation (ISO 12944-4:1998)

EN ISO 12944-7

Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 7: Execution and supervision of paint work (ISO 12944-7:1998)

3 Definitions

For the purposes of this Prestandard, the following definitions apply.

3.1 inspection

careful and critical examination of work carried out within the scope of this standard

3.2 paint inspector (level A)

person who meets the requirements specified in clauses 4 and 5 regarding knowledge, skills, education and certification

3.3 paint inspector (level B)

person who meets the requirements specified in clauses 4 and 5 regarding **experience**, knowledge, skills, education and certification

NOTE 1: In the following, the term paint inspector covers both level A and level B paint inspectors, unless otherwise stated.

NOTE 2: Concerning **experience** see 4.5

3.4 curriculum

any course of study or practical experience conducted by a training body, specified by an examining body (3.6) and approved by a certifying body (3.7)

3.5 training body

organization conducting training in accordance with curricula issued by an examining body, and subject to registration and approval by a certifying body

3.6 examining body

organization issuing curricula and conducting assessment of personnel

NOTE 1: The examining body nominates examiners and conducts examinations.

NOTE 2: The examining body is subject to registration by the certifying body.

3.7 certifying body

body that conducts certification of conformity and issues the certificate of conformity

NOTE: The certifying body should be externally assessed in accordance with EN 45013.

4 Requirements

4.1 Responsibilities of paint inspectors

It is recognized that a paint inspector usually is not a part of the primary quality control, for which responsibility rests completely with the executor(s) for the surface preparation and application works, whereas the paint manufacturer is responsible for the quality of the paint and the technical information on the use of the paint.

The responsibilities of a paint inspector shall be to confirm that corrosion protection work by paint systems is carried out in accordance with the specification and/or EN ISO 12944-4 and/or EN ISO 12944-7, as required.

The paint inspector is responsible for carrying out any other duties which are specified as his or her duties within the contract or specification.

The paint inspector has a duty to keep up with developments within the field of corrosion protection of steel structures by paint systems in order to ensure that his or her knowledge and skills are up-to-date.

The responsibilities of the paint inspector shall apply to the following aspects of corrosion protection work of steel structures:

Equipment: The paint inspector shall confirm that the painting equipment is adequate to do the specified work.

Throughout the corrosion protection work the paint inspector shall monitor the equipment used and prepare records.

Instruments used by the paint inspector shall be correctly calibrated and adjusted at all times and in good working order in accordance with relevant standards and manufacturer's technical data sheet(s).

Steel preparation: The paint inspector shall confirm that steel surface imperfections, edges and welds have been treated in accordance with the specification.

Surface preparation: The paint inspector shall confirm that the surface at the time of application is in accordance with the specification.

Paint application: The paint inspector shall confirm that paints have been applied in accordance with the specification and the manufacturer's instructions.

Climatic conditions: The paint inspector shall monitor and record the climatic conditions including local environment and micro-environment.

Environment, health and safety: The paint inspector has a duty to be familiar with current rules, regulations and guidelines regarding environment, health and safety.

Reporting: Throughout the corrosion protection work, the paint inspector shall keep up-to-date notes of all steps of the work. At required intervals reports shall be prepared. The form of these reports may vary with the requirements of each corrosion protection contract or specification.

Where monitoring reveals a conflict between the above listed items, the paint inspector shall report any deviations from the requirements in the contract or specification.

The paint inspector shall not normally be required to give any opinion to other than first parties on the various aspects of corrosion protection work at any stage in the contract or specification.

4.2 Knowledge

The paint inspector shall have good knowledge of:

- typical location problems (shop, site);
- methods of preparing and cleaning substrates;
- characteristics of paints;
- methods of applying paints;
- the principles of corrosion protection by paint coatings;
- relevant codes, national regulations and standards.

The paint inspector shall have general knowledge of:

- typical design requirements pertinent to corrosion protection of steel structures by paint systems;
- appropriate paint technology;
- corrosion theory;
- cathodic protection theory;
- equipment for surface preparation and paint application;
- galvanizing;
- thermally sprayed zinc, aluminium and their alloys and application of paints on such thermally sprayed coatings;
- protection of welds on steel structures by paint systems;

- degradation of paint systems;
- risk factors pertaining to health, safety and environment;
- approved methods of waste disposal.

4.3 Skills

The paint inspector shall be able to:

- read and understand specifications and technical drawings;
- plan and carry out work in accordance with specifications;
- adjust and use all inspection equipment;
- use tables and standards;
- understand and advise on queries related to the following:
 - surface preparation of steel surfaces;
 - proper use of paint systems;
 - compatibility of paints;
 - design (including connections, galvanic couples, accessibility, box members and other hollow constructions);
 - assembly and production methods;
 - classification of environments as defined in EN ISO 12944-2;
 - surface conditions (e.g. prefabrication primers, metallic substrates, existing paint systems);
 - location (e.g. shop or site, general conditions);
 - workmanship (e.g. skill of operators);
 - deviations from specifications;
 - specified health, safety and environmental protection;
 - colour and colour shades;
 - application;
 - documentation and reports;
- confirm proper application on reference areas and prepare reports related to such areas;
- prepare inspection reports and ensure proper distribution of such reports;
- if authorized, resolve conflicts within the field of competence.

4.4 Education

A paint inspector shall have a minimum education suited to meet the demands as to knowledge stipulated in 4.2 and the demands as to skills stipulated in 4.3.

Paint inspectors may find an educational background from one or more of the fields of education listed in annex A useful to their work.

4.5 Experience

There are no demands as to the minimum experience for a paint inspector (level A); see 3.2. A paint inspector (level B) shall have a minimum of two years' s full time experience in inspection of corrosion protection of steel structures by protective paint systems.

Any other experience or training which furthers the fulfilment of the demands stipulated in 4.1, 4.2 and 4.3 is considered beneficial. Such experience could be within one or more of the following fields:

- cleaning and preparation of steel substrates;
- application of paints;
- paint laboratory work.

5 Assessing the qualification of paint inspectors

5.1 General

This clause provides guidance for assessment and verification of the qualifications of paint inspectors.

5.2 Assessment process

This European Prestandard is implemented by the establishment and operation of an assessment process. The process may be internal or external to the inspector's management. Its purpose is to assess the qualifications of paint inspectors.

This process should be directed by an individual or individuals having current understanding and experience of inspection work.

The paint inspector assessment process shall be subject to an accreditation programme (see EN 45013).

5.3 Assessment of education, work experience, training and personal attributes

The assessment process should include one or more of the following methods:

- interviews with candidates;
- written or oral examination;
- review of candidates' written work;
- discussions with former employers, colleagues etc.;
- peer observation under actual site inspection conditions;
- reviewing records of education, experience and training;
- consideration of professional certifications and qualifications.

5.4 Organization

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A certification system is to be set up on the basis of the above assessment process, and a suitable formal organization shall be established to handle such an assessment process and administer the issue of certificates.

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