

Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media - Part 1: Terminology, design and preparation of substrate

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14879-1:2005 sisaldab Euroopa standardi EN 14879-1:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.10.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14879-1:2005 consists of the English text of the European standard EN 14879-1:2005.</p> <p>This document is endorsed on 25.10.2005 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>
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<p>Käsitlusala:</p> <p>This European Standard describes the terminology, the design and the preparation of the substrate of industrial apparatus for the protection against corrosion caused by aggressive media. These industrial apparatus include, for example, reaction tanks, storage tanks, floors in industrial plants, in general for production and handling of chemicals.</p>	<p>Scope:</p> <p>This European Standard describes the terminology, the design and the preparation of the substrate of industrial apparatus for the protection against corrosion caused by aggressive media. These industrial apparatus include, for example, reaction tanks, storage tanks, floors in industrial plants, in general for production and handling of chemicals.</p>
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Võtmesõnad:

English Version

Organic coating systems and linings for protection of industrial
apparatus and plants against corrosion caused by aggressive
media - Part 1: Terminology, design and preparation of substrate

Systèmes de revêtements organiques de peinture et autres
revêtements rapportés pour la protection des appareils et
installations industriels contre la corrosion par des milieux
agressifs - Partie 1 : Terminologie, conception et
préparation des subjectiles

Beschichtungen und Auskleidungen aus organischen
Werkstoffen zum Schutz von industriellen Anlagen gegen
Korrosion durch aggressive Medien - Teil 1: Terminologie,
Konstruktion und Vorbereitung des Untergrundes

This European Standard was approved by CEN on 22 July 2005.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard (EN 14879-1:2005) has been prepared by Working Group CEN/BT/TF 130 "Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media", 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 March 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

EN 14879 "Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media" consists of the following parts:

- *Part 1: Terminology, design and preparation of substrate*
- *Part 2: Coatings on metallic components*
- *Part 3: Coatings on concrete components*
- *Part 4: Linings on metallic components*
- *Part 5: Linings on concrete components*
- *Part 6: Combined lining with tile and brick layers*

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

1 Scope

This European Standard describes the terminology, the design and the preparation of the substrate of industrial apparatus for the protection against corrosion caused by aggressive media. These industrial apparatus include, for example, reaction tanks, storage tanks, floors in industrial plants, in general for production and handling of chemicals.

The protection is applicable to metallic and concrete structures.

Beside the protection of the apparatus, the protection of the media itself against pollution is also considered in this series of European Standards EN 14879.

A protection against corrosion caused by atmospheric exposure (as for example according to EN ISO 12944-4) is not included in the scope of this series of European Standards EN 14879.

Corrosion protection systems according to this series of European Standards EN 14879 are:

- 1) Thick coatings normally of 1 mm or more thick.
- 2) Linings made of pre-fabricated sheets respectively plate materials.
- 3) Combined linings with tile and brick layers.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 206-1, *Concrete — Part 1: Specification, performance, production and conformity*

EN 1504-1, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 1: Definitions*

EN 1504-2, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 2: Surface protection systems for concrete*

EN 1504-3, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 3: Structural and non-structural repair*

EN 1504-4, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 4: Structural bonding*

EN 1504-5, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 5: Concrete injection*

EN 1504-8, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 8: Quality control and evaluation of conformity*

ENV 1504-9, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 9: General principles for the use of products and systems*

EN 1504-10, *Products and systems for the protection and repair of concrete structures — Definitions, requirements, quality control and evaluation of conformity — Part 10: Site application of products and systems and quality control of the works*

EN 1559-1:1997, *Founding — Technical conditions of delivery — Part 1: General*

EN 1990, *Eurocode — Basis of structural design*

EN 1992-1-1, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

EN 10025 (all parts), *Hot rolled products of non-alloy structural steels — General technical delivery conditions*

EN 10028-1, *Flat products made of steels for pressure purposes — Part 1: General requirements*

EN 10028-2, *Flat products made of steels for pressure purposes — Part 2: Non-alloy and alloy steels with specified elevated temperature properties*

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general and construction purposes*

EN 10088-3, *Stainless steels — Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general and construction purposes*

EN 10130+A1, *Cold rolled low carbon steel flat products for cold forming — Technical delivery conditions*

EN 10139, *Cold rolled uncoated mild steel narrow steel strip for cold forming — Technical delivery conditions*

EN 10208-1, *Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 1: Pipes of requirement class A*

EN 10216-2, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10217-2, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-7, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 7: Stainless steel tubes*

EN 10293, *Steel castings for general engineering uses* prEN 10296-2, *Welded circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 2: Stainless steel*

prEN 10340, *Steel castings for structural uses*

EN 10297-2, *Seamless circular steel tubes for mechanical and general engineering purposes — Technical delivery conditions — Part 2: Stainless steel*

EN 13813, *Screed material and floor screeds — Screed materials — Properties and requirements*

prEN 14879-3, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media — Part 3: Coatings on concrete components*

prEN 14879-5, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media — Part 5: Linings on concrete components*

EN ISO 4617:2000, *Paints and varnishes — List of equivalent terms (ISO 4617:2000)*

EN ISO 4618-2:1999, *Paints and varnishes — Terms and definitions for coating materials — Part 2: Special terms relating to paint characteristics and properties (ISO 4618-2:1999)*

EN ISO 4618-3:1999, *Paints and varnishes — Terms and definitions for coating materials — Part 3: Surface preparation and methods of application (ISO 4618-3:1999)*

EN ISO 6520-1, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding (ISO 6520-1:1998)*

EN ISO 7093-1, *Plain washers — Large series — Part 1: Product grade A (ISO 7093-1:2000)*

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)*

ISO 4997, *Cold-reduced steel sheet of structural quality*

ISO 9329 (all parts), *Seamless steel tubes for pressure purposes — Technical delivery conditions*

ISO 9330-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Unalloyed steel tubes with specified room temperatures properties*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 4617:2000, EN ISO 4618-2:1999, EN ISO 4618-3:1999 and the following apply.

3.1

surface protection system

consists of the materials and material combinations listed in the standards of the series EN 14879, which protect and seal concrete parts or metallic components in process plants

3.2

coating

produced by applying an organic coating material to protect steel or concrete parts against corrosion

3.3

coating material

liquid to paste like materials applied mainly by means of trowel, brushing, rolling or spraying.

3.4

lining

thermoplastics, duroplastic or rubber applied as sheets or plates which may or may not (thermoplastics) be bonded to the substrate

3.5

corrosion

reaction of a metallic material or concrete with its environment which produces a measurable change in the material and can result in an impairment of the function of a component or a complete system

3.6

corrosion protection

corrosion protection means the isolation of the metallic or concrete material from the attacking medium by applying coatings or linings

3.7

medium, corrosive medium

environment containing components (chemicals, gases, vapours, etc.) that react with the material during corrosion

3.8

construction joint

joint in a building or building element caused by interruption during the casting of the concrete