

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

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14879-5:2007 sisaldab Euroopa standardi EN 14879-5:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 30.10.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14879-5:2007 consists of the English text of the European standard EN 14879-5:2007.</p> <p>This document is endorsed on 30.10.2007 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 document describes the requirements for and methods of testing of organic linings which are applied to concrete process engineering equipment that will come in contact with aggressive chemical substances (liquids, solids and gases). The requirements specified here may be used for the purposes of quality control (e.g. as agreed between the contract partners).</p>	<p>Scope:</p> <p>This document describes the requirements for and methods of testing of organic linings which are applied to concrete process engineering equipment that will come in contact with aggressive chemical substances (liquids, solids and gases). The requirements specified here may be used for the purposes of quality control (e.g. as agreed between the contract partners).</p>
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ICS 25.220.60

Võtmesõnad:

English Version

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

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 5: Revêtements rapportés pour béton

Beschichtungen und Auskleidungen aus organischen Werkstoffen zum Schutz von industriellen Anlagen gegen Korrosion durch aggressive Medien - Teil 5: Auskleidungen für Bauteile aus Beton

This European Standard was approved by CEN on 24 June 2007.

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Foreword

This document (EN 14879-5:2007) has been prepared by Working Group CEN/BT/Task Force 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 February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

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

1 Scope

This document describes the requirements for and methods of testing of organic linings which are applied to concrete process engineering equipment that will come in contact with aggressive chemical substances (liquids, solids and gases). The requirements specified here may be used for the purposes of quality control (e.g. as agreed between the contract partners).

The standard applies to linings which serve one or more of the following purposes:

- to protect the component from damaging effects of aggressive substances;
- to protect waters (e.g. ground water) from harmful substances;
- to protect the charge from becoming contaminated by components released from the substrate material;
- to achieve a particular surface quality.

The different lining systems are:

- a) bonded linings;
- b) mechanically fixed linings;
- c) loose linings of sheeting material;
- d) loose linings of pre-formed pieces or lining units.

Handling of aggressive or water pollutant materials is understood to include

- e) storage;
- f) filling;
- g) loading and unloading;
- h) manufacture;
- i) treatment;
- j) use.

2 Normative references

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

EN 228, *Automotive fuels — Unleaded petrol — Requirements and test methods*

EN 590, *Automotive fuels — Diesel — Requirements and test methods*

EN 1766, *Products and systems for the protection and repair of concrete structures — Test methods — Reference concretes for testing*

EN 10204, *Metallic products — Types of inspection documents*

EN 13067, *Plastics welding personnel — Qualification testing of welders — Thermoplastic welded assemblies*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

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

EN 14879-1:2005, *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*

EN 14879-4, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media — Part 4: Linings on metallic components*

EN ISO 75-1, *Plastics — Determination of temperature of deflection under load — Part 1: General test method (ISO 75-1:2004)*

EN ISO 175, *Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175:1999)*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178:2001)*

EN ISO 179 (all parts), *Plastics — Determination of Charpy impact properties*

EN ISO 527-3, *Plastics — Determination of tensile properties — Part 3: Test conditions for films and sheets (ISO 527-3:1995)*

EN ISO 846:1997, *Plastics — Evaluation of the action of microorganisms (ISO 846:1997)*

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

EN ISO 1133, *Plastics - Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:2005)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183- 1:2004)*

EN ISO 2286 (all parts), *Rubber- or plastics-coated fabrics — Determination of roll characteristics*

EN ISO 6721-2, *Plastics — Determination of dynamic mechanical properties — Part 2: Torsion-pendulum method (ISO 6721-2:1994, including Technical Corrigendum 1:1995)*

EN ISO 14632, *Extruded sheets of polyethylene (PE-HD) — Requirements and test methods (ISO 14632:1998)*

EN ISO 15013, *Extruded sheets of polypropylene (PP) — Requirements and test methods (ISO 15013:1998)*

EN ISO 22088-4, *Plastics — Determination of resistance to environmental stress cracking (ESC) - Part 4: Ball or pin impression method (ISO 22088-4:2006)*

IEC 60093:1980, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*

IEC 60167, *Methods of test for the determination of the insulation resistance of solid insulating materials*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 813, *Rubber, vulcanized or thermoplastic — Determination of adhesion to a rigid substrate — 90 degree peel method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14879-1:2005 and the following apply.

NOTE The terms used to designate structural elements requiring surface protection are usually based on the function of the elements in the process plant. For the sake of consistency, the most common of these elements are referred to here on the basis of their function within the structure.

3.1

floor (bottom)

flat or inclined surface, such as the floor of a production or storage area, and the bottom of a vessel

3.2

wall

vertical or almost vertical limiting surface, such as the wall of a production and storage area, and the wall of a vessel

3.3

ceiling (top)

upper limiting surface, such as the ceiling of a production and storage area, and the top of a vessel

3.4

gutter

open indentation, moulded in the floor, through which fluids may drain away

3.5

trench

open or covered element in the floor of any shape or size, whose invert is considerably lower than the floor, and through which fluids may drain away

3.6

pipe

hollow cylinder of any shape or size, through which fluids, gases and vapours may pass

3.7

sump

depression in the floor, designed as the lowest point from which collected substances can be drained off