Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused byaggressive media - Part 6: Combined linings with tile and brick layers

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14879-6:2010 sisaldab Euroopa standardi EN 14879-6:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 14879-6:2010 consists of the English text of the European standard EN 14879-6:2009.
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English Version

Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media - Part 6: Combined linings with tile and brick layers

Systèmes des revêtements organiques pour la protection des appareils et installations industriels contre la corrosion par des fluides agressifs - Partie 6 : Revêtements rapportés associés à des couches de carreaux et de briques

Beschichtungen und Auskleidungen aus organischen Werkstoffen zum Schutz von industriellen Anlagen gegen Korrosion durch aggressive Medien - Teil 6: Kombinierte Auskleidung mit Plattierungen (Plattenlagen) und Ausmauerungen

This European Standard was approved by CEN on 24 October 2009.

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

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Foreword

This document (EN 14879-6:2009) has been prepared by Technical Committee CEN/TC 360 “Project Committee - Coating systems for chemical apparatus and plants against corrosion”, 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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 the United Kingdom.

1 Scope

This European Standard describes the requirements for and methods of testing of combined systems with tile and brick layers which are applied to concrete or metallic process engineering equipment that will come in contact with 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 or having been given by national regulations[1)]).

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

— to protect the component from adverse effects of aggressive substances;

— to protect waters (e.g. ground water) against hazardous substances;

— to protect the charge from becoming contaminated by components released from the substrate material;

— to achieve a particular surface quality.

The described combined systems can be used for concrete or metallic process engineering equipment that will come into contact with chemical substances.

The combined system is a combination of:

— a coating according to EN 14879-2 or EN 14879-3 with an additional layer of tiles or bricks embedded in cement mortar, resin based mortar and/or potassium silicate mortar as an adhesive bonding cement (referred to simply as cement in this standard); or

— a lining according to EN 14879-4 or EN 14879-5 with an additional layer of tiles or bricks embedded in cement mortar, resin based mortar and/or potassium silicate mortar as an adhesive bonding cement (referred to simply as cement in this standard).

For design and preparation of substrate, see EN 14879-1.

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

EN 13501-1:2007, *Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests*

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 14879-2:2006, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media – Part 2: Coatings on metallic components*

EN 14879-3:2006, *Organic coating systems and linings for protection of industrial apparatus and plants against corrosion caused by aggressive media – Part 3: Coatings on concrete components*

1) For the purposes of this standard, the contract partners are the coating material, lining, mortar, tiles and bricks manufacturers, the component manufacturer, the person(s) responsible for applying the coating, lining, mortar, tiles and bricks, and the client ordering the finished component(s).

EN 14879-4:2007, *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 14879-5:2007, *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 291, *Plastics – Standard atmospheres for conditioning and testing (ISO 291:2008)*

EN ISO 10545-12, *Ceramic tiles – Part 12: Determination of frost resistance (ISO 10545-12:1995, including Technical Corrigendum 1:1997)*

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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions in addition to those of EN 14879-1:2005, EN 14879-2:2006, EN 14879-3:2006, EN 14879-4:2007 and EN 14879-5:2007 apply.

3.1
combined lining system
combined lining system applied as a protection against chemical, mechanical and thermal loading

NOTE Such systems comprise a sealing layer and a service layer (see Figure 1). Taken together, the two layers provide a more effective protection than each layer would provide on its own.

3.2
sealing layer
bottom layer of the combined lining system that is applied to the concrete or metal surface

NOTE It serves both as a primer (promoting adhesion) and as a layer which is impervious to liquids.

3.3
service layer
top layer of the combined lining system, which is made of tiles or bricks bonded to the sealing layer by means of mortar or cement

NOTE It serves to protect the sealing layer from the direct contact with chemical, mechanical and thermal loads.

3.4
semi-finished product
tile, brick, also in other shapes

EXAMPLES Pipes, nozzles.

3.5
jointing mortar
mortar or cement used to fill the joints between the semi-finished products

3.6
bedding mortar
mortar or cement used to form the bed between the sealing layer and the surfacing units

3.7
bed joint
layer of mortar between the sealing layer and the service layer