SLOVENSKI STANDARD
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Projektiranje, priprava in uporaba zunanjih in notranjih ometov - 2. del: Notranji ometi

Design, preparation and application of external rendering and internal plastering - Part 2: Internal plastering

Planung, Zubereitung und Ausführung von Außen- und Innenputzen - Teil 2: Innenputze

Conception, préparation et mise en oeuvre des enduits extérieurs et intérieurs - Partie 2: Enduits intérieurs

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Design, preparation and application of external rendering and internal plastering - Part 2: Internal plastering

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

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European foreword

This document (EN 13914-2:2016) has been prepared by Technical Committee CEN/TC 125 “Masonry”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

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.

This document supersedes EN 13914-2:2005.

The initial draft of this document was prepared by the European section of International Union of Contractors of Plastering, Dry Lining, Stucco and Related Activities (UIEP) at the request of the CEN Technical Sector Board (Resolution No.BTS1/56/1991). It has been revised by CEN/TC 125/WG 5 in conjunction with experts of CEN/TC 241. Relevant data are summarized in a series of tables. This part of EN 13914 applies to the design of plaster made of mortars containing inorganic and organic binders and mineral aggregate [1] which is applied to internal vertical and soffit surfaces of structures.

As this standard is a code-like document as opposed to the more conventional European product standard, it is appropriate to mention that, as with product standards, the use of the verbal form 'shall' denotes a requirement for which verification of compliance has to be able to be demonstrated. Recommendations are denoted by the verbal form 'should' and should be followed unless there is a justifiable reason for not doing so.

It is not the function of this standard to assign responsibility for the design and application of any work or actions mentioned herein to any specific party. Such responsibility is a matter for other documentation associated with the work, e.g. the contract.

It has been assumed in the drafting of this document that the application of its provisions is entrusted to appropriately qualified and experienced persons, for whose guidance it has been prepared.

The content of CEN Technical Reports containing guidance relating to the design, preparation and application of plaster and plastering systems for gypsum (CEN/TR 15124), cement and/or lime (CEN/TR 15125) and polymer plasters (CEN/TR 15123) has been included.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1) The aggregate can be omitted from mortars made from gypsum plaster or anhydrite binders.

1 Scope

This European Standard deals with the design considerations and essential principles for internal plastering systems and application of plastering systems.

The different parts of the EN 13914 series of standards specify requirements and recommendations for detailing, design and material considerations, the selection of mixes and the application of gypsum plasters, gypsum/lime plasters, lightweight plasters, lime/gypsum-, cement- and cement/lime-based plasters, lime-based plasters, clay plasters, silicate plasters, organic plasters, polymer-modified plasters, etc.

This standard does not deal with the following:

— external finishes;

— painting and/or preparation;

— impregnations;

— structural repair of concrete;

— prefabricated fibre-reinforced plaster elements.

Owing to the many and varied materials and practices and different climatic conditions in Europe it is not possible for certain aspects of the standard to enter into sufficient detail to be fully usable to practitioners in each country. Such guidance to complement, but not alter, any basic European recommendations is given in documentation prepared by each country. Aspects of this European Standard, the basic recommendations of which may need to be complemented, are indicated where they occur by a footnote referencing this clause.

2 Normative references

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

EN 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 413-1, *Masonry cement — Part 1: Composition, specifications and conformity criteria*

EN 459-1, *Building lime — Part 1: Definitions, specifications and conformity criteria*

EN 998-1:2010, *Specification for mortar for masonry — Part 1: Rendering and plastering mortar*

EN 1008, *Mixing water for concrete — Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10244-1, *Steel wire and wire products — Non-ferrous metallic coatings on steel wire — Part 1: General principles*

EN 10244-2, *Steel wire and wire products — Non-ferrous metallic coatings on steel wire — Part 2: Zinc or zinc alloy coatings*

EN 10346, *Continuously hot-dip coated steel flat products for cold forming — Technical delivery conditions*

EN 12878, *Pigments for the colouring of building materials based on cement and/or lime — Specifications and methods of test*

EN 13055-1, *Lightweight aggregates — Part 1: Lightweight aggregates for concrete, mortar and grout*

EN 13139, *Aggregates for mortar*

EN 13279-1, *Gypsum binders and gypsum plasters — Part 1: Definitions and requirements*

EN 13658-1, *Metal lath and beads — Definitions, requirements and test methods — Part 1: Internal plastering*

EN 13914-1:2016, *Design, preparation and application of external rendering and internal plastering — Part 1: External rendering*

EN 15824, *Specifications for external renders and internal plasters based on organic binders*

EN ISO 16120-2, *Non-alloy steel wire rod for conversion to wire — Part 2: Specific requirements for general-purpose wire rod (ISO 16120-2)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 998-1, EN 13279-1, EN 13914-1, EN 13658-1, EN 15824 and the following apply.

3.1
plaster (noun)
mixture of different materials (binders, additives, admixtures, water, aggregates) to obtain a surface finish which is applied internally to walls and ceilings

3.2
plastering (verb)
application of plaster

3.3
gypsum plaster
all kinds of gypsum building plaster, gypsum based building plaster and gypsum-lime building plaster used in buildings

[SOURCE: EN 13279-1:2008, 3.2]

3.4
mineral based plaster
plaster with one or more inorganic binders

3.5
organic plaster
factory made plaster with one or more organic binders in paste or powder form

3.6
designed plaster
plaster whose composition and manufacturing method is chosen by the producer in order to achieve specified properties (performance concept)

[SOURCE: EN 998-1:2010, 3.3.1, modified]

3.7
prescribed plaster
plaster made in pre-determined proportions, the properties of which are assumed from the stated proportion of the constituents (recipe concept)

[SOURCE: EN 998-1:2010, 3.3.2, modified]

3.8
plaster coat
obtained by application of one or more layers with one or more mixes of the same product

3.9
plaster layer
layer produced by the application of the same plaster in one or more operations, "fresh on fresh"

3.10
plaster system
plaster coat or sequence of plaster coats to be applied to a background, including the possible use of a support and/or reinforcement and/or pre-treatment

3.11
site made plaster
plaster batched and mixed on site

3.12
one coat plaster
plaster applied in one coat which fulfils all the functions of a plastering system

3.13
thin coat
1 mm to 6 mm plaster coat applied to a surface

3.14
skim/filler coat
0,1 mm to 5 mm plaster coat applied to a surface

3.15
reinforcement
material incorporated within a plaster coat to improve resistance to cracking (e.g. welded wire mesh, glass fibre mesh, fibres)

[SOURCE: EN 13914-1:2016, 3.17, modified]

3.16
reinforcing coat
polymer modified, mineral or organic plaster layer with a mesh embedded into it and applied over an undercoat or defective background which contributes to the minimising of cracks

[SOURCE: EN 13914-1:2016, 3.18, modified]

3.17
final coat
last coat, decorative or not, of a plaster system

[SOURCE: EN 13914-1:2016, 3.19, modified]

3.18
background
surface of a construction element to which a plaster or a plaster system is to be applied

[SOURCE: EN 13914-1:2016, 3.22, modified]

3.19
preparatory treatment
actions to be taken on backgrounds with devices, machines and/or tools, to remove dust and unstable or deleterious material e.g. efflorescence

[SOURCE: EN 13914-1:2016, 3.23]

3.20
key
property of a background or plaster coat which allows the bonding of a plaster without the need for a pre-treatment or carrier

[SOURCE: EN 13914-1:2016, 3.24, modified]

3.21
pre-treatment
application of a material on the background to improve the application properties of the plaster (e.g. spatterdash, primer, bonding agent)

[SOURCE: EN 13914-1:2016, 3.25, modified]

3.22
bond
mechanical and/or chemical adhesion between the plaster and the background

[SOURCE: EN 13914-1:2016, 3.26, modified]

3.23
bonding agent
proprietary material used to provide or improve adhesion of the plaster or plaster system to the background where necessary

[SOURCE: EN 13914-1:2016, 3.27, modified]

3.24
primer
material for pre-treatment of the background

Note 1 to entry: For example primers can be used to reduce suction or to stabilize the surface of the background.

[SOURCE: EN 13914-1:2016, 3.28]

3.25
spatterdash
technique for pre-treatment characterized by brushing, throwing or spraying of site or factory made mortar onto a background to improve its bonding properties and/or to regulate the suction of the background

[SOURCE: EN 13914-1:2016, 3.29]

3.26
dubbing out
process of filling large localized irregularities in the background, such as hollows, prior to the application of a plaster coat

[SOURCE: EN 13914-1:2016, 3.30, modified]

3.27
carrier
product attached to the background to which a plaster is applied so that the plaster system is largely independent of the background (e.g. lathing)

[SOURCE: EN 13914-1:2016, 3.31, modified]

3.28
crazing
network of short, irregular and very fine cracks up to approximately 0,2 mm in width

Note 1 to entry: Hairline cracks do not impair the function of the plaster and are therefore acceptable to a limited extent.

[SOURCE: EN 13914-1:2016, 3.33, modified]

3.29
depth gauge
band of plaster or bead used in setting out for a required thickness or evenness

[SOURCE: EN 13914-1:2016, 3.34, modified]

3.30
drying time
necessary hardening- and drying- time until the next layer or coating can be applied

[SOURCE: EN 13914-1:2016, 3.35]

3.31
lining
temporary frame for plastering up to

3.32
efflorescence
formation of salts on a surface during drying caused by the presence of soluble substances

[SOURCE: EN 13914-1:2016, 3.34]

4 Materials and accessories

4.1 General

Plasters can be produced entirely in the factory, partly in the factory (semi-finished) or on site.

4.2 Factory-made and semi-finished factory-made plasters — properties

4.2.1 General

Factory-made and semi-finished factory-made plasters shall comply with the requirements of EN 998-1, EN 13279-1 or EN 15824 for those parts of the process either wholly or partly carried out in the factory, unless otherwise specified by the manufacturer. For those parts of the process for semi-finished factory-made plasters completed on site, only materials permitted by the manufacturer shall be used. No addition of any material is permitted for wet ready-to-use plasters. Unless otherwise specified by the manufacturer, no addition, other than water in the recommended proportions, shall be added to dry factory-made plasters. Only materials conforming to the requirements of 4.3 should be used.

4.2.2 Gypsum plasters

For mixtures based on gypsum or gypsum and lime, factory-made and semi-finished factory-made plasters shall conform to EN 13279-1 for those parts of the process either wholly or partly carried out in the factory.

Gypsum plaster can be used in all areas. However, they should not be used under conditions which are persistently damp after the plasters have set as this causes weakening and disintegration. Gypsum undercoats should be sufficiently roughened to provide a key for subsequent coats. For multi-coat gypsum plaster systems, it is not necessary to ensure that thorough drying of one-coat has taken place before application of the following coat, but sufficient strength should have developed.

4.2.3 Lime, cement and lime/cement plasters

For mixtures based on cement and/or lime, factory-made and semi-finished factory-made plasters shall conform to EN 998-1 for those parts of the process either wholly or partly carried out in the factory. For those parts of the process for semi-finished factory-made plasters completed on site, the materials should conform to the recommendations of 4.3.

Depending on the materials of the plaster mix shrinkage may take place during the drying out process.

Cement and/or lime undercoats should be sufficiently roughened to provide a key for subsequent coats. Each undercoat should be allowed to harden before applying the subsequent coat.

These plasters can also be polymer-modified.

4.2.4 Plasters based on organic binders

These plasters harden essentially by physical drying; they shall comply with EN 15824.

The adhesion to different dry backgrounds including paints is usually sufficient.

4.2.5 Silicate plasters

Silicate plasters contain silicate and resin as binders. They shall conform to EN 15824. These plasters harden chemically and by physical drying.

4.2.6 Clay plasters

Clay plaster is manufactured using clay and, if required, mineral additives and fibre reinforcement. Clay plasters can have different strength characteristics depending on the manufacturer and raw materials.

They need to be used in accordance with the manufacturer's recommendation or with any relevant national regulations.

4.3 Materials for site-made plasters

4.3.1 General

Constituent materials with established suitability shall be used, as detailed in 4.3.2 to 4.3.5. Mix proportions, if applicable, are given in national standards.

4.3.2 Mineral binders

Mineral binders with established suitability shall be used. Binders shall conform to the relevant standards listed in Table 1.

Table 1 — Mineral binders

Material	Standard	Remarks
Common cements	EN 197-1	Not all types will be suitable for each and every application[a]
Masonry cements	EN 413-1	
Building lime	EN 459-1	
Gypsum binder	EN 13279-1	
[a] Refer to final paragraph of Clause 1 for further information.		

4.3.3 Aggregates

Aggregates shall conform to EN 13139 for dense aggregates or EN 13055-1 for light aggregates, as appropriate.

4.3.4 Admixtures for cement- and/or lime-based plasters

The admixtures used should conform to EN 934-3. However, admixtures falling outside the scope of EN 934-3 can be used in accordance with the manufacturer's instructions.

4.3.5 Colouring agents

Colouring agents (e.g. inorganic and organic pigments or pigment preparations, dyes, natural minerals) should not have any influence on the behaviour of the fresh or hardened render. They shall be stable, unaffected by alkalinity or exposure to light and shall not easily be leached out by water.

The use of colouring agents on the construction site shall always be subject to prior tests.

Pigments shall conform to EN 12878.

A uniform shade of the finishing coat is not generally ensured.

4.3.6 Fibres

Natural and synthetic fibres, that do not affect the chemical or physical stability of the plaster, may be used either added on site or in premixed or factory made plasters.

Fibres shall be dry, clean and free from oil or grease.

4.4 Water

Water used for plasters shall fulfil the requirements of EN 1008. Drinking or potable water is suitable.