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Specifikacija malt za zidanje - 1. del: Zunanji in notranji omet

Specification for mortar for masonry - Part 1: Rendering and plastering mortar

Festlegungen für Mörtel im Mauerwerksbau - Teil 1: Putzmörtel

Définitions et spécifications des mortiers pour maçonnerie - Partie 1: Mortiers d'enduits minéraux extérieurs et intérieurs

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ICS:

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EUROPEAN STANDARD

EN 998-1

NORME EUROPÉENNE

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Specification for mortar for masonry - Part 1: Rendering and plastering mortar

Définitions et spécifications des mortiers pour maçonnerie -
Partie 1: Mortiers d'enduits minéraux extérieurs et intérieurs

Festlegungen für Mörtel im Mauerwerksbau - Teil 1:
Putzmörtel

This European Standard was approved by CEN on 12 August 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 998-1:2010) 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of an identical text or by endorsement, at the latest by March 2011, and conflicting national standards shall be withdrawn at the latest by March 2011.

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 European Standard supersedes EN 998-1:2003.

The main technical changes compared to the previous edition are in relation to thermal conductivity, where the basis for the declared value has been specified, and in relation to evaluation of conformity, where more details have been given.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports the essential requirements of the EU Construction Products Directive (89/106/EEC).

For relationship with EU Directive(s), see informative Annex ZA which is an integral part of this document.

[SIST EN 998-1:2010](http://standards.iteh.ai/SIST-EN-998-1-2010)

EN 998 *Specification for mortar for masonry* consists of:

Part 1: Rendering and plastering mortar.

Part 2: Masonry mortar.

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, 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.

EN 998-1:2010 (E)

Introduction

The properties of rendering and plastering mortars depend essentially on the type or types of binders used and their respective proportions. Special properties can be achieved by the type of aggregates, admixtures and/or additions used.

Rendering/plastering mortars are defined

- a) according to the concept as either:
- designed mortars; or
 - prescribed mortars.
- b) according to the mode of manufacture as either:
- factory-made mortars;
 - semi-finished factory mortars; or
 - site-made mortars.
- c) according to the properties and/or use, as either:
- general purpose rendering/plastering mortar;
 - lightweight rendering/plastering mortar;
 - coloured rendering mortar;
 - one-coat rendering mortar;
 - renovation rendering/plastering mortar;
 - thermal rendering/plastering insulating mortar.

Rendering/plastering mortars do not attain their final characteristics until properly hardened after application. The functions performed by a rendering/plastering mortar depend on the properties of the type of materials used, on the thickness of the coats and the type of application. In addition, rendering/plastering mortars determine the surface of the construction.

Regional differences in construction practices and climate, and different constituents for rendering/plastering mortars do not allow for the establishment of standard mix proportions for prescribed mortar that would be applicable in all of Europe. Therefore, the specification of such mix proportions (recipes) and fields of application should be based on practice and experience available in the place of use.

1 Scope

This European Standard is applicable to factory made rendering/plastering mortar based on inorganic binders for external (rendering) and internal (plastering) use on walls, ceilings, columns and partitions. It contains definitions and final performance requirements.

It does not cover mortars where calcium sulphate binder is the principle active binding agent.

Calcium sulphate binder can be used as an additional binder together with air lime. If air lime is the principle active binding component, the rendering/plastering mortar is covered by this European Standard. If the calcium sulphate binder is the principle active binding component, the mortar is covered by EN 13279. The classification is carried out by the producer of the mortar.

Special fire resistant- and acoustical mortars, mortars for structural repair and surface treatments of building elements such as materials for smoothing or trueing, paints, coatings, thin-layer organic renders/plasters and prefabricated units (e.g. plaster boards) are not dealt with in this European Standard.

This European Standard covers rendering/plastering mortars defined in Clause 3 with the exception of site made rendering/plastering mortars. However, this European Standard or part of this European Standard may be used in conjunction with codes of application and national specifications covering site made mortars.

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2 Normative references (standards.iteh.ai)

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. <https://standards.iteh.ai/sist-en-998-1-2010>

EN 1015-2, *Methods of test for mortar for masonry — Part 2: Bulk sampling of mortars and preparation of test mortars*

EN 1015-7, *Methods of test for mortar for masonry — Part 7: Determination of air content of fresh mortar*

EN 1015-9, *Methods of test for mortar for masonry — Part 9: Determination of workable life and correction time of fresh mortar*

EN 1015-10, *Methods of test for mortar for masonry — Part 10: Determination of dry bulk density of hardened mortar*

EN 1015-11, *Methods of test for mortar for masonry — Part 11: Determination of flexural and compressive strength of hardened mortar*

EN 1015-12, *Methods of test for mortar for masonry — Part 12: Determination of adhesive strength of hardened rendering and plastering mortar on substrates*

EN 1015-18, *Methods of test for mortar for masonry — Part 18: Determination of water absorption coefficient due to capillary action of hardened mortar*

EN 1015-19, *Methods of test for mortar for masonry — Part 19: Determination of water vapour permeability of hardened rendering and plastering mortar*

EN 1015-21, *Methods of test for mortar for masonry — Part 21: Determination of the compatibility of one-coat rendering mortars with substrates*

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EN 1745:2002, *Masonry and masonry products — Methods for determining design thermal values*

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

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms, definitions and abbreviated terms apply.

3.1**rendering/plastering mortar**

mix of one or more inorganic binders, aggregates, water and sometimes admixtures and/or additions, used as external renders or internal plasters

3.2**fresh rendering/plastering mortar**

mortar completely mixed and ready for use

3.3 Types of rendering/plastering mortar defined according to concept**3.3.1****designed rendering/plastering mortar**

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

3.3.2**prescribed rendering/plastering mortar**

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

3.4 Types of rendering/plastering mortar according to the mode of manufacture**3.4.1****factory-made rendering/plastering mortar**

mortar batched and mixed in a factory. It can be 'dry mortar' which is ready mixed only requiring the addition of water, or 'wet mortar' which is supplied ready for use

3.4.2 Semi-finished rendering/plastering factory mortar**3.4.2.1****prebatched rendering/plastering mortar**

mortar whose constituents are wholly batched in a factory, supplied to the building site and mixed there according to the manufacturer's specification and conditions

3.4.2.2**premixed lime-sand rendering/plastering mortar**

mortar whose constituents are wholly batched and mixed in a plant, supplied to the building site where further constituents specified or provided by the factory are added (e.g. cement)

3.4.3**site-made rendering/plastering mortar**

mortar composed of individual constituents batched and mixed on the building site

3.5 Types of rendering/plastering mortar according to properties and/or use

3.5.1

general purpose rendering/plastering mortar

rendering/plastering mortar without special characteristics

NOTE It can be prescribed or designed.

3.5.2

lightweight rendering/plastering mortar

designed rendering/plastering mortar with a dry hardened density below a prescribed figure (see Table 2, L1)

3.5.3

coloured rendering/plastering mortar

designed rendering/plastering mortar specially coloured

NOTE The colour is achieved e.g. with pigments or coloured aggregates.

3.5.4

one coat rendering mortar for external use

designed rendering mortar applied in one coat which fulfils all the functions of a multicoat system used externally and which is usually specifically coloured

NOTE One coat mortars for external use can be manufactured using normal and/or lightweight aggregates.

3.5.5

renovation mortar

designed rendering/plastering mortar used on moist masonry walls containing water soluble salts

NOTE These mortars have a high porosity and vapour permeability and reduced capillary action.

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3.5.6

thermal insulating mortar

designed mortar with specific insulating properties

3.6 Further definitions

3.6.1

declared value

value that a manufacturer is confident in achieving, bearing in mind the precision of test and variability of process

3.6.2

render/plaster

materials used externally are referred to as render/rendering and materials used internally as plaster/plastering

3.6.3

rendering/plastering system

sequence of coats to be applied to a background which can be used in conjunction with the possible use of a support and/or reinforcement and/or a pre-treatment

NOTE In some cases the pre-treatment can be regarded as a separate coat in addition to the specified system.

EN 998-1:2010 (E)**3.6.4****render/plaster coat**

layer applied in one or more operations or passes with the same mix, with the previous pass not being allowed to set before the next one is made (i.e. fresh on fresh)

3.6.5**undercoat**

lower coat or coats of a system

3.6.6**final coat**

last coat, decorative or not, of a multicoat rendering or plastering system

3.7 Abbreviated terms

GP: General purpose rendering/plastering mortar

LW: Lightweight rendering/plastering mortar

CR: Coloured rendering mortar

OC: One coat rendering mortar for external use

R: Renovation mortar

T: Thermal insulating mortar

FP: Fracture pattern

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4 Materials

Raw materials shall have characteristics permitting the finished product to conform with the requirements of this European Standard. The manufacturer shall keep records of how suitability of materials is established.

5 Requirements**5.1 General**

The requirements and properties for hardened and fresh mortar specified in this European Standard shall be defined in terms of the test methods and procedures referred to in this European Standard. For these tests, the mortar shall be sampled in accordance with EN 1015-2.

The conformity criteria given in Table 2 for hardened mortar and 5.3 for fresh mortar relate to initial type tests (see 8.2) and consignment testing (see Annex A). For production evaluation purposes the conformity criteria shall be defined in the factory production control documentation (see 8.3).

NOTE The mortar properties obtained under laboratory conditions cannot always be directly comparable with the mortar properties obtained under site conditions.

5.2 Properties of hardened mortars**5.2.1 General**

Different fields of use and exposure conditions require mortars with different properties and performance levels. For this purpose, compressive strength, water absorption and thermal conductivity shall be classified according to Table 1. The properties relevant to the intended use and/or type of product shall be declared according to Table 2. The declared values and/or classes shall meet the requirements specified in Table 2.

When relevant for the use for which the rendering/plastering mortar is placed on the market, additional properties to those specified in Table 2 may be declared for each type of mortar where a dash indicates 'no requirement'.

The declaration for reaction to fire and durability of mortars shall be made in accordance with the following provisions:

5.2.2 Reaction to fire

Rendering/plastering mortars containing a mass or volume fraction of $\leq 1,0$ % (whichever is the most onerous) of homogeneously distributed organic materials are classified as reaction to fire Class A1 without the need to test.

Rendering/plastering mortars containing a mass or volume fraction of $> 1,0$ % (whichever is the most onerous) of homogeneously distributed organic materials shall be classified in accordance with EN 13501-1 and the appropriate reaction to fire class declared.

NOTE Attention is drawn to the Commission Decision 96/603/EC, as amended, in which non-combustible mortar containing not more than a mass or volume fraction of 1,0 % (whichever is the more onerous) of homogeneously distributed organic materials are classified as reaction to fire Class A1 without testing.

5.2.3 Durability

5.2.3.1 One-coat rendering mortar

The durability against freeze/thaw of one-coat rendering mortar shall be assessed by testing adhesion and water permeability after weathering cycles (see Table 2, L4 and L7).

5.2.3.2 All rendering mortars except one-coat

Until a European method of test is available, the freeze-thaw resistance shall be evaluated and declared to the provisions valid in the intended place of use of the mortar.