SLOVENSKI STANDARD
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Specifikacije za zunanje in notranje omete na osnovi organskih veziv

Specifications for external renders and internal plasters based on organic binders

Festlegungen für Außen- und Innenputze mit organischen Bindemitteln

Spécifications pour enduits de maçonnerie organiques extérieurs et intérieurs

Ta slovenski standard je istoveten z: EN 15824:2017

ICS:

91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar

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English Version

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Spécifications pour enduits de maçonnerie organiques extérieurs et intérieurs

Festlegungen für Außen- und Innenputze mit organischen Bindemitteln

This European Standard was approved by CEN on 9 April 2016.

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-CENELEC 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-CENELEC 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

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European foreword

This document (EN 15824:2017) has been prepared by Technical Committee CEN/TC 125 “Masonry”, the secretariat of which is held by BSI.

This document supersedes EN 15824:2009.

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of an identical text or by endorsement, at the latest by December 2017, and conflicting national standards shall be withdrawn at the latest by March 2019.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic requirements for construction works of the EU Construction Products Regulation (Regulation (EU) No 305/2011.

For relationship with EC Regulation, see informative Annex ZA, which is an integral part of this document.

The most significant changes compared to the previous edition include:

a) implementation of new regulatory (CPR) terminology where relevant;

b) revised text in 4.6 Thermal conductivity (deriving from EN 998-2);

c) revised clauses on Assessment and verification of constancy of performance (AVCP);

d) new annex with indicative frequencies on testing for factory production control (informative);

e) revised Annex ZA (informative);

f) some minor editorial changes.

No changes to existing technical classes and/or threshold levels have been made.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The characteristics of external renders and internal plasters based on organic binders are primarily determined by the type or types of binders used and their respective proportions.

Organic renders and plasters can be defined according to:

— the chemical and physical nature of the main active binder(s) and its state of dissolution, dispersion, or powder, which is decisive for the final characteristics of the surface covering with one or several coats;

— the finishes determined by the aggregate distribution and application technique;

— the characteristics and/or type of use.

Renders and plasters do not attain their final characteristics until properly dried and hardened after application. The functions performed by renders and plasters depend on the characteristics of the type of raw materials used, on the thickness of the coats and the type of application.

The manufacturer designates the appropriate characteristics for end use and appearance and should give information about the use of the renders or plasters and the relevant conditions of use.

1 Scope

This European Standard is applicable to factory-made renders and plasters based on organic binders used for external or internal covering on walls, columns, partitions and ceilings. The products are manufactured in paste form, ready to use, or in powder form. This European Standard is also applicable to renders and plasters with inorganic binders such as silicates, silanes, siloxanes and silicones.

Renders and plasters can form the final surface of the structure, textured or not, or they can provide a levelling of the substrate, adequately smooth for subsequent decorative treatments.

This European Standard contains definitions and final performance requirements. It includes relevant characteristic categories to designate renders and plasters.

This European Standard provides for the assessment and verification of constancy of performance (AVCP) of the product to this European Standard. The marking requirement for products covered by this European Standard is included.

This European Standard is not applicable to coating materials and coating systems according to EN 1062-1 and EN 13300.

This European Standard does not contain recommendations for the design and application of renders and plasters. However, this European Standard may be used for definition of renders and plasters in conjunction with codes of application and national specifications for execution of works.

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

EN 1062-3, *Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 3: Determination of liquid water permeability*

EN 1542, *Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off*

EN 1745:2012, *Masonry and masonry products - Methods for determining thermal properties*

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

EN 13687-3, *Products and systems for the protection and repair of concrete structures - Test methods - Determination of thermal compatibility - Part 3: Thermal cycling without de-icing salt impact*

EN 13820, *Thermal insulating materials for building applications - Determination of organic content*

EN ISO 7783, *Paints and varnishes - Determination of water-vapour transmission properties - Cup method (ISO 7783)*

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes - Sampling (ISO 15528)*

3 Terms and definitions

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

3.1
render and plaster
product in paste or powder form, consisting of a mix of one or more organic binders, aggregates, additives/additions, with water or solvent used for external rendering or internal plastering

Note 1 to entry: Render or plaster may be the product delivered by the manufacturer or the applied material on site.

3.2
declared value
value that a manufacturer is confident in achieving, taking into account the precision of test method, the variability of the production process(es) and the product performance

3.3
substrate
surface to which the plaster or render is applied or is to be applied

Note 1 to entry: Examples are coated or uncoated masonry, concrete, gypsum elements, gypsum or cementitious boards for walls, columns, partitions and ceilings.

3.4
product-type
set of representative performance levels or classes of a construction product, in relation to its essential characteristics, produced using a given combination of raw materials or other elements in a specific production process

Note 1 to entry: The definition is taken from Regulation (EU) No. 305/2011

4 Product characteristics

4.1 General

The requirements on characteristics for dried and hardened renders and plasters shall be defined using the test methods and procedures referred to in this European Standard. For these tests, renders and plasters in paste form shall be sampled in accordance with EN ISO 15528 and renders and plasters in powder form in accordance with EN 1015-2.

NOTE The characteristics of renders and plasters are specified under laboratory conditions and cannot always be directly compared with the characteristics obtained under site conditions.

In all tests the layer thickness recommended in the manufacturer's instructions shall be used.

4.2 Water vapour permeability

Water vapour permeability shall be determined for external renders by measuring the water vapour transmission rate in accordance with EN ISO 7783 and shall be categorized in accordance with the values given in Table 1.

Table 1 — Categories for water vapour transmission rate (*V*)

Category		Requirement	
		Water vapour transmission rate *V* g/(m² · d)	**Diffusion equivalent to the air layer thickness s_d** m [a]
V_1	High	> 150	< 0,14
V_2	Medium	≤ 150 > 15	≥ 0,14 < 1,4
V_3	Low	≤ 15	≥ 1,4
[a] Values of diffusion equivalent to the air layer thickness (s_d) in accordance with EN ISO 7783.			

4.3 Water absorption

Liquid water permeability shall be determined for external renders by measuring the liquid water permeability in accordance with EN 1062-3 and shall be categorized in accordance with the values given in Table 2.

Table 2 — Categories for liquid water permeability (*W*)

Category		Requirement *w* kg/(m² · h^{0,5})
W_1	High	> 0,5
W_2	Medium	≤ 0,5 > 0,1
W_3	Low	≤ 0,1

4.4 Adhesion

Adhesion of the system shall be declared and shall be determined in accordance with EN 1542 after drying, hardening and conditioning for 28 d at (23 ± 2) °C and (50 ± 10) % relative humidity.

All measured values shall be not less than 0,3 MPa.

4.5 Durability

If the liquid water permeability of an external render assessed according to 4.3 is $w > 0,5$ kg/(m² · h^{0,5}) the durability against freeze-thaw shall be tested according to EN 13687-3 and the adhesion after freeze-thaw cycles shall be declared. All measured values after freeze-thaw cycles shall not be less than 0,3 MPa.

4.6 Thermal conductivity

For renders and plasters intended to be used in elements subject to thermal requirements the manufacturer shall give the mean $\lambda_{10,dry,mat}$ -value for the thermal conductivity of the renders and plasters by reference to EN 1745:2012, Table A.12. Especially for lightweight renders and plasters, measured values according to EN 1745:2012, 4.2.2 may alternatively be declared. The manufacturer shall declare the basis for his declaration. In addition, another fractile may be used. If so, the used fractile shall be provided together with the additional provided $\lambda_{10,dry,mat}$ –value.

When the renders and plasters are tested in accordance with EN 1745 the thermal conductivity shall be not greater than the declared value.

4.7 Reaction to fire

Renders and plasters containing a mass or volume fraction determined according to EN 13820 of ≤ 1,0 % of homogeneously distributed organic materials are classified as reaction to fire Class A1 without the need to test.

NOTE See Commission Decision 96/603/EC for classification A1 as amended by the Commission Decision 2003/424/EC of 6 June 2003.

Renders and plasters containing a mass fraction determined according to EN 13820 of > 1,0 % of homogeneously distributed organic materials shall be tested, using the test method(s) relevant for the corresponding reaction to fire class, in order to be classified according to EN 13501-1.

4.8 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets.

In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Growth web site on EUROPA accessed through:

http://ec.europa.eu/growth/tools-databases/cp-ds/index_en.htm

4.9 Summary of specifications

Table 3 — Specifications on renders and plasters based on organic binders

	Characteristic	Test method	Requirements
4.2	Water vapour permeability (for renders)	EN ISO 7783	Declared *V* category
4.3	Water absorption (for renders)	EN 1062-3	Declared *W* category
4.4	Adhesion (for renders and plasters)	EN 1542	≥ 0,3 MPa
4.5	Durability (only for renders if w > 0,5 kg/($m^2 \cdot h^{0,5}$))	EN 13687-3	≥ 0,3 MPa
4.6	Thermal conductivity (for use in elements subject to thermal requirements)	EN 1745	Declared value *λ*
4.7	Reaction to fire (for renders and plasters)	EN 13501-1	Euroclass A.1 to F
4.8	Dangerous substances	National provision in place of use of the mortar	National provision