



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

Spezifikationen für Innen- und Außenputze mit organischen Bindemitteln

Spécifications pour enduits de maçonnerie organiques extérieurs et intérieurs

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Mortar

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Specifications for external renders and internal plasters based on organic binders

Spécifications pour enduits de maçonnerie organiques
extérieurs et intérieurs

Spezifikationen für Innen- und Außenputze mit organischen
Bindemitteln

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 125.

If this draft becomes a European Standard, 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.

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Foreword

This document (prEN 15824:2008) has been prepared by Technical Committee CEN/TC 125 "Masonry", the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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

The CEN Enquiry on this Work Item was submitted as prEN 998-3:2006 but as a result of the discussion of the comments, the title of the draft was changed. As a result of this change the identifier of the Final Draft is changed too.

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Introduction

The properties 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 properties and/or type of use.

They are factory-made products produced in paste form, ready to use or in powder form.

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 properties of the type of raw materials used, on the thickness of the coats and the type of application. In addition, renders and plasters determine the final surface of the construction before eventually receiving a finish if required.

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

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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. This European Standard is also applicable to renders and plasters with inorganic binders such as silicates, silanes, siloxanes and silicones.

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

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

EN 13300, *Paints and varnishes — Water-borne coating materials and coating systems for interior walls and ceilings - Classification*

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 7783-2, *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Part 2: Determination and classification of water-vapour transmission rate (permeability) (ISO 7783-2:1999)*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling (ISO 15528:2000)*

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 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, bearing in mind the precision of test and variability of a process

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

NOTE Examples are coated or uncoated masonry, concrete, gypsum elements, gypsum or cementitious boards for walls, columns, partitions and ceilings.

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4 Requirements

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 characteristic values 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 manufacturers 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 7783-2 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/(m ² · d)	Diffusion equivalent to the air layer thickness s_d m ^a
V_1	High	> 150	< 0,14
V_2	Medium	≤ 150	≥ 0,14
		> 15	< 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 7783-2.

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/(m ² · h ^{0,5})
W_1	High	> 0,5
W_2	Medium	≤ 0,5
		> 0,1
W_3	Low	≤ 0,1

prEN 15824:2008 (E)**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 days at $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 10) \%$ relative humidity.

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

4.5 Durability

The durability against freeze-thaw for external renders shall be declared. It shall only be assessed according to EN 13687-3 if the liquid water permeability of a render is $w > 0,5 \text{ kg}/(\text{m}^2 \cdot \text{d}^{0,5})$. All measured values shall be not less than 0,3 MPa.

4.6 Thermal conductivity

The thermal conductivity shall be declared on the basis of Table A.12 in EN 1745:2002 for renders and plasters intended to be used in elements subject to thermal requirements. Tabulated values depending on the density are given in Table A.12 of EN 1745:2002

4.7 Reaction to fire

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

NOTE 1 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.

NOTE 2 Otherwise as demonstrated by the test method, experience has shown that renders and plasters applied in quantities $< 3,5 \text{ kg}/\text{m}^2$ could be considered as Class C.