

English Version

Gypsum binders and gypsum plasters - Part 1: Definitions and requirements

Liants-plâtres et enduits à base de plâtre - Partie 1 :
Définitions et exigences

Gipsbinder und Gips-Trockenmörtel - Teil 1: Begriffe
und Anforderungen

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European foreword

This document (prEN 13279-1:2017) has been prepared by Technical Committee CEN/TC 241 “Gypsum and gypsum based products”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13279-1:2008.

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 Regulation (EU) No. 305/2011.

For relationship with Regulation (EU) No. 305/2011, see informative Annex ZA, which is an integral part of this document.

The main technical changes that have been made in this new edition of EN 13279-1 are the following:

- a) Introduction and Figure 1 deleted;
- b) normative references updated;
- c) Clause 6 and Annex ZA updated in line with the CPR;
- d) deletion of fineness in Table 4;
- e) designation of gypsum binders and gypsum plasters.

This European Standard on gypsum binders and gypsum plasters consists of two parts:

- *Part 1: Definitions and requirements;*
- *Part 2: Test methods.*

1 Scope

This European Standard specifies the characteristics and performance of powder products based on gypsum binder for building purposes. This includes premixed gypsum building plasters for plastering of walls and ceilings inside buildings where they are applied as a finishing material which can be decorated. These products are specially formulated to meet their application requirements by the use of additives/admixtures, aggregates and other binders. Gypsum and gypsum based building plasters for manual and mechanical applications are included.

This European Standard also applies to gypsum binders both for direct use on site and for further processing into gypsum blocks, gypsum plasterboards, gypsum boards with fibrous reinforcement, gypsum fibrous plasterwork and gypsum ceiling elements. Gypsum mortar for internal not load bearing partitions not exposed to water is also included.

Calcium sulfate used as binder for floor screeds is not covered by this European Standard.

This European Standard defines the reference tests for technical characteristics and provides for the evaluation of conformity of the products covered by this European Standard.

Building lime, as calcium hydroxide, can be used as an additional binder together with gypsum binder. If gypsum binder is the principle active binding component in a plaster then this plaster is covered by this European Standard. If building lime is the principle active binding component in a plaster then the plaster is covered by EN 998-1.

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 12664:2001, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Dry and moist products of medium and low thermal resistance*

EN 13279-2:2014, *Gypsum binders and gypsum plasters — Part 2: Test methods*

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13501-2:2016, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN ISO 354:2003, *Acoustics — Measurement of sound absorption in a reverberation room (ISO 354:2003)*

EN ISO 717-1:2013, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:2013)*

prEN ISO 6946:2015, *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method (ISO/DIS 6946:2015)*

EN ISO 10140-3:2010, *Acoustics — Laboratory measurement of sound insulation of building elements — Part 3: Measurement of impact sound insulation (ISO 10140-3:2010)*

EN ISO 10456:2007, *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values (ISO 10456:2007)*

3 Terms and definitions

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

3.1

gypsum binder

binder consisting of calcium sulfate in its various hydration phases

EXAMPLE Hemihydrate ($\text{CaSO}_4 \cdot 0,5 \text{ H}_2\text{O}$) and anhydrite (CaSO_4).

Note 1 to entry: Gypsum binder can be obtained by calcination of calcium sulfate dihydrate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$).

Note 2 to entry: When mixed with water, gypsum binder is used to hold solid particles together in a coherent mass by a setting process.

3.2

gypsum plaster (premixed gypsum building plaster)

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

3.3

gypsum building plaster

gypsum plaster consisting of at least 50 % calcium sulfate as the principle active binding component and not more than 5 % lime (calcium hydroxide)

Note 1 to entry: Additives and aggregates can be added by the manufacturer.

3.4

gypsum based building plaster

gypsum plaster consisting of less than 50 % calcium sulfate as the principle active binding component and not more than 5 % lime (calcium hydroxide)

Note 1 to entry: Additives and aggregates can be added by the manufacturer.

3.5

gypsum-lime plaster

gypsum building plaster according to 3.3 or gypsum based building plaster according to 3.4 with more than 5 % building lime (calcium hydroxide)

Note 1 to entry: Additives and aggregates can be added by the manufacturer.

3.6

lightweight gypsum building plaster

gypsum plasters in accordance with gypsum building plaster, gypsum based building plaster and gypsum-lime plaster that incorporate either lightweight inorganic aggregates, such as expanded perlite or vermiculite, or lightweight organic aggregates

Note 1 to entry: Additives and aggregates can be added by the manufacturer.

3.7

gypsum building plaster with enhanced surface hardness

gypsum plaster specially formulated to satisfy requirements for plasterwork with enhanced surface hardness

3.8

gypsum plaster for fibrous plasterwork

specialty manufactured plaster for production and assembly of fibrous gypsum casts

3.9

gypsum mortar

specialty formulated plaster used for production of gypsum mortar to assemble bricks for non-load bearing walls and partitions not exposed to water

3.10

gypsum acoustic plaster

specialty manufactured plaster for sound absorption purposes

3.11

gypsum thermal insulation plaster

specialty manufactured plaster for thermal insulation purposes

3.12

gypsum fire protection plaster

specialty manufactured plaster for fire exposed situations

3.13

gypsum thin coat plaster

specialty manufactured plaster usually applied to thicknesses of 3 mm to 6 mm

3.14

additives and admixtures

materials (not aggregates or binders), such as fillers, fibres, pigments, building lime (< 5 %), retarders, air entraining, water retaining and plasticizing agents added to gypsum plaster to improve its properties or to achieve particular properties

3.15

aggregates

natural, synthetic or recycled materials suitable for use in buildings, e. g. lightweight aggregates such as perlite or vermiculite or aggregates such as siliceous sand or calcareous crushed stone sand

3.16

lightweight aggregates

aggregates with a bulk density lower than 800 kg/m³

3.17

manual gypsum plaster

gypsum plaster formulated for manual application, batch mixed with water and applied manually to the background

3.18

projection gypsum plaster

gypsum plaster formulated for mechanical application, mixed with water to the required consistency and applied by projection machine to the background

3.19

one coat plaster system

gypsum plaster applied in one coat which fulfils all the functions of an undercoat and a final coat