



**SLOVENSKI STANDARD**  
**SIST EN 13915:2007**  
**01-december-2007**

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Prefabricated gypsum plasterboard panels with a cellular paperboard core - Definitions, requirements and test methods

Gipsplatten-Wandbaufertigtafeln mit einem Kartonwabenkern - Begriffe, Anforderungen und Prüfverfahren

**ITeh STANDARD PREVIEW**

Panneaux de cloison préfabriqués (en plaques de plâtre à âme cellulaire en carton - Définitions, prescriptions et méthodes d'essai)

[SIST EN 13915:2007](https://standards.iteh.ai/catalog/standards/sist/3e3975c7-c14d-447e-b360-069846c722e1/sist-en-13915-2007)

**Ta slovenski standard je istoveten z: EN 13915:2007**

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**ICS:**

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

**SIST EN 13915:2007**

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ICS 91.100.10

English Version

## Prefabricated gypsum plasterboard panels with a cellular paperboard core - Definitions, requirements and test methods

Panneaux de cloison préfabriqués en plaques de plâtre à âme cellulaire en carton - Définitions, prescriptions et méthodes d'essai

Gipsplatten-Wandbaufertigtafeln mit einem Kartonwabenkern - Begriffe, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 9 August 2007.

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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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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 United Kingdom.

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

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## Foreword

This document (EN 13915:2007) has been prepared by Technical Committee CEN/TC 241 "Gypsum and gypsum based products", the secretariat of which is held by AFNOR.

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 2008, and conflicting national standards shall be withdrawn at the latest by June 2009.

This European standard includes:

- informative Annex A concerning sampling procedure for testing;
- normative Annex B concerning SBI mounting and fixing for prefabricated panels made of plasterboard facings and a cellular paperboard core.

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.

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, 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.

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## Introduction

Figure 1 and Figure 2 show the relationship between this standard and the package of standards prepared to support the families of gypsum and ancillary products.

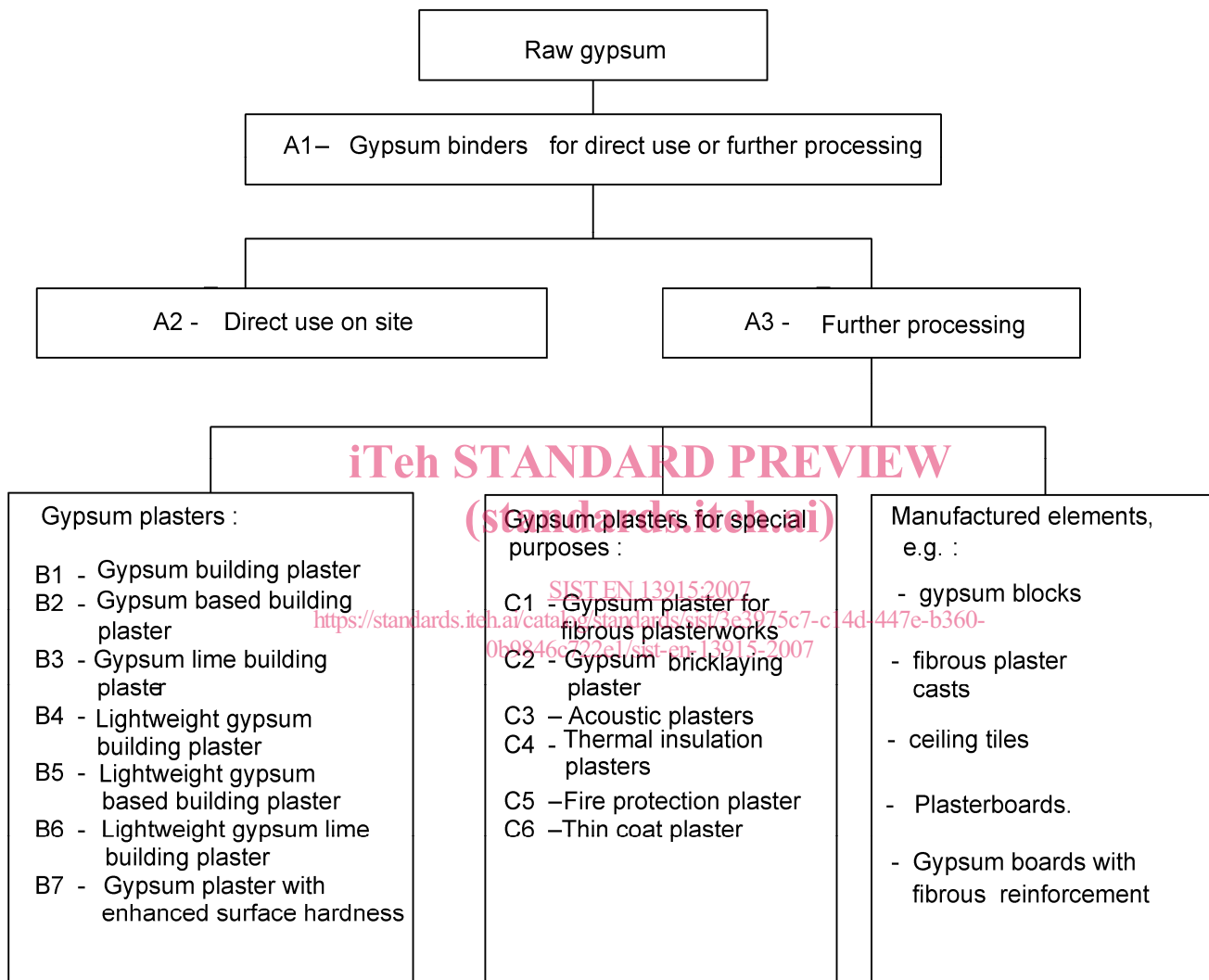
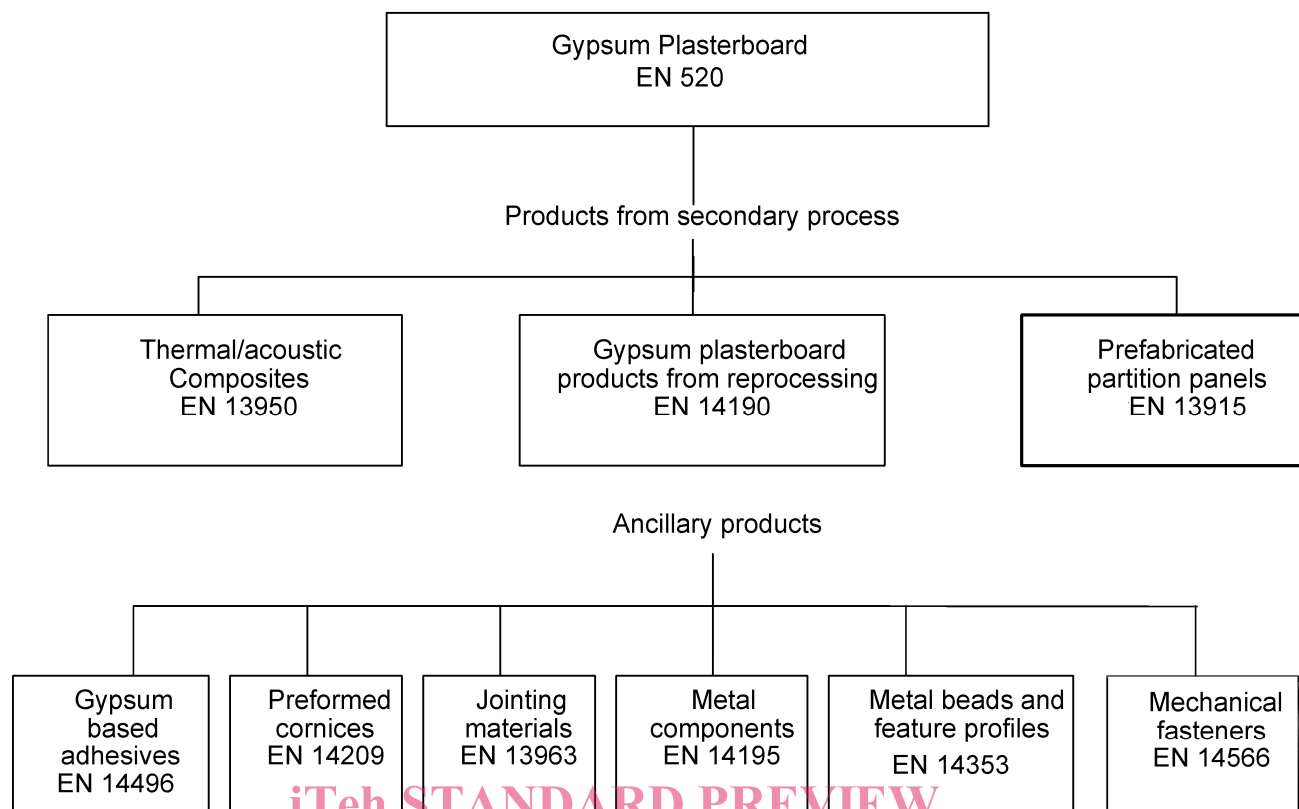


Figure 1 — Family of gypsum products



**Figure 2 — Family of ancillary products**

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## 1 Scope

This European Standard specifies the characteristics and performance of prefabricated panels made of gypsum plasterboard facings complying with EN 520 and a cellular paperboard core intended to be used as a lightweight partition, lining and encasement for general use in buildings.

This standard covers the following characteristics: reaction to fire, water vapour permeability, flexural strength (breaking load) and thermal resistance to be measured according to the corresponding European test methods.

This Standard covers only prefabricated panels installed so that the core is not exposed.

The following performance characteristics are linked to systems assembled with prefabricated panels made of gypsum plasterboard facings and a cellular paperboard core: shear strength, fire resistance, direct airborne sound insulation, acoustic absorption and air permeability to be measured according to the corresponding European test methods. If required, tests should be done on assembled systems simulating the end use conditions.

This document covers also additional technical characteristics that are of importance for the use and acceptance of the product by the Building Industry.

It provides for the evaluation of conformity of the products to this document.

## 2 Normative references

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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. [SIST EN 13915:2007](https://standards.iteh.ai/catalog/standards/sist/3e3975c7-c14d-447e-b360-1b9f6672710a/en-13915-2007)

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EN 520, *Gypsum plasterboards — Definitions, requirements and test methods*

EN 12524, *Building materials and products — Hygrothermal properties — Tabulated design values*

EN 12664, *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 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

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

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 13963, *Jointing materials for gypsum plasterboards — Definitions, requirements and test methods*

EN ISO 140-3, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements (ISO 140-3:1995)*

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

EN ISO 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:1996)*

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



EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

EN ISO 12572, *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties (ISO 12572:2001)*

ISO 7892, *Vertical building elements — Impact resistance tests — Impact bodies and general test procedures.*

### 3 Terms and definitions

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

#### 3.1

##### **prefabricated gypsum plasterboard panel**

panel that is made up of two gypsum plasterboards according to EN 520, possibly up to 15 mm thick, bonded to both sides of a cellular paperboard core

NOTE It is commonly named "panel" in this standard.

#### 3.2

##### **panel facing**

exposed surface of plasterboard to receive either coating or finishing

#### 3.3

##### **length**

dimension of the panel parallel to the paper covered edges, measured on the panel facing

#### 3.4

##### **width**

dimension of the panel perpendicular to the paper covered edges, measured on the panel facing

#### 3.5

##### **thickness**

distance between the panel facings

### 4 Requirements

#### 4.1 Fire behaviour

##### 4.1.1 Reaction to fire

When subject to regulatory requirements, prefabricated gypsum plasterboard panels shall be tested and classified in accordance with EN 13501-1.

Prefabricated gypsum plasterboard panels tested according to EN 13823 (SBI test) shall be mounted and fixed in accordance with Annex B or when the producer wishes to claim performance for a specific intended use, the mounting and fixing shall be representative of that intended use.

Prefabricated gypsum plasterboard panels tested according to EN ISO 11925-2 (Ignitability) shall be tested with surface attack only due to the fact that edge attack cannot occur in end use conditions.

##### 4.1.2 Fire resistance

NOTE Resistance to fire is a characteristic dependent on an assembled system and not of the product in isolation.

When required, the fire resistance of a system including prefabricated gypsum plasterboard panels shall be classified according to EN 13501-2.

**4.2 Impact resistance**

NOTE Impact resistance is a characteristic dependent on an assembled system and not of the product in isolation.

When the manufacturer wishes to declare the impact resistance performance of a system that includes prefabricated gypsum plasterboard panels, the performance of the system shall be determined in accordance with ISO 7892.

**4.3 Water vapour permeability (expressed as water vapour resistance factor)**

Water vapour permeability is not a characteristic of heterogeneous products like panels therefore water vapour resistance is used instead.

When the manufacturer wishes to declare a performance for moisture diffusion control, tabulated design values of water vapour resistance for gypsum plasterboards given in EN 12524 may be used for calculation.

Alternatively, the water vapour resistance factor shall be determined in accordance with EN ISO 12572.

**4.4 Flexural strength (expressed as deflection under a defined load)**

When determined in accordance with the test method described in 5.4, the deflection shall not exceed the values given in Table 1.

Table 1 — Deflection values

Panel thickness mm	Deflection (max) mm
$50 < e < 60$	37,5
$60 \leq e < 70$	30
$70 \leq e \leq 80$	15

**4.5 Direct airborne sound insulation**

NOTE Direct airborne sound insulation is a characteristic dependent on the assembled system and not of the product in isolation.

When the manufacturer wishes to declare the performance for the direct airborne sound insulation of an installed system including prefabricated gypsum plasterboard panels, the performance of the system shall be determined according to EN ISO 140-3 or EN ISO 717-1 as appropriate.

**4.6 Acoustic absorption**

NOTE Acoustic absorption is a characteristic dependent on an assembled system and not of the product in isolation.

When the manufacturer wishes to declare the performance of prefabricated gypsum plasterboard panels to be used for acoustic conditioning, the performance of acoustic absorption shall be determined according to EN ISO 354.

**4.7 Thermal resistance (expressed as thermal conductivity)**

When the manufacturer wishes to claim the intended use of panels is to contribute to thermal resistance in building construction works (walls, partitions, etc.), he/she shall use for calculation, the design values of thermal resistance for gypsum plasterboards given in EN 12524 or the thermal conductivity shall be determined according to EN 12664.

## 4.8 Dimensions and tolerances

The usual dimensions of panels are:

- **widths:** 1 200 mm, 900 mm and 600 mm:

When determined by the method described in clause 5.2.1 the tolerance on each panel shall be:  $\begin{cases} 0 \\ -5 \text{ mm} \end{cases}$ .

- **lengths:** Up to 3 600 mm:

When determined by the method described in clause 5.2.2 the tolerance on each panel shall be:  $\begin{cases} 0 \\ -5 \text{ mm} \end{cases}$ .

- **thicknesses:** panels are normally available in thicknesses of 46 mm to 80 mm:

NOTE Preferred thicknesses are 46 mm, 50 mm, 57 mm, 60 mm, 63 mm and 72 mm.

When determined by the method described in 5.2.3 the tolerance for specified thickness on each panel shall be:  $\pm 1$  mm.

## 4.9 Alignment

When determined by the method described in 5.3 the measured deviation from one gypsum plasterboard facing the other shall not exceed: (standards.iteh.ai)

- 5 mm on the length; [SIST EN 13915:2007](https://standards.iteh.ai/catalog/standards/sist/3e3975c7-c14d-447e-b360-0b9846c722e1/sist-en-13915-2007)
- 3 mm across the width. <https://standards.iteh.ai/catalog/standards/sist/3e3975c7-c14d-447e-b360-0b9846c722e1/sist-en-13915-2007>

## 4.10 Core adhesion

When determined by the test method described in 5.5, the adhesion shall meet the following values:

- average value higher than 0,01 MPa;
- individual values higher than  $6 \times 10^{-3}$  MPa.

## 4.11 Release of dangerous substance

Materials used in products shall not release any dangerous substances in excess of the maximum permitted levels specified in a relevant European Standard for the material or permitted in the national regulations of the member state of destination.

## 5 Test methods

### 5.1 Sampling

Testing shall require three panels of each thickness. Whole panels are used for 5.2 and 5.3.. For testing flexural strength (5.4) specimens shall be cut out from three different panels, for testing core adhesion (5.5) three specimens shall be cut out from one single panel.

## 5.2 Dimensional measurements

### 5.2.1 Width

#### 5.2.1.1 Principle

The distance between the extremities of the shorter linear dimension of the panel facing shall be measured.

#### 5.2.1.2 Apparatus

A metal rule or a metal tape permitting readings to 1 mm.

#### 5.2.1.3 Procedure

Take two measurements to the nearest 1 mm on each facing of each panel (see Figure 3 a)).

#### 5.2.1.4 Expression of results

The width of each panel is determined by the average of the four measurements expressed in millimetres.

### 5.2.2 Length

#### 5.2.2.1 Principle

The distance between the ends of the longer linear dimension of the panel facing shall be measured on each face.

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#### 5.2.2.2 Apparatus

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A metal rule or a metal tape permitting readings to 1 mm.

#### 5.2.2.3 Procedure

Take two measurements to the nearest 1 mm on each facing of each panel (see Figure 3 b)).

#### 5.2.2.4 Expression of results

The length of each panel is determined by the average of the four measurements expressed in millimetres.

### 5.2.3 Thickness

#### 5.2.3.1 Principle

The distance between the two faces of the panel shall be measured.

#### 5.2.3.2 Apparatus

A calliper with an anvil diameter not less than 10 mm, permitting readings to 0,1 mm.

#### 5.2.3.3 Procedure

Take six measurements to the nearest 0,1 mm across one end equally spaced across the width and not less than 25 mm from an end or 100 mm from an edge (see Figure 3 c)) for each panel.