



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 520:2004

**Gypsum plasterboards - Definitions,
requirements and test methods**

Gipsplatten - Begriffe, Anforderungen
und Prüfverfahren

Plaques de plâtre - Définitions,
spécifications et méthodes d'essai

11/2004



National Foreword

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English version

Gypsum plasterboards - Definitions, requirements and test methods

Plaques de plâtre - Définitions, exigences et méthodes
d'essai

Gipsplatten - Begriffe, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 16 August 2004.

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Contents

	page
Foreword.....	3
Introduction	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Requirements	11
5 Test methods.....	16
6 Evaluation of conformity.....	33
7 Designation of plasterboards	35
8 Marking, labelling and packaging	36
Annex A (informative) Sampling procedure for testing.....	37
A.1 General.....	37
A.2 Sampling procedure	37
A.2.1 Random sampling	37
A.2.2 Representative sampling	37
Annex B (normative) Conditions for reaction to fire classification of gypsum plasterboards without further testing.....	39
B.0 Introduction	39
B.1 End use application	39
B.1.1 General.....	39
B.1.2 Mechanically fixed to a supporting sub-structure	39
B.1.3 Directly fixed or bonded to a solid substrate (dry lining system)	40
Annex C (normative) Mounting and fixing in the test according to EN 13823 (SBI test)	41
C.0 Introduction	41
C.1 General applications	41
C.2 Limited applications regarding joint filling	43
C.3 Limited applications regarding wood based substrates	44
Annex ZA (informative) Clauses of this European Standard addressing provisions of EU Construction Products Directive.....	45
ZA.1 Scope and relevant characteristics	45
ZA.2 Attestation and declaration of conformity of gypsum plasterboards	46
ZA.3 CE marking and labeling	50
Bibliography	53

Foreword

This document (EN 520:2004) 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of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by August 2006.

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 EU Directive(s).

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Gypsum plasterboards are composed of a plaster core encased in, and firmly bonded to paper liners to form flat rectangular boards. This composition allows them properties which make gypsum plasterboards particularly suitable for use in situation where fire protection, sound and thermal insulation are required.

Gypsum plasterboards may be fixed by various methods e.g. nailing, screwing or sticking with gypsum based or other adhesives. They may also be inserted in a suspended ceiling system.

Gypsum plasterboards are selected for use according to their type, size, thickness and edge profile. The boards may be used for example to provide dry lining finishes to walls, to fixed and suspended ceilings, to partitions, or as cladding to structural columns and beams. Other uses may be for flooring and sheathing application.

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

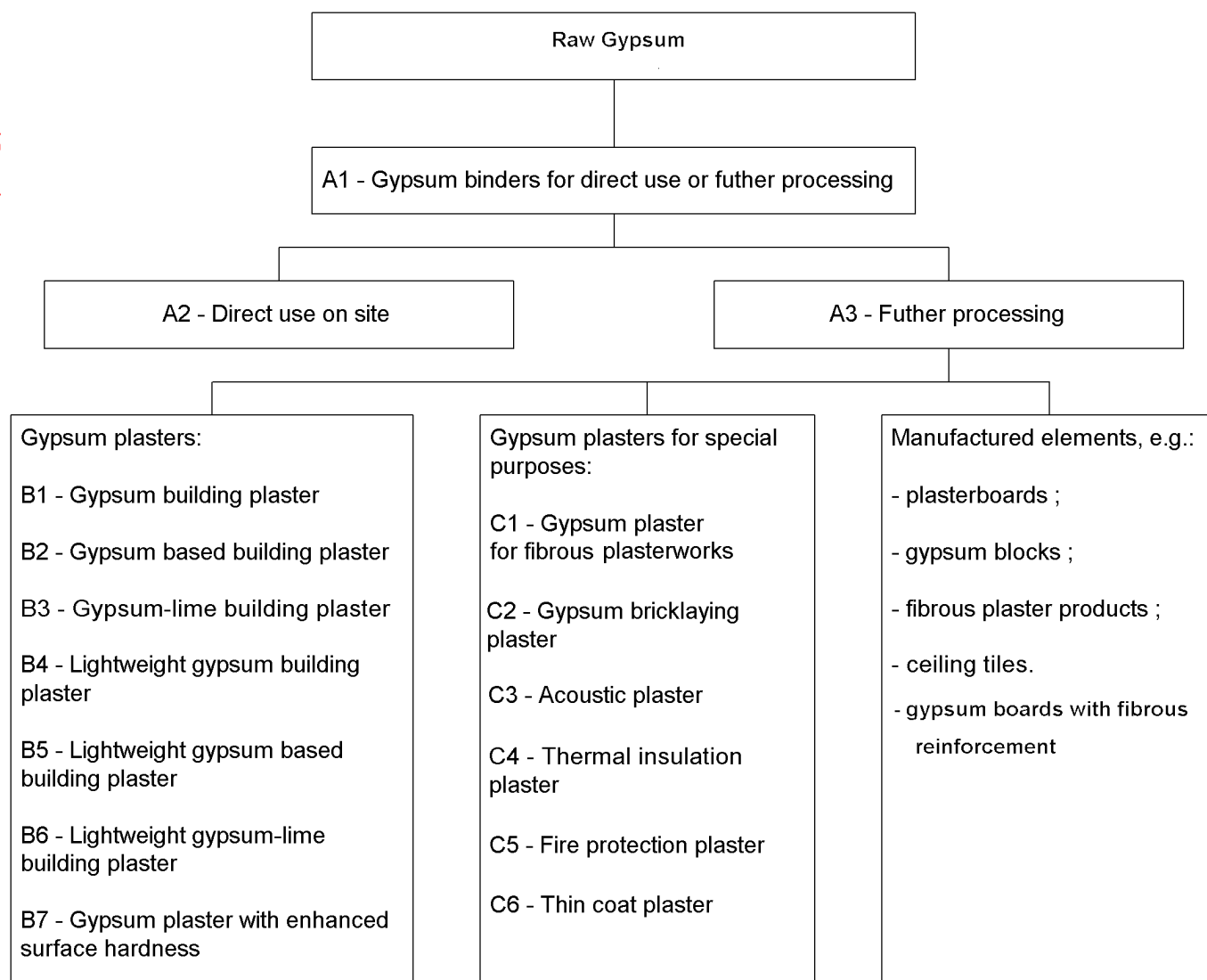


Diagram 1 — Family of gypsum products

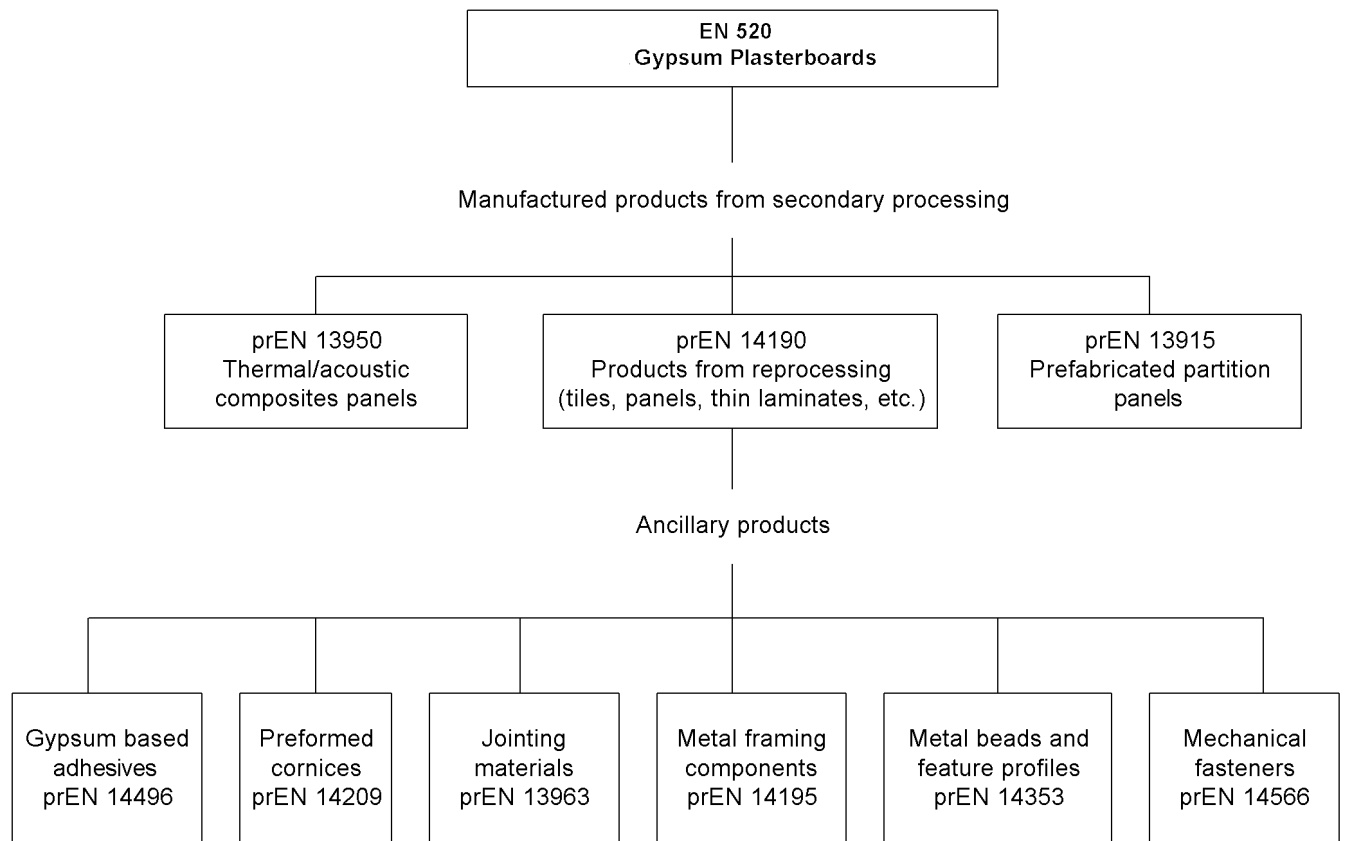


Diagram 2 — Family of ancillary products

1 Scope

This document specifies the characteristics and performance of gypsum plasterboards intended to be used in building construction works including those intended for secondary manufacturing operations. It includes boards designed to receive either direct surface decoration or gypsum plaster.

This document covers the following product performance characteristics: reaction to fire, water vapour permeability, flexural strength (breaking load), impact resistance and thermal resistance.

The following performance characteristics are linked to systems assembled with plasterboards: shear strength, fire resistance, impact resistance direct airborne sound insulation and acoustic absorption 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 Construction Industry and the reference tests for these characteristics.

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

This document does not cover plasterboards, which have been subject to any secondary manufacturing operations (e.g. insulating composite panels, plasterboards with thin lamination, etc.).

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 336, *Structural timber — Sizes, permitted deviations*

EN 338, *Structural timber — Strength classes*

EN 1995-1-1, *Eurocode 5 — Design of timber structures*

EN 12114, *Thermal performance of buildings — Air permeability of building components and building elements — Laboratory test method*

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 test 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*

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

EN 14195, *Metal framing components for gypsum plasterboard systems — Definitions, requirements and test methods*

prEN 14566, *Mechanical fasteners for gypsum plasterboard systems — 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 536, *Paper and board — Determination of grammage (ISO 536:1995).*

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

EN ISO 20535, *Paper and board — Determination of water absorptiveness — Cobb method (ISO 535:1991).*

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 gypsum plasterboard

product composed of a plaster core encased in, and firmly bonded to strong durable paper liner to form a flat rectangular board. The paper surfaces may vary according to the use of the particular type of board and the core may contain additives to impart additional properties. The longitudinal edges are paper-covered and profiled to suit the application

3.1.2

edge

paper-covered longitudinal side

3.1.3

end

side transverse to the edges, showing exposed core

3.1.4

face

surface on which the paper extends continuously to cover the edges

3.1.5

back

surface opposite to the face

3.1.6

width

shortest distance between the edges of the board

3.1.7

nominal width (w)

width stated by the producer

3.1.8

length

shortest distance between the ends of the board