

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

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British Standard

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National foreword

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The UK participation in its preparation was entrusted by Technical Committee B/544, Plastering, rendering, dry lining, to Subcommittee B/544/2, Gypsum based boards and ancillaries, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 31 and a back cover.

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English version

Jointing materials for gypsum plasterboards - Definitions, requirements and test methods

Matériaux de jointoiement pour plaques de plâtre -
Définitions, exigences et méthodes d'essai

Materialien für das Verspachteln von Gipsplatten-Fugen -
Begriffe, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 14 February 2005.

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Contents

	Page
Foreword.....	3
Introduction	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
3.11 Classification of compounds.....	7
4 Requirements	8
4.1 Reaction to fire.....	8
4.2 Flexural strength (expressed as breaking load).....	8
4.3 Regulated substances.....	8
4.4 Setting time	8
4.5 Freedom from cracking	8
4.6 Freedom from coarse particles	9
4.7 Adhesion/cohesion.....	9
4.8 Dimensional stability of paper tape	9
4.9 Breaking strength of paper tape	9
5 Test methods.....	9
5.1 Sampling	9
5.2 Determination of setting time	9
5.3 Determination of freedom from cracking	10
5.4 Determination of freedom from coarse particles	13
5.5 Determination of adhesion/cohesion.....	13
5.6 Determination of dimensional stability of paper jointing tape.....	15
5.7 Determination of breaking strength of paper jointing tape	16
5.8 Determination of flexural strength (breaking load)	17
6 Evaluation of conformity.....	19
6.1 General.....	19
6.2 Type testing.....	19
6.3 Factory production control (FPC)	20
7 Designation of jointing materials	21
8 Marking, labelling and packaging	22
Annex A (informative) Sampling procedure for testing.....	23
Annex B (informative) Guidance on the use of jointing materials	24
Annex C (normative) Mounting and fixing in the test according to EN 13823 (SBI test)	25
Annex ZA (informative) Clauses of this European Standard addressing provisions of EU Construction Products Directive.....	26
Bibliography	31

Foreword

This document (EN 13963:2005) 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 November 2005, and conflicting national standards shall be withdrawn at the latest by February 2007.

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.

No existing European Standard is superseded.

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

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

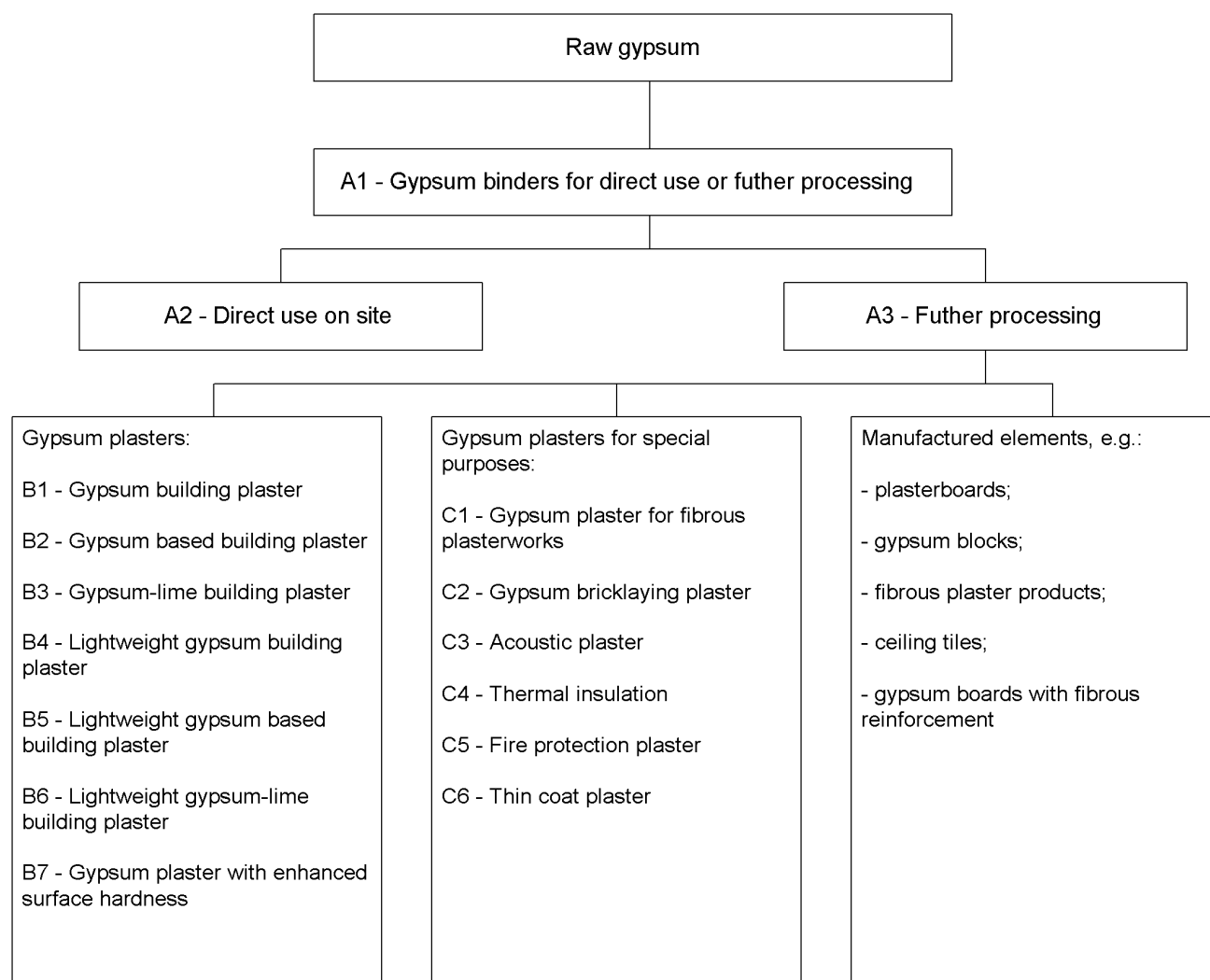


Diagram 1 – General diagram showing families of gypsum products

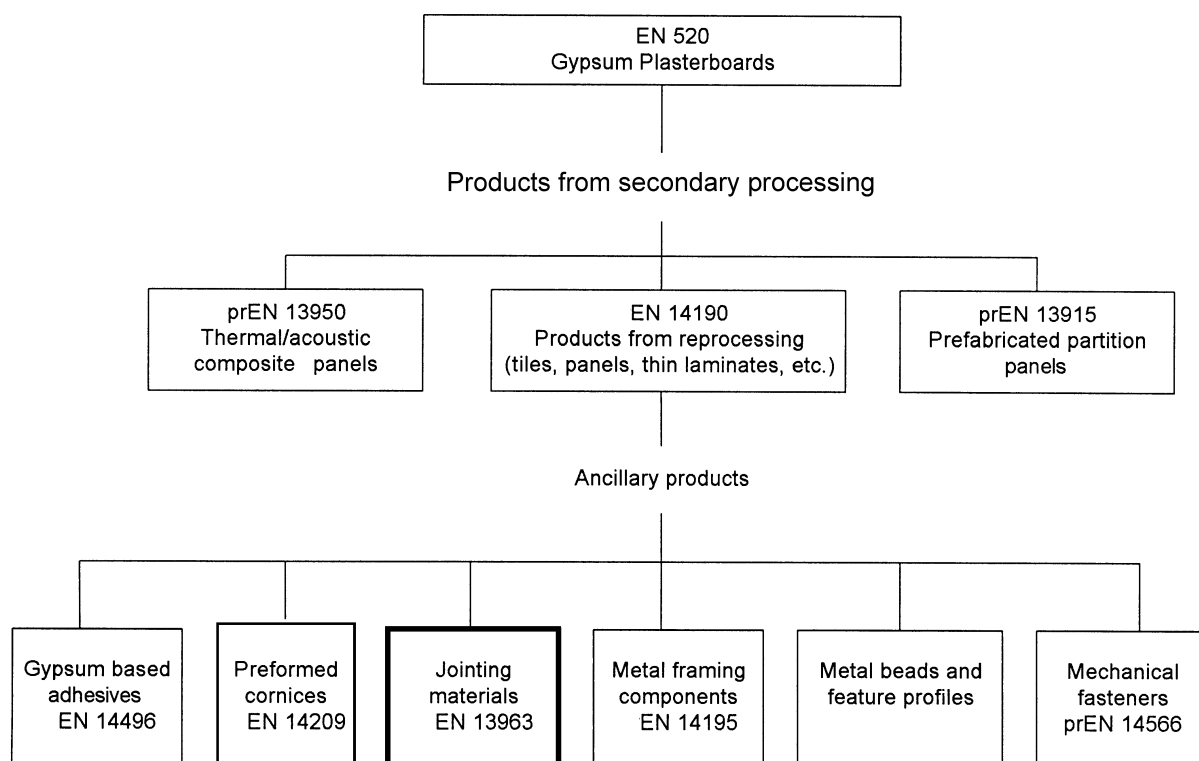


Diagram 2 – Families of ancillary products

The jointing compounds specified in this document are used to fill and finish the joints formed at the edges and ends of gypsum plasterboard complying with EN 520, products from secondary processing of this board and gypsum boards with fibrous reinforcement.

1 Scope

The document specifies the requirements of jointing compounds and paper tapes for use with gypsum plasterboard complying with EN 520, products from secondary processing of this board and gypsum boards with fibrous reinforcement.

This document covers materials applied by hand and by machine. Compounds based on gypsum and other materials are covered. Also specified are the paper tapes which are used in suitable jointing systems.

This document covers the following characteristics: reaction to fire and flexural strength, to be measured according to the corresponding European test methods.

It also covers additional technical characteristics that are of importance for the use and acceptance of the product by the Construction Industry.

It defines the reference test methods for technical specifications.

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

Annex A specifies the sampling procedure for testing.

This document does not cover tapes which are made from materials other than paper.

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 196-3, *Methods of testing cement – Part 3: Determination of setting time and soundness*.

EN 520, *Gypsum plasterboards – Definitions, requirements and test methods*.

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

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

EN ISO 1924-2, *Paper and board - Determination of tensile properties - Part 2: Constant rate of elongation method (ISO 1924-2:1994)*

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

ISO 565, *Test sieves - Metal wire cloth, perforated metal plate and electroformed sheet - Nominal sizes of openings*.

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply:

3.1

bedding compound

jointing compound for application directly to the plasterboard and in which the jointing tape is embedded

3.2**finishing compound**

jointing compound for application over bedding compound in one or more applications and which forms the final finished surface of the joint

3.3**dual-purpose compound**

jointing compound suitable for both bedding and finishing

3.4**tapeless jointing compound**

compound for use without tape for jointing plasterboard with suitable edge profiles

3.5**jointing tape**

strip of paper reinforcing material designed to be embedded in the bedding compound to reinforce the joints. Typically tapes are approximately 50 mm wide

3.6**jointing system**

combination of jointing compound or compounds with or without jointing tape to form a seamless joint between two gypsum plasterboards

3.7**ready-mixed (compound)**

compound supplied in a suitable form so that it can be used without the site addition of water or other materials

3.8**short setting**

compound with a setting time greater than 20 min but less than 60 min

3.9**normal setting**

compound with a setting time of 60 min or greater but less than 180 min

3.10**long setting**

compound with a setting time of 180 min or greater

3.11 Classification of compounds

Compounds specified in this document shall be classified into eight types according to their description and method of hardening all as shown in Table 1.

Compound types 1A, 2A, 3A and 4A harden only by air drying. They are known as air drying compounds.

Compound types 1B, 2B, 3B and 4B harden by chemical reaction and air drying. They are known as setting compounds.

Table 1 - Types of jointing compounds

Description	Principle mechanism of hardening	
	Air drying (powder or ready-mix)	Setting (powder only)
Bedding compound	1A	1B
Finishing compound	2A	2B
Dual-purpose compound	3A	3B
Tapeless jointing compound	4A	4B
NOTE See Annex B for guidance for use.		

4 Requirements

4.1 Reaction to fire

Jointing materials for gypsum plasterboards are classified in Euroclass A1 (no contribution to fire) without testing when they contain less than 1 % by weight or by volume (whichever is the more onerous) of organic materials¹⁾.

If the products contain 1 % or more by weight or by volume (whichever is the more onerous) of organic material, they shall be tested and then classified in accordance with EN 13501-1.

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

4.2 Flexural strength (expressed as breaking load)

Breaking load shall be measured according to test method 5.8.2 for types 1, 2 and 3 and according to test method 5.8.1 for types 4A and 4B (tapeless jointing compound).

4.3 Regulated substances

Materials used in products shall not release any regulated 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.

4.4 Setting time

When compound types 1B, 2B, 3B and 4B are tested by the method given in 5.2, the setting time shall be not less than 20 min but less than 60 min for a short setting compound. It shall not be less than 60 min but less than 180 min for a normal setting compound and not less than 180 min for a long setting compound.

4.5 Freedom from cracking

When compounds are tested by the method given in 5.3, there shall be no cracks in the zone 50 mm from the thin end of the wedge for type 2A, 2B, 3A and 3B compounds and no cracks in the 150 mm zone from the thin end of the wedge for type 4A and 4B compounds

¹⁾ See Commission Decision 96/603/EC as amended.

4.6 Freedom from coarse particles

When compound types 2A, 2B 3A, 3B, 4A or 4B are tested by the method given in 5.4, the mass retained on the 200 μm sieve shall be not greater than 1 %. There shall be nothing retained on the 315 μm sieve.

4.7 Adhesion/cohesion

When tested by the method given in 5.5, the adhesion/cohesion of the compounds shall exceed 0,25 N/mm².

4.8 Dimensional stability of paper tape

When tested by the method given in 5.6, the dimensional change in the length and width direction shall not be greater than 0,4 % and 2,5 % respectively.

4.9 Breaking strength of paper tape

When tested by the method given in 4.7, the breaking strength shall be not less than 4,0 N per mm of tape width.

5 Test methods

5.1 Sampling

A minimum of three samples shall be subjected to the tests given in this section. Only the tests relevant to the class of compound as defined in 3.11 need to be done.

5.2 Determination of setting time

5.2.1 Principle

Jointing compound shall be mixed with tap water in the proportion recommended by the producer. The setting time shall be determined using a Vicat apparatus fitted with a penetration cone in an environment maintained at $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \%$ of relative humidity.

5.2.2 Apparatus and materials

Vicat apparatus, as described in EN 196-3 with a cone of stainless steel or brass, approximately 35 mm long with a smooth polished surface and an angle of $30^\circ \pm 1^\circ$. The cone is attached to the moveable rod of the Vicat apparatus in place of the needles;

waxed paper or plastic cups, at least 40 mm deep;

balance, to weigh 500 g with an accuracy of 0,1 %;

measuring cylinder;

a beaker of 250 ml to 400 ml capacity for use as a mixing vessel;

palette knife with a normal 100 mm x 20 mm flexible stainless steel blade;

stop clock.