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Ljud- och värmeisolerande element av gipsskiva och isoleringsmaterial – Definitioner, krav och provningsmetoder

Gypsum board thermal/acoustic insulation composite panels – Definitions, requirements and test methods

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Denna standard ersätter SS-EN 13950:2005, utgåva 1.

The European Standard EN 13950:2014 has the status of a Swedish Standard. This document contains the official version of EN 13950:2014.

This standard supersedes the Swedish Standard SS-EN 13950:2005, edition 1.

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EUROPEAN STANDARD

EN 13950

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2014

ICS 91.100.10; 91.100.60

Supersedes EN 13950:2005

English Version

Gypsum board thermal/acoustic insulation composite panels - Definitions, requirements and test methods

Complexes d'isolation thermique/acoustique en plaques de
plâtre et isolant - Définitions, spécifications et méthodes
d'essai

Gips-Verbundplatten zur Wärme- und Schalldämmung -
Begriffe, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 22 May 2014.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 13950:2014) 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of an identical text or by endorsement, at the latest by January 2015 and conflicting national standards shall be withdrawn at the latest by April 2016.

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.

This document supersedes EN 13950:2005.

The main technical changes that have been made in this new edition of EN 13950 are the following:

- a) Normative references have been updated;
- b) Scope has been enlarged to include boards according to EN 520, EN 15283-1 and EN 15283-2;
- c) new clause symbols, abbreviations and classification has been introduced;
- d) Annex ZA and Clause 6 have been revised to be in line with the Construction Products Regulation (CPR);
- e) document has been editorially revised.

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.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the characteristics and performance of thermal/acoustic insulation composite panels made of an insulating material laminated to gypsum boards for which the main intended use is the internal insulation (thermal and/or acoustic) of walls. They are attached with adhesives or by mechanical fixings to vertical solid backgrounds and by mechanical fixings to wood or metal framing with the gypsum board face exposed. The method of fixing and jointing should ensure that the insulating material is not exposed in its normal application.

This European Standard covers the following performance characteristics: reaction to fire, fire resistance, water vapour permeability, flexural strength, impact resistance, direct airborne sound insulation and thermal resistance to be measured according to the corresponding European test methods.

It provides for the assessment and verification of constancy of performance of the products to this European Standard.

This European Standard covers also additional technical characteristics that are of importance for the use and acceptance of the product by the construction industry.

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

EN 825:2013, *Thermal insulating products for building applications — Determination of flatness*

EN 12667, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*

EN 12939, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Thick products of high and medium 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*

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

EN 14496, *Gypsum based adhesives for thermal/acoustic insulation composite panels and plasterboards — Definitions, requirements and test methods*

EN 15283-1, *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Part 1: Gypsum boards with mat reinforcement*

EN 15283-2, *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Part 2: Gypsum fibre boards*

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

EN ISO 10140 (all parts), *Acoustics — Laboratory measurement of sound insulation of building elements*

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

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

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

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

3 Terms, definitions, symbols, abbreviations and classification

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

3.1 Terms and definitions of the product

3.1.1

gypsum board thermal/acoustic insulation composite panel

panel made from an insulating material laminated to gypsum board, with or without a water vapour retarder

3.1.2

gypsum board thermal/acoustic insulation sandwich panel

gypsum board thermal/acoustic insulation composite panel with board on both faces

3.2 General terms

3.2.1

water vapour retarder

material which reduces water vapour diffusion, provided separately or in conjunction with the gypsum board

EXAMPLE See EN 14190.

3.2.2

panel facing

exposed surface of gypsum board to receive either direct decoration or gypsum plaster

3.2.3

length

dimension of the laminate measured by convention on the gypsum board, parallel to the longitudinal edges

3.2.4

width

dimension of the laminate measured by convention on the gypsum board, parallel to the cut edges

3.2.5

thickness

distance between the outer surfaces of the composite or of the sandwich panel

3.2.6

offset

position of the insulating material relative to the gypsum board and between the two gypsum boards in the case of the sandwich panel

Note 1 to entry: When the insulating material projects over the edge or the end of the gypsum board, the offset is taken to be positive.

3.3 Symbols and abbreviations

Table 1 — Symbols and abbreviations

Requirement	Sub-clause	Symbol or abbreviation
Reaction to fire	4.2.1	R2F
Water vapour resistance factor	4.3	μ
Flexural strength	4.4	F
Thermal resistance	4.8	TR
Impact resistance	4.5	→I
Airborne sound insulation	4.6	R
Acoustic absorption	4.7	α
Dangerous substances	4.13	DS
See manufacturer's literature		www.manufacturers_internet_address.com

3.4 Classification

Gypsum board thermal/acoustic insulation composite panels shall be classified depending on the kind of insulating materials as follows

a) class 1 composites:

- expanded polystyrene foam (EPS) (see EN 13163);
- extruded polystyrene foam (XPS) (see EN 13164);
- rigid polyurethane foam (polyisocyanate, polyisocyanurate) (PUR and PIR) (see EN 13165);
- phenolic foam (PF) (see EN 13166);

b) class 2 composites:

- mineral wool (MW) (see EN 13162).

Gypsum board thermal/acoustic insulation composite panels are for convenience referred to elsewhere in this European Standard as “composites”

4 Requirements

4.1 General

The gypsum board and the insulating material shall comply with their respective European Standards. Further requirements of the insulating material are given below.

Acoustic and thermal insulation performance vary according to the type of the insulating material, its thickness, its application and system.