SLOVENSKI STANDARD

SIST EN 14246:2006

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Mavļ ni elementi za viseļ e strope ï Definicije, zahteve in preskusne metode

Gypsum elements for suspended ceilings - Definitions, requirements and test methods

Gipselemente für Unterdecken (abgehängte Decken) - Begriffe, Anforderungen und Prüfverfahren

Eléments en plâtre pour plafonds suspendus - Définitions, spécifications et méthodes d'essai

Ta slovenski standard je istoveten z: **EN 14246:2006**

ICS:

91.060.30	Stropi. Tla. Stopnice	Ceilings. Floors. Stairs
91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar

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EUROPEAN STANDARD

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English Version

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This European Standard was approved by CEN on 10 May 2006.

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 Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 14246:2006) 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of an identical text or by endorsement, at the latest by December 2006, and conflicting national standards shall be withdrawn at the latest by March 2008.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 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Gypsum elements for suspended ceiling are composed of gypsum plaster; they are used for suspended ceilings for interior applications as units or tiles.

Diagram 1 shows the relationship between this European Standard and the package of standards prepared to support the family of gypsum products.

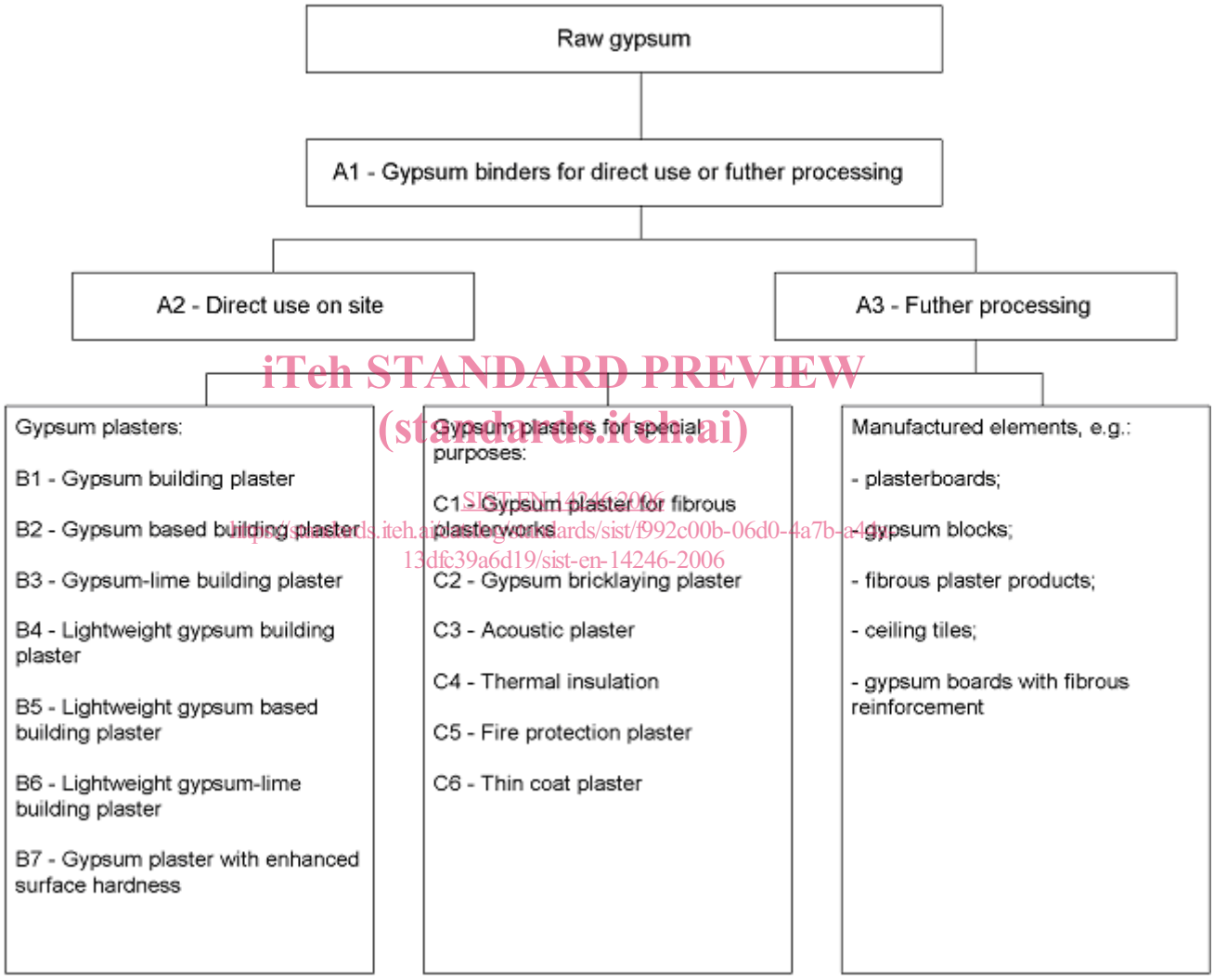

Diagram 1 — Family of gypsum products

1 Scope

This European Standard specifies the characteristics and performance of factory made cast gypsum elements, for which the main intended uses are the construction of suspended ceilings under universal substrates.

It covers the following product performance characteristics: reaction to fire, water vapour permeability, flexural strength (expressed as breaking load) and thermal resistance (expressed as thermal conductivity).

The following performance characteristics are linked to systems assembled with gypsum elements for suspended ceilings: fire resistance, direct airborne sound insulation and acoustic absorption, which can be measured according to the corresponding European test methods. If required, tests should be done on assembled system simulating the end use conditions.

This European Standard describes the reference tests for technical specifications.

This European Standard also covers additional technical characteristics that are of importance for the use and the 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 European Standard.

This European Standard does not cover metal ceiling grids or plasterboard products.

This European Standard excludes stiffening timber roof truss structure applications.

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

3 Terms and definitions

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

3.1
suspended ceiling
sub-structural building element fixed and installed under load bearing components of a building or structure with the objective to provide final characteristics and performance

3.2
ceiling substructure
suspended frame which support the gypsum ceiling element

3.3
gypsum element for suspended ceilings
factory made building element produced from calcium sulphate and water. It may incorporate additives, aggregates and protected mineral fibre, tissue or glass fibre

NOTE Gypsum elements for suspended ceilings include: units (see 4.2) and tiles (see 4.3), and can be manufactured with reinforced edges and profiles.

3.4
face
surface intended to be exposed when installed

3.5
back
surface intended to be concealed. It may be plain and smooth or rough with ribs to improve the strength

3.6
grid
metal profile sections, assembled in geometric formations to provide support for units or tiles

NOTE Specifications of grids are indicated in EN 13964.

3.7
reinforcement
internal component of the gypsum ceiling element to improve cohesion, strength and durability

3.8
integral hanger
metal wire or strap attached to or embedded in the rough surface (back). Conforming to EN 13964, used to hang the gypsum ceiling element on the anchorage elements of the substructure

3.9
fixing pad
scrim comprising natural fibres impregnated with gypsum plaster and extended to form a grip or handle

3.10
mineral fibre mat
material incorporated in the product providing cohesion, to improve spanning characteristics and durability

3.11
dimensions

— length (*L*): longest side of the element;

— width (*W*): shortest side of the element;

— total thickness (*a*) (see Table 2): distance between the face and the back;

— minimum thickness on the edge: distance between the back and the surface of bearing.

4 Types of gypsum ceiling elements for suspended ceilings

4.1 General

Two general kinds of gypsum elements for suspended ceilings are defined:

4.2 Gypsum units

4.2.1 General

Rectangular gypsum elements with a flat and smooth face used to make a flat and continuous ceiling. Two types are defined:

4.2.2 Traditional unit

Unit with four straight edges. It may be available with bevelled edges (see Figure 1). These units always incorporate integral hangers.

NOTE Edges can be square or bevelled.

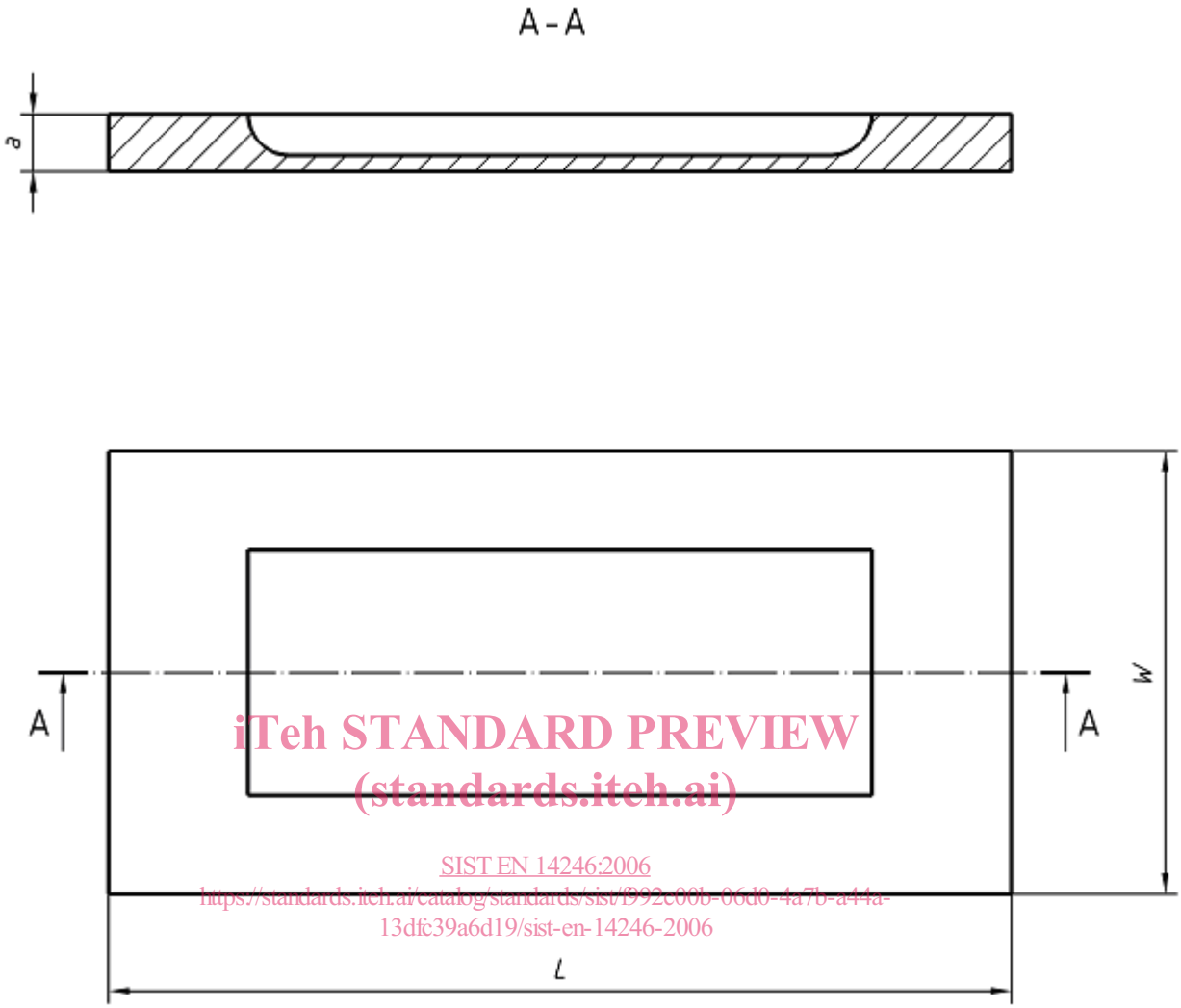

Figure 1 — Ceiling unit (traditional)

4.2.3 Unit with rebated edges

Unit with the longitudinal edges rebated and the rim edges reinforced (see Figure 2). These units have also reinforced rim edges and protruding ribs on the rough face and may incorporate integral hangers.

NOTE Edges can be square or bevelled.

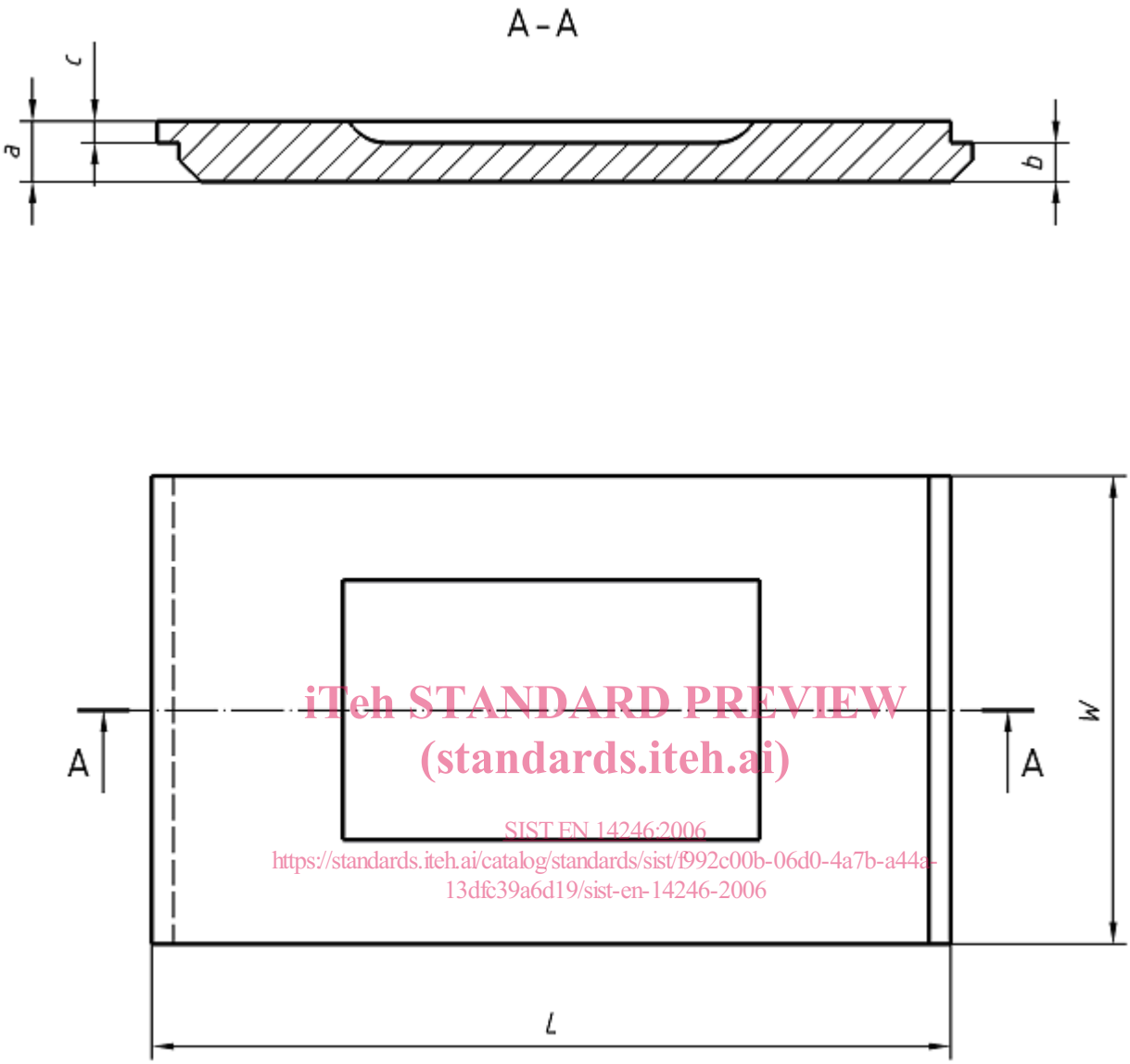

Figure 2 — Ceiling unit (with rebated edges)

4.3 Gypsum tiles

4.3.1 General

Gypsum elements square or rectangular, the surface of which may be plain, patterned or textured. The surface may be perforated to improve sound absorption properties. Perforated tiles may be backed with a protected mineral fibre mat. These tiles are used on metallic grids fixed to the substructure.

Following types are defined according with the edges and profiles:

4.3.2 Square edge, type A: exposed grid (see Figure 3).