



SLOVENSKI STANDARD
SIST EN 14353:2008+A1:2010
01-julij-2010

Pomožni in dodatni kovinski profili za mavčne plošče - Definicije, zahteve in preskusne metode

Metal beads and feature profiles for use with gypsum plasterboards - Definitions, requirements and test methods

Hilfs- und Zusatzprofile aus Metall zur Verwendung mit Gipsplatten - Begriffe, Anforderungen und Prüfverfahren

Cornières et profilés métalliques pour plaques de plâtre - Définitions, spécifications et méthodes d'essai

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ICS:

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
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Metal beads and feature profiles for use with gypsum plasterboards - Definitions, requirements and test methods

Cornières et profilés métalliques pour plaques de plâtre -
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Hilfs- und Zusatzprofile aus Metall zur Verwendung mit
Gipsplatten - Begriffe, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 18 November 2007 and includes Amendment 1 approved by CEN on 14 December 2009.

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

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Foreword

This document (EN 14353:2007+A1:2010) has been prepared by Technical Committee CEN/TC 241 "Gypsum and gypsum based products", the secretariat of which is held by AFNOR.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2010 and conflicting national standards shall be withdrawn at the latest by July 2010.

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 includes Amendment 1, approved by CEN on 2009-12-14.

This document supersedes EN 14353:2007.

The start and finish of text introduced or altered by amendment is indicated in the text by tags \square_{A1} \square_{A1} .

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, Bulgaria, Croatia, 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

Metal beads and feature profiles are produced in wide variety of sizes and shapes. They are cold formed from mild steel sheets with various protective coatings or extruded or cold formed from aluminium. Some of the beads are faced with paper tape to enable them to be jointed. The materials, design and mechanical properties make them particularly suitable to provide improved physical properties and/or enhanced decorative solutions to plasterboard assemblies.

Metal beads and feature profiles may be fixed by various methods to the plasterboard and may be featured self-finished, featured with decoration or concealed by finishing with jointing compounds to receive decoration.

Figures 1 and 2 show the relationship between this standard and the set of standards prepared to support gypsum plasterboards.

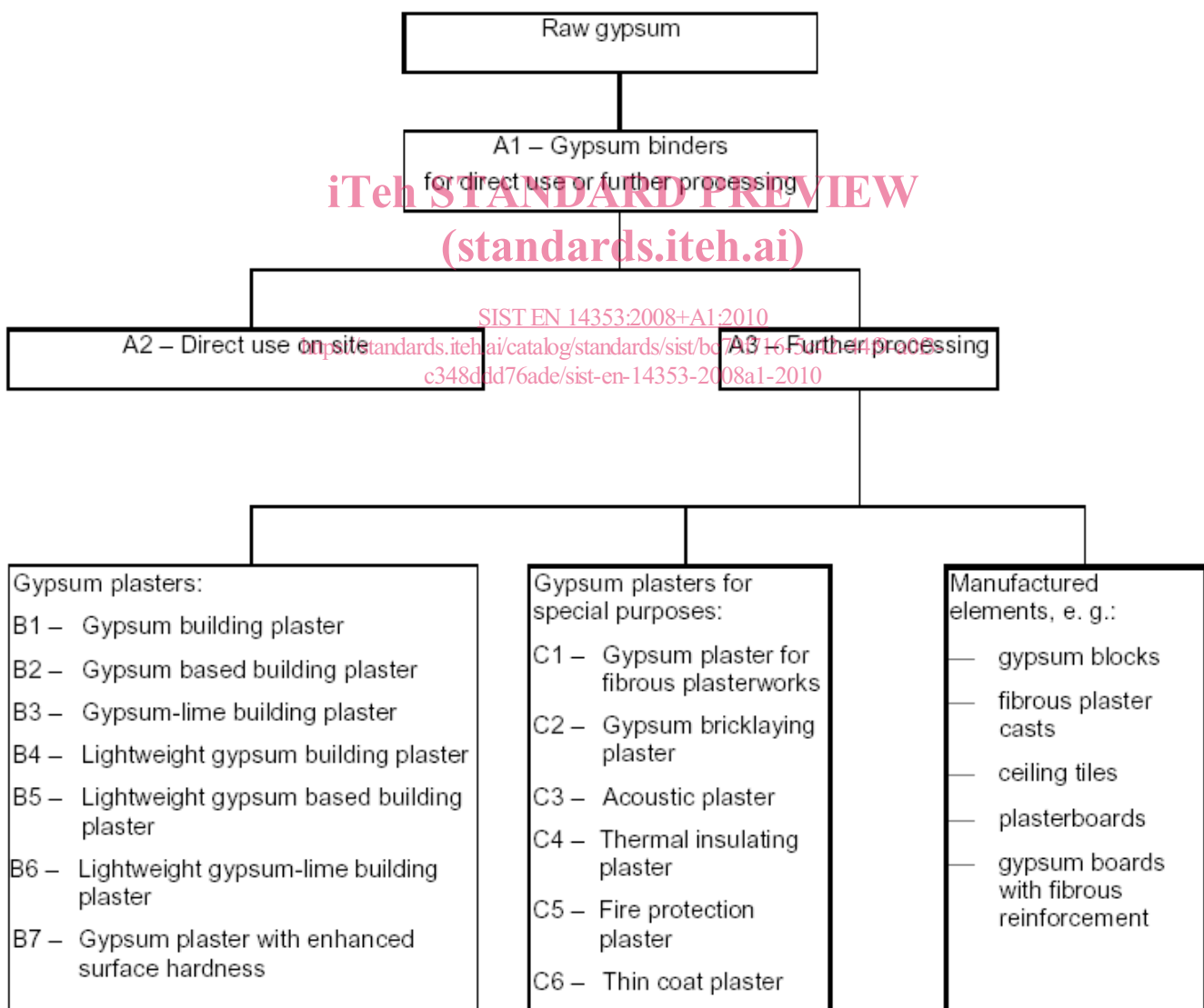


Figure 1 — Family of gypsum products

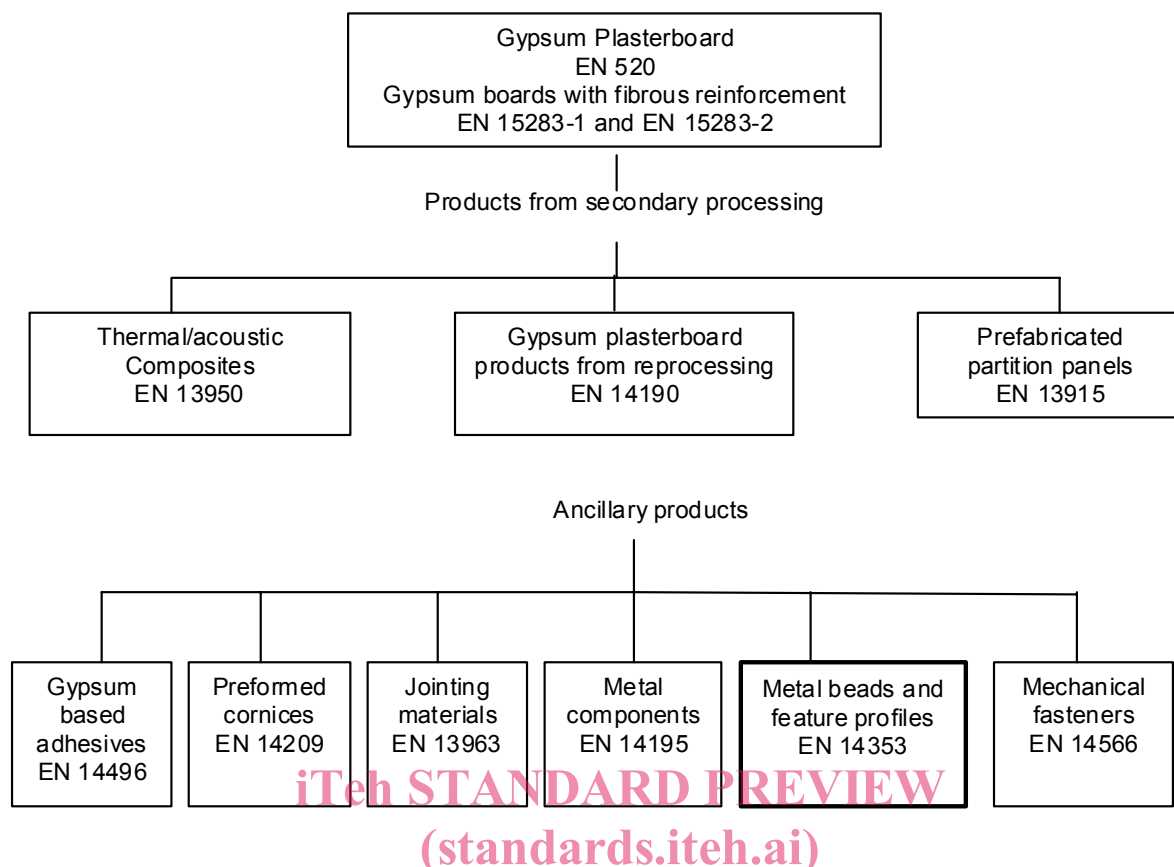


Figure 2 — Family of ancillary products

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1 Scope

This European Standard specifies the characteristics and performance of metal beads, metal beads combined with paper tape and metal feature profiles designed for use in systems made with gypsum plasterboards, gypsum boards with fibrous reinforcement and products from secondary processing complying with the ENs shown in Figure 2, intended to be used in building construction works. Metal beads and feature profiles, depending upon their material and type, can be featured without decoration, decorated or finished with jointing compounds to receive decoration.

It covers the following performance characteristics: reaction to fire and flexural strength (bending behaviour) to be measured according to the corresponding European test methods.

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

This European Standard 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.

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

EN 755 (all parts), *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles*

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EN 10131, *Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming — Tolerances on dimensions and shape*

EN 10139, *Cold rolled uncoated mild steel narrow strip for cold forming — Technical delivery conditions*

EN 10140, *Cold rolled narrow steel strip — Tolerances on dimensions and shape*

EN 10143, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

EN 10152, *Electrolytically zinc coated cold rolled steel flat products for cold forming — Technical delivery conditions*

EN 10346, *Continuously hot-dip coated steel flat products — Technical delivery conditions*

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

EN 13963, *Jointing materials for gypsum 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 1924-2, *Paper and board — Determination of tensile properties — Part 2: Constant rate of elongation method (20 mm/min) (ISO 1924-2:2008)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2006)*

3 Terms, definitions, symbols and abbreviations

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

3.1 Terms and definitions

3.1.1 metal bead

profiled narrow section formed in steel or aluminium with a cross section to suit its application

NOTE Beads may incorporate a variety of profiles and one or more wings depending upon their function. The wings can be perforated or expanded to facilitate fixing using mechanical and/or jointing compound methods.

3.1.2 angle bead

profiled section used to enhance and protect external angles

3.1.3 edge bead

profiled section engaged to enclose and enhance and protect the edge of the plasterboard

3.1.4 feature bead

profiled section used to enhance the finish to the edge of the plasterboard

A1 3.1.5 A1**stop bead**

profiled section used to provide a straight edge to receive the finish to the edge

A1 3.1.6 A1**corner tape**

paper tape incorporating one or more metal or other strips to give added protection to external angles

A1 3.1.7 A1**profile**

surface or edge with a cross section to suit the application

A1 3.1.8 A1**wing**

area adjoining the bead face or edge, usually perforated or expanded, used for support or fixing

A1 3.1.9 A1**wing open area**

percentage of wing area perforated or expanded

A1 3.1.10 A1**movement bead**

profiled section, composed of three parts, with flexibility to allow movement in both its length and width

A1 3.1.11 A1**expansion bead**

profiled section with flexibility to allow movement across its width

A1 3.1.12 A1**metal featured profile**

extrusion with a cross section to suit the application

A1 3.1.13 A1**fin**

tapered section on one or both sides of the profile to assist jointing

A1 3.1.14 A1**nominal dimension**

dimension or angle stated by the producer

3.2 A1 Symbols and abbreviations

For the purpose of simplification in product marking and performance information characteristics may be identified through the symbols and abbreviations given in Table 1.

Table 1 — Symbols and abbreviations

Requirement	Sub-clause	Symbol or abbreviation
Reaction to fire	4.1	R2F
Flexural strength	4.2	F

A1

EN 14353:2007+A1:2010 (E)**4 Requirements****4.1 Reaction to fire**

When the intended use of metal beads and feature profiles is for fire exposed situations in building construction works and if they are not coated with an organic material, they shall be classified in Euroclass A1 (no contribution to fire) without testing¹⁾.

If they are coated with an organic material and subject to regulatory requirements, they shall be tested and classified in accordance with EN 13501-1.

4.2 Flexural strength (expressed as bending behaviour)

When tested in accordance with 5.8, individual lengths of beads or profiles shall show no fracture, kinks or permanent local deformations to the surface from the action of deflection.

4.3 Release of dangerous 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 Additional technical requirements**4.4.1 Materials and surface aspect**

A1 Metal beads and feature profiles shall be manufactured from steel strip conforming to EN 10346 or EN 10152. Alternatively, the metal strips for the corner tape strips may be manufactured from steel according to EN 10139 with a coating according to EN 10152 (for ZE coating) or to EN 10346 (for Z or AZ coating). Aluminium beads and featured profiles manufactured according to EN 755 shall have a surface finish free from marks and imperfections to satisfy their exposed function. **A1**

4.4.2 Paper specifications

The paper used to face corner tape shall be compatible with jointing compounds to EN 13963 and have a minimum breaking strength of 4,0 N/mm, when tested in accordance with 5.7.

4.5 Protective coating

A1 Metal beads manufactured from steel strip shall have a protective coating conforming to one of the following standards: EN 10346 or EN 10152 (for corner tape only).

The protective coating shall conform to one of the classes given in Table 2 or alternatively in Table 3 (for angle beads and corner tapes only).

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

Table 2 — Classes of protective coating for angle beads and corner tapes

Class	Normative reference
Z275	EN 10346
Z140	EN 10346
Z100	EN 10346
ZA130	EN 10346
ZA095	EN 10346
AZ150	EN 10346
AZ100	EN 10346

Table 3 — Classes of protective coating for corner bead tapes

Class	Normative reference
ZE50/50	EN 10152
ZE75/75	EN 10152
ZE100/100	EN 10152

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Alternatively corner tapes may have a protective coating with a resistance of at least 48 h to salt spray test according to EN ISO 9227. This coating can be manufactured:

- as an application of a protective layer of zinc with a thin organic coating;
- as a cold co-rolling on a steel basis adding an aluminium layer on each side. A_1

4.6 Functional requirements

4.6.1 Beads and feature profiles

Beads and feature profiles shall be dimensioned to be compatible with the thicknesses of boards conforming to EN 520, A_1 EN 15283-1 A_1 and A_1 EN 15283-2 A_1 .

NOTE Feature profiles can have tapered fins for jointing. They can be painted to provide protection, as undercoat for further decoration and to provide adequate adhesion for jointing materials.

4.6.2 Movement and expansion beads

4.6.2.1 Movement beads

Movement beads shall provide the maximum differential movement stated by the manufacturer without damage.

When determined in accordance with 5.6, this shall be at least ${}^{+5}_{-2}$ mm and shall apply in both length and width directions.

4.6.2.2 Expansion beads

Expansion beads shall provide the maximum differential movement stated by the manufacturer without damage. When determined in accordance with 5.6, this shall be at least ± 3 mm.

EN 14353:2007+A1:2010 (E)**4.7 Dimensions and tolerances****4.7.1 General**

The nominal dimensions of beads and feature profiles shall be declared by the producer. Significant tolerances, other than those given in Table 2, shall also be declared by the producer.

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