SLOVENSKI STANDARD

SIST EN 14353:2008

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Pomoġni in dodatni kovinski profili za mavļ ne ploġļ e - 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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English Version

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

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This European Standard was approved by CEN on 18 November 2007.

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

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Contents

Foreword

This document (EN 14353:2007) 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of an identical text or by endorsement, at the latest by June 2008 and conflicting national standards shall be withdrawn at the latest by September 2009.

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.

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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.

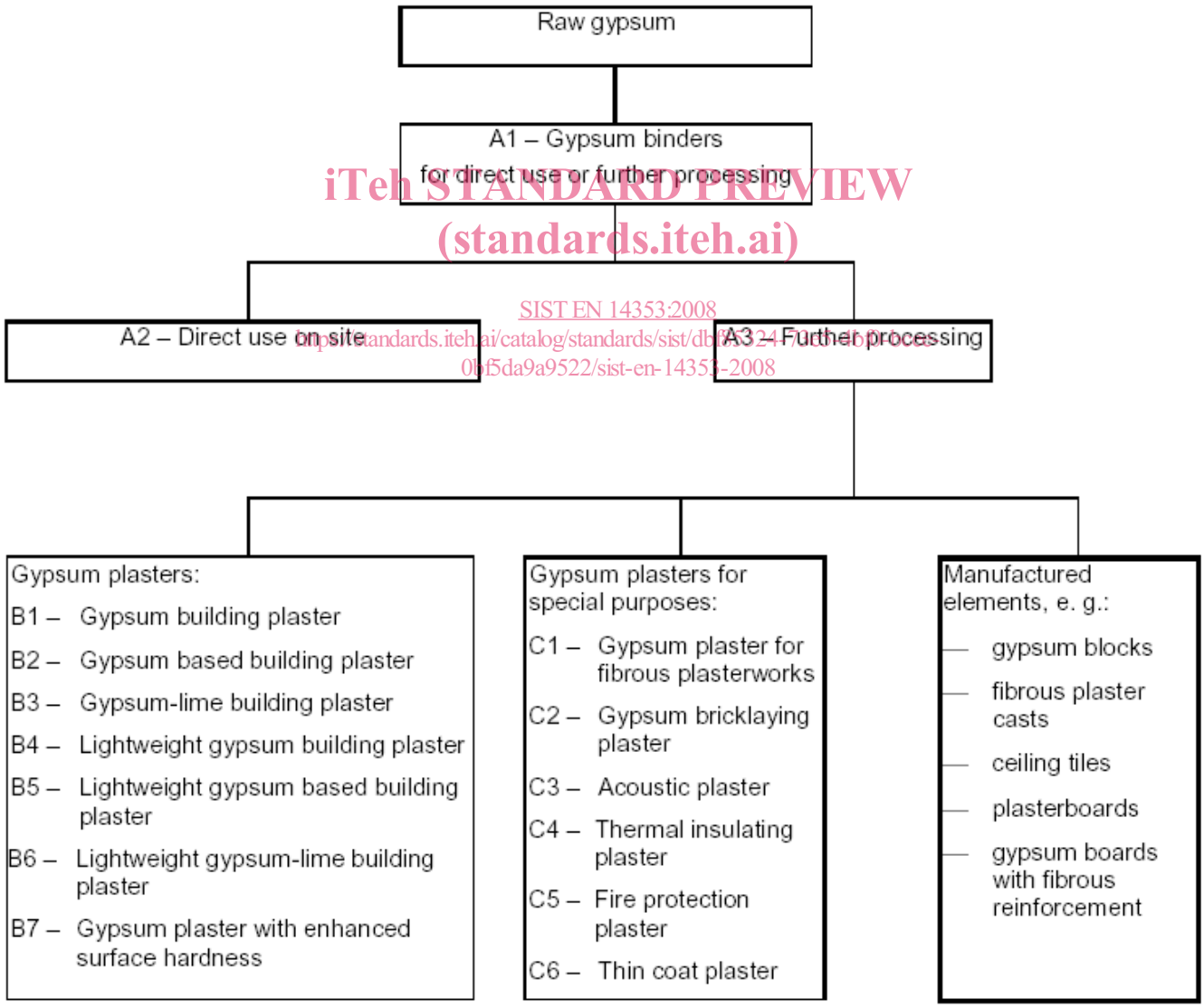


Figure 1 — Family of gypsum products

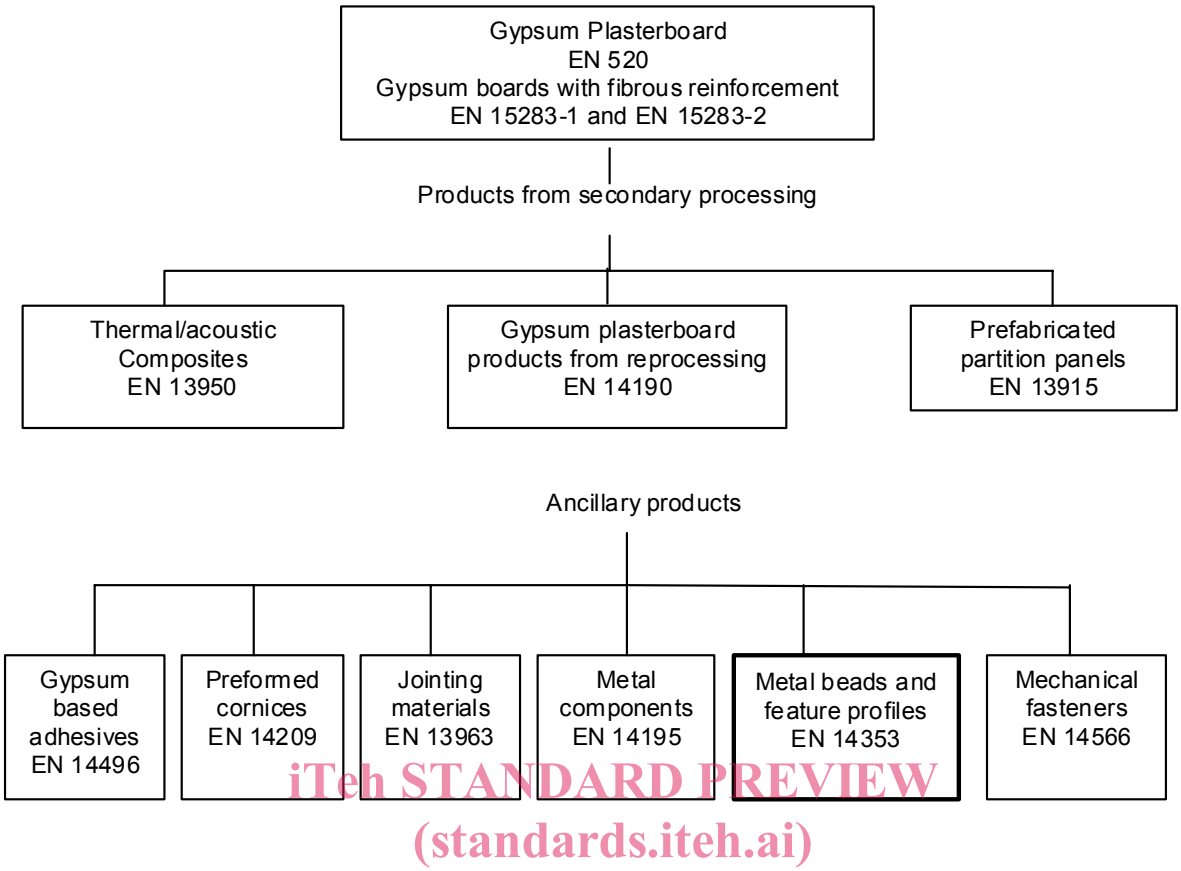


Figure 2 — Family of ancillary products

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*

EN 10326, *Continuously hot-dip coated strip and sheet of structural steels — Technical delivery conditions*

EN 10327, *Continuously hot-dip coated strip and sheet of low carbon steels for cold forming — 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*

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

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

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

3 Terms and definitions

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

3.1
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.

3.2
angle bead
profiled section used to enhance and protect external angles

3.3
edge bead
profiled section engaged to enclose and enhance and protect the edge of the plasterboard

3.4
feature bead
profiled section used to enhance the finish to the edge of the plasterboard

3.5
stop bead
profiled section used to provide a straight edge to receive the finish to the edge

3.6
corner tape
paper tape incorporating one or more metal or other strips to give added protection to external angles

3.7
profile
surface or edge with a cross section to suit the application

3.8
wing
area adjoining the bead face or edge, usually perforated or expanded, used for support or fixing

3.9
wing open area
percentage of wing area perforated or expanded

3.10
movement bead
profiled section, composed of three parts, with flexibility to allow movement in both its length and width

3.11
expansion bead
profiled section with flexibility to allow movement across its width

3.12
metal featured profile
extrusion with a cross section to suit the application

3.13
fin
tapered section on one or both sides of the profile to assist jointing

3.14
nominal dimension
dimension or angle stated by the producer

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 testing[1)].

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

Metal beads and feature profiles shall be manufactured from galvanised steel strip conforming to EN 10326 and EN 10327. 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.

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

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

Metal beads manufactured from steel strip shall have a protective coating conforming according to one of the following standards: EN 10326, or 10327.

The protective coating shall conform to one of the classes given in Table 1.

Table 1 — Classes of protective coating

Class	Normative reference
Z 275	EN 10326
Z 140	EN 10326
Z 100	EN 10326
ZA 130	EN 10327
ZA 95	EN 10327
AZ 150	EN 10327
AZ 100	EN 10327

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, prEN 15283-1 and prEN 15283-2.

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

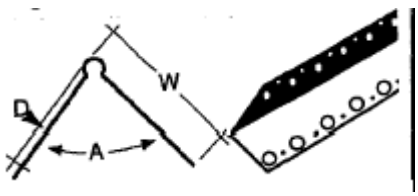
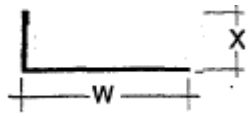
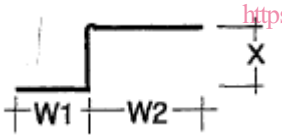
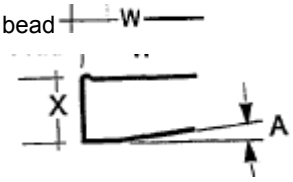
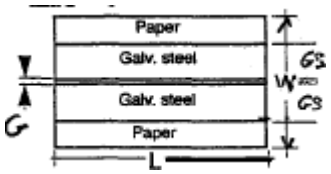
Expansion beads shall provide the maximum differential movement stated by the manufacturer without damage. When determined in accordance with 5.6, this shall be at least ± 3 mm.

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.

Table 2 — Examples of profiles/dimensions of beads

Bead type	Sizes and tolerances	Profile number	Note
Angle bead 	W_{min} = 18 mm D = (1,5 ± 0,5) mm A = 85° ± 2° L = length	1	-
Stop bead 	W_{min} = 18 mm L = length $X = t + (1,5 \pm 0,5)$ mm t = board thickness	2	a : t = 9,5 mm d : t = 18 mm b : t = 12,5 mm e : t = 20 mm c : t = 15 mm f : t = 25 mm (see NOTE)
Feature bead 1 	W_{1min} = 15 mm W_{2min} = 20 mm L = length $X = t + (1,5 \pm 0,5)$ mm t = board thickness	3	a : t = 9,5 mm d : t = 18 mm b : t = 12,5 mm e : t = 20 mm c : t = 15 mm f : t = 25 mm (see NOTE)
Feature bead 2 	W_{1min} = 15 mm W_{2min} = 20 mm L = length $X = t + (1,5 \pm 0,5)$ mm t = board thickness	4	a : t = 9,5 mm d : t = 18 mm b : t = 12,5 mm e : t = 20 mm c : t = 15 mm f : t = 25 mm (see NOTE)
Edge bead 	W_{min} = 20 mm A = 5° ± 0,5° L = length $X = t + (1,5 \pm 0,5)$ mm t = board thickness	5	a : t = 9,5 mm d : t = 18 mm b : t = 12,5 mm e : t = 20 mm c : t = 15 mm f : t = 25 mm (see NOTE)
Corner tape 1 	W_{min} = 50 mm G_S = 12,5 mm G = 1,6 mm L = length	6/1 – with gap or 6/2 – with continuous strip preformed to 90°	-

(to be continued)