SLOVENSKI STANDARD
SIST EN 14353:2017

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Nadomešča:
SIST EN 14353:2008+A1:2010

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, exigences et méthodes d'essai

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EUROPEAN STANDARD

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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 29 July 2016.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 14353:2017) 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of an identical text or by endorsement, at the latest by January 2018, and conflicting national standards shall be withdrawn at the latest by April 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14353:2007+A1:2010.

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.

The main technical changes that have been made in this new edition of EN 14353 are the following:

a) Normative references have been updated;

b) Annex ZA and Clause 6 have been revised to be in line with the Construction Products Regulation (CPR);

c) document has been editorially revised.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the 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 gypsum board assemblies.

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

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 according to EN 520, gypsum boards with fibrous reinforcement according to EN 15283-1 and EN 15283-2 and products from secondary processing according to EN 14190, gypsum board thermal/acoustic insulation composite panels according to EN 13950 and prefabricated gypsum board panels with a cellular paperboard core according to EN 13915, 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 the assessment and verification of constancy of performance of the products

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 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 485-2:2016, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 2: Mechanical properties*

EN 485-4:1993, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 4: Tolerances on shape and dimensions for cold-rolled products*

EN 520:2004+A1:2009, *Gypsum plasterboards — Definitions, requirements and test methods*

EN 10131:2006, *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 10139:2016, *Cold rolled uncoated low carbon steel narrow strip for cold forming — Technical delivery conditions*

EN 10140:2006, *Cold rolled narrow steel strip — Tolerances on dimensions and shape*

EN 10143:2006, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

EN 10152:2017, *Electrolytically zinc coated cold rolled steel flat products for cold forming — Technical delivery conditions*

EN 10346:2015, *Continuously hot-dip coated steel flat products for cold forming — Technical delivery conditions*

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13963:2014, *Jointing materials for gypsum boards — Definitions, requirements and test methods*

EN 15283-1:2008+A1:2009, *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Part 1: Gypsum boards with mat reinforcement*

EN 15283-2:2008+A1:2009, *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Part 2: Gypsum fibre boards*

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

EN ISO 9227:2017, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2017)*

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 1 to entry: 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 gypsum board

3.1.4
feature bead
profiled section used to enhance the finish to the edge of the gypsum board

3.1.5
stop bead
profiled section used to provide a straight edge to receive the finish to the edge

3.1.6
corner tape
paper tape incorporating one or more metal or other strips to give added protection to external angles

3.1.7
profile
surface or edge with a cross section to suit the application

3.1.8
wing
area adjoining the bead face or edge, usually perforated or expanded, used for support or fixing

3.1.9
movement bead
profiled section, composed of three parts, with flexibility to allow movement in both its length and width

3.1.10
expansion bead
profiled section with flexibility to allow movement across its width

3.1.11
metal featured profile
profile with a cross section to suit the application

3.1.12
fin
tapered section on one or both sides of the profile to assist jointing

3.1.13
nominal dimension
dimension or angle stated by the producer

3.2 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 (bending behaviour)	4.2	F
Dangerous substances	4.3	DS

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)].

Considering the limited exposure the metal beads and feature profiles containing organic material may be classified E without the need of testing[2)].

For the purpose of classification in classes other than classes E and F, they shall be tested and classified in accordance with EN 13501-1.

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

2) See Commission Delegated Regulation (EU) No 1293/2014

4.2 Flexural strength (expressed as bending behaviour)

When tested in accordance with 5.7, 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

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets.

In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Growth website on EUROPA accessed through: https://ec.europa.eu/growth/tools-databases/cp-ds

4.4 Additional technical requirements

4.4.1 Materials

Metal beads and feature profiles shall be manufactured from steel strip conforming to EN 10143 and 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 shall be manufactured according to EN 485-2 and EN 485-4.

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 5.6.

4.5 Protective coating

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).

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

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.

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, EN 15283-1 and EN 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 5.5, 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 5.5, 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 manufacturer. Significant tolerances, other than those given in Table 4, shall also be declared by the manufacturer.