SLOVENSKI STANDARD
oSIST prEN 13658-2:2017

01-oktober-2017

Kovinski profili - Definicije, zahteve in preskusne metode - 2. del: Zunanji omet

Metal lath and beads - Definitions, requirements and test methods - Part 2: External rendering

Putzträger und Putzprofile aus Metall - Begriffe, Anforderungen und Prüfverfahren - Teil 2: Außenputze

Lattis et cornières métalliques - Définitions, exigences et méthodes d'essai - Partie 2 : Enduits extérieurs

Ta slovenski standard je istoveten z: **prEN 13658-2**

ICS:

77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains
91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar

oSIST prEN 13658-2:2017 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 13658-2

August 2017

ICS 77.140.65; 91.100.10

Will supersede EN 13658-2:2005

English Version

Metal lath and beads - Definitions, requirements and test methods - Part 2: External rendering

Lattis et cornières métalliques - Définitions, exigences et méthodes d'essai - Partie 2 : Enduits extérieurs

Putzträger und Putzprofile aus Metall - Begriffe, Anforderungen und Prüfverfahren - Teil 2: Außenputze

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 241.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

CEN members are the national standards bodies of 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 United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

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

Contents

Page

European foreword

This document (prEN 13658-2:2017) has been prepared by Technical Committee CEN/TC 241 “Gypsum and gypsum based products”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13658-2:2005.

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 13658-2 are the following:

a) Normative references updated;

b) Terms and Definitions updated;

c) Table 1 updated;

d) Figures updated;

e) Clause 6 and Annex ZA updated in line with the CPR.

This European Standard on *Metal lath and beads — Definitions, requirements and test methods* consists of two parts:

— *Part 1: Internal plastering*;

— *Part 2: External rendering*.

1 Scope

This European Standard specifies the requirements and test methods of metal lath and beads for external rendering.

This European Standard covers metal lath intended to be used for fixing to structures or solid backgrounds to provide a key to hold the plaster in position. Used in this way it enables fire protecting rendering systems to be provided.

This European Standard covers metal beads intended to be used to improve the protection of external angles and also provide features to the external finish of the construction and which can also be used as movement or expansion beads. They also contribute to fire protection.

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 referenced, 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 573-3:2013, *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition and form of products*

EN 988:1996, *Zinc and zinc alloys — Specifications for rolled flat products for building*

EN 1364-1:2015, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

EN 1364-2:1999, *Fire resistance tests for non-loadbearing elements — Part 2: Ceilings*

EN 1365-1:2012, *Fire resistance tests for loadbearing elements — Part 1: Walls*

EN 1365-3:1999, *Fire resistance tests for loadbearing elements — Part 3: Beams*

EN 1365-4:1999, *Fire resistance tests for loadbearing elements — Part 4: Columns*

EN 10088 (all parts), *Stainless steels*

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

EN 10169-1:2003, *Continuously organic coated (coil coated) steel flat products — Part 1: General information (definitions, materials, tolerances, test methods)*

EN 10218-2:2012, *Steel wire and wire products — General — Part 2: Wire dimensions and tolerances*

EN 10244-1:2009, *Steel wire and wire products — Non-ferrous metallic coatings on steel wire — Part 1: General principles*

EN 10258:1997, *Cold-rolled stainless steel and narrow strip and cut lengths — Tolerances on dimensions and shape*

EN 10264-4:2012, *Steel wire and wire products — Steel wire for ropes — Part 4: Stainless steel wire*

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 13501-2:2016, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13914-1:2016, *Design, preparation and application of external rendering and internal plastering — Part 1: External rendering*

EN ISO 1460:1994, *Metallic coatings — Hot dip galvanized coatings on ferrous materials — Gravimetric determination of the mass per unit area (ISO 1460:1992)*

3 Terms and definitions

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

3.1 Metal lath:

3.1.1
expanded flat metal lath
corrosion resistant diamond shaped mesh to provide a key for rendering

Note 1 to entry: See Figure 3 a).

3.1.2
expanded corrugated metal lath
corrosion resistant diamond mesh to provide extra stiffness

Note 1 to entry: See Figure 3 b).

3.1.3
expanded ribbed lath
corrosion resistant mesh formed by expanding with integral solid ribs of at least 7 mm height to provide extra stiffness

Note 1 to entry: See Figure 4.

3.1.4
expanded mini ribbed lath
corrosion resistant mesh formed by expanding with integral solid ribs between 4 mm and 7 mm height

Note 1 to entry: See Figure 4.

3.1.5
stainless steel ribbed lath
stainless steel mesh with integral solid ribs of at least 7 mm height

3.1.6
paperbacked ribbed lath
corrosion protected paperbacked mesh with integral ribs of at least 7 mm height

3.1.7
standard paperbacked wire lath
corrosion resistant wire spot welded mesh to form a square mesh to provide a key for rendering with a sheet of cupboard between the horizontal and vertical wires or between the mesh and the reinforcing wires

Note 1 to entry: See Figures 5 a), 5 b) and 6.

3.1.8
reinforced paperbacked wire lath
same as 3.1.7, but the reinforcing wires are thicker in order to increase stiffness

3.1.9
high ribbed paperbacked wire lath
same as 3.1.8, but with thicker wires to provide still greater stiffness

3.1.10
damp proof regular paperbacked wire lath
same as 3.1.8, but with a bituminous paper bonded to the back of the cardboard sheet to provide extra damp control

3.1.11
standard wire mesh
corrosion resistant spot welded wire mesh, flat or profiled, to form a square mesh to provide a key for rendering

Note 1 to entry: See Figure 7.

3.1.12
normal claylath
woven mesh of steel wire with clay pressed on the intersection of the wire and then fired

Note 1 to entry: See Figure 8.

3.1.13
stainless steel claylath
woven mesh of stainless steel wire with clay pressed on the intersection of the wire and then fired

3.2 Metal beads and their uses:

3.2.1
angle bead
corrosion resistant profiled section used to protect the plastered external angles

Note 1 to entry: This section can also be fabricated from wire.

3.2.2
stop bead
corrosion resistant profiled section used to provide a straight and protected edge to receive the plaster

Note 1 to entry: This section can also be fabricated from wire.

3.2.3
plastered stop bead and soccle bead
corrosion resistant profiled section used to provide a straight and protective edge at the lower horizontal edge of the plaster also forming a drip profile to enable water to fall away from the wall below the plaster

Note 1 to entry: This section can also be fabricated from wire.

3.2.4
movement bead
corrosion resistant profiled section connected with a flexible plastic extrusion capable of a movement within the range of ± 1,5 mm of the external render surface

Note 1 to entry: This section can also be made from steel wire.

3.2.5
corner aid/depth gauge bead
steel strip bead allowing exact thickness all over the wall section

Note 1 to entry: See Table 2.

3.3 Metal beads, functional features:

3.3.1
profiled face/edge
surface or edge of bead used to provide the feature or function

3.3.2
wing
area of metal strip joining the bead face or edge, usually expanded or perforated or welded wire used for fixing and also key for plaster

3.3.3
open area
percentage of wing area perforated or expanded or percentage of opening between welded wires

3.3.4
plastic sheathing
plastic extrusion profiles designed to clip over exposed surfaces of beads for added protection against corrosion

Note 1 to entry: See Table 2 for the geometry of some profiles.

4 Requirements

4.1 Fire behaviour

4.1.1 Reaction to fire

When the intended use of metal lath and beads is for situations in building construction works where there is a risk of exposure to fire, metal lath and beads shall be classified A1 without the need of testing[1)] unless they have organic coatings or flexible middle parts.

Metal lath and beads for external rendering having an exposed surface 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.

4.1.2 Fire resistance

Metal lath and beads can be used in walls and canopies and encasement systems providing fire ratings.

When required, the fire rating of the system shall be tested to EN 1364-1, EN 1364-2, EN 1365-1, EN 1365-3 and EN 1365-4 as appropriate and classified to EN 13501-2.

4.2 Requirements for lath

4.2.1 Material

Lath shall be manufactured from the materials and finishes shown in Table 3. The corrosion resistant selected material and finish shall provide a satisfactory level of protection against corrosion under conditions of intended use, i.e. regional requirements.

4.2.2 Description

a) Expanded lath, ribbed lath and wire lath or mesh shall be formed to provide the functional requirements of stiffness to span between supports or fixings and have aperture sizes to provide an efficient keying matrix for the plaster. Typical products meeting these requirements are given in Tables 4 and 5 and in Figures 3, 4, 5, 6 and 7;

b) stainless steel claylath is produced in open, half open and closed versions. In half open and closed claylath, the apertures between the crosses may be closed with fired clay. Fired clay is itself an efficient keying matrix (see Table 6 and Figure 8). At least 60 % of the surface area shall be covered with clay.

4.2.3 Dimensions

4.2.3.1 Nominal thickness and diameter

a) For expanded lath, ribbed lath, wire lath and mesh, the thickness/diameter shall be as given in Tables 4 and 5. The tolerances shall be those specified in EN 10143, EN 10218-2 and EN 10264-4;

b) for stainless steel claylath, the nominal sizes of the wire for production (before firing) shall be 0,7 mm and 0,9 mm; the tolerances shall be those specified in EN 10258 for stainless steel wire.

---

1) According to Commission Decision 96/603/EC as amended.

2) According to Commission Delegated Regulation (EU) No 1293/2014.

4.2.3.2 Length and width

a) For expanded lath, ribbed lath and wire lath, the nominal length and width of lath shall be declared by the manufacturer. Tolerances shall be ± 1 % for length and ± 15 mm for width;

b) for stainless steel claylath, the nominal length and width of lath shall be declared by the manufacturer; tolerance shall be ± 2 %.

4.2.3.3 Mesh type and size dimensions

a) For expanded flat lath, when measured as illustrated in Figure 3, the aperture shall be at least 13 mm in the LWM (long way mesh) direction and at least 5 mm in the SWM (short way mesh) direction.

b) Expanded corrugated lath is produced from flat lath; the minimum height of the corrugated ribs shall be 5 mm.

c) Expanded normal ribbed and expanded mini ribbed lath are formed with a rib on each longitudinal edge and with ribs spaced at maximum intervals of 110 mm. For expanded ribbed lath, the minimum height of the ribs shall be 7 mm and for expanded mini ribbed lath between 4 mm and 7 mm. The aperture sizes in the LWM and the SWM directions as specified by the manufacturer shall correspond to Figure 4.

NOTE The dimensions are for "clear aperture" not centre to centre of strands.

4.2.3.4 Standard paperbacked wire lath

The wires shall have a minimum nominal equivalent diameter of 1,4 mm. For further details see 3.1.5 (see Figure 5 and Table 5).

4.2.3.5 Reinforced paperbacked wire lath

Same as 4.2.3.4, but the reinforcing wires shall have a minimum nominal equivalent wire diameter of 2,8 mm spaced at distances not greater than 150 mm. The moment of inertia in the direction where increased stiffness is required shall be at least 10 mm^4.

4.2.3.6 High ripped paperbacked wire lath

Same as 4.2.3.4 but the reinforcing wires shall have a minimum nominal equivalent wire diameter of 3,9 mm spaced at distances not greater than 150 mm. The moment of inertia in the direction where increased stiffness is required shall be at least 30 mm^4.

4.2.3.7 Damp proof paperbacked wire lath

Same as 4.2.3.5 with a bituminous paper bonded to the back of the cardboard sheet.

4.2.3.8 Stainless steel claylath

For requirements see Table 6 and Figure 8. The figure shows the open type. In half open and closed claylath the apertures between the crosses may be closed with fired clay.

4.2.3.9 Welded wire mesh

For requirements see Table 5 and Figure 7.

4.3 Requirements for beads

4.3.1 Material

Beads shall be manufactured from hot-dip coated steel sheet or strip conforming to EN 10346, Austenitic stainless steel sheet or strip to EN 10088-1and EN 10088-2, aluminium sheet or strip to EN 573-3, organic coated galvanized steel sheet or strip to EN 10169-1 or subsequently organic coated, galvanized steel sheet or strip to EN 10346. Alternatively, beads can be manufactured from galvanized wire to EN 10244-1 and EN 10244-2 (class A), austenitic stainless wire to EN 10088-1, EN 10088-3 and EN 10088-5 or zinc alloys to EN 988.

The material or coatings shall be that defined in this standard (see Table 3) or to an equivalent level to prevent corrosion at normal conditions of use (i.e. regional requirements, marine environment, reaction between gypsum and some stainless steels).

4.3.2 Description

Beads shall be formed to provide functional or featured profiles. They shall be free from kinks or deformations which would detract from their function. The beads may incorporate a variety of profiles with one or more wings depending upon their function. The wings shall be expanded or perforated or welded wire to facilitate fixing using mechanical or plaster fixing methods.

4.3.3 Dimensions

4.3.3.1 Thickness or diameter

a) Metal strip: Beads formed from metal strip shall have a minimum thickness of 0,5 mm for hot-dip coated steel, or subsequently organic coated, galvanized steel (sheet thickness to be measured before coating). The minimum thickness for aluminium strip shall be 0,4 mm and for stainless steel strip 0,3 mm.

b) Fabricated wire beads: Beads fabricated from galvanized or stainless steel wire shall have a minimum nominal equivalent diameter of 1,4 mm.

c) Precoated hot-dip coated steel strip, organic coated: The thickness of the coating shall be specified by the manufacturer.

d) Subsequently organic coated, galvanized steel strip: The thickness of the additional organic coating shall not be less than 20 µm and shall be specified by the manufacturer.

4.3.3.2 Length

The nominal length of the bead shall be declared by the manufacturer. The tolerances shall be for:

— perforated or expanded metal strip: ± 10 mm;

— galvanized or stainless steel wire: ± 20 mm.

4.3.3.3 Straightness

The beads shall be straight to an accuracy which allows for the following maximum deviations from the flat surface when measured as described in 5.2.4 and shown in Figure 1:

— for angle beads $\frac{L}{400}$ (1)