BRITISH STANDARD

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Corrigendum No. 1

Metal lath and beads — Definitions, requirements and test methods —

Part 1: Internal plastering

The European Standard EN 13658-1:2005 has the status of a British Standard

ICS 77.140.65; 91.100.10

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 13658-1:2005. Together with BS EN 13658-2, it supersedes BS 1369-1:1987 and BS 6452-1:1989, which are withdrawn.

The UK participation in its preparation was entrusted by Technical Committee B/544, Plastering, Rendering, Dry Lining, to Subcommittee B/544/1, Gypsum Plasters, Cast Gypsum And Ancillaries, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 13658-1

May 2005

ICS 77.140.65; 91.100.10

English version

Metal lath and beads - Definitions, requirements and test methods - Part 1: Internal plastering

Lattis et cornières métalliques - Définitions, prescriptions et méthodes d'essai - Partie 1 : Enduits intérieurs

Putzträger und Putzprofile aus Metall - Begriffe, Anforderungen und Prüfverfahren - Teil 1: Innenputze

This European Standard was approved by CEN on 24 March 2005.

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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Foreword

This document (EN 13658-1:2005) 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 November 2005, and conflicting national standards shall be withdrawn at the latest by February 2007.

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.

No existing European Standard is superseded.

This European Standard on metal lath and beads consists of two parts :

— *Part 1 : Internal plastering*

— *Part 2 : External rendering.*

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Diagram 1 shows the family of gypsum products and standards.

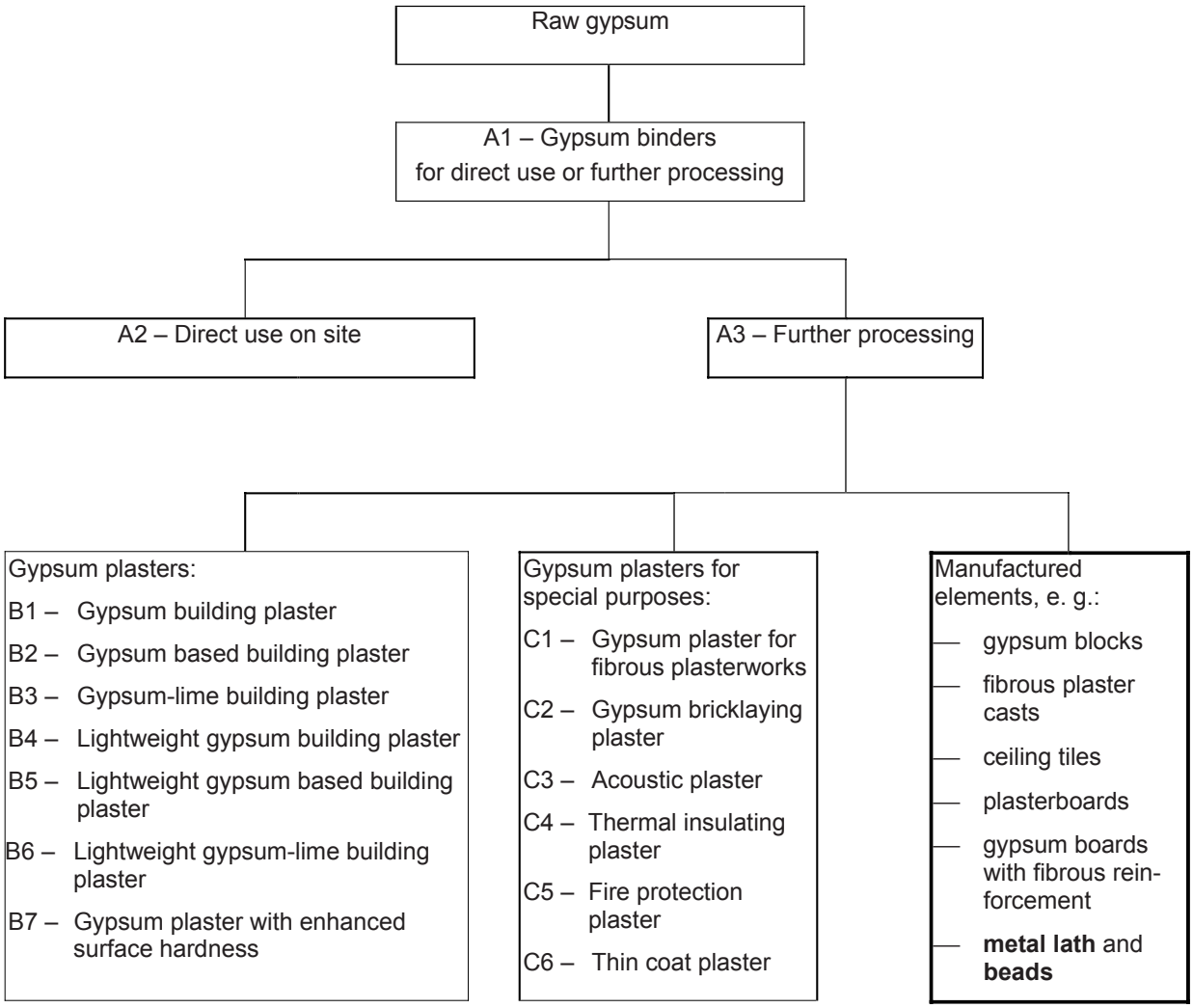


Diagram 1 — Family of gypsum products

1 Scope

This European Standard specifies the requirements and test methods of metal lath and beads for internal plastering.

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. Metal lath is used vertically to support linings for walls, partitions and columns and horizontally to support linings for ceilings and beams. Used in this way it enables fire protecting plastering systems to be provided.

This European Standard covers metal beads intended to be used to improve the protection of corners and also provide features to the internal finish of the construction as well as metal beads intended to be used as depth gauge beads and movement or expansion beads. They also contribute to fire protection.

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

EN 485-3, *Aluminium and aluminium alloys - Sheet, strip and plate - Part 3: Tolerances on dimensions and form for hot-rolled products*

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

EN 988, *Zinc and zinc alloys - Specifications for rolled flat products for building*

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

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

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

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

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

EN 10088-1, *Stainless steels - Part 1: List of stainless steels*

EN 10088-2, *Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip for general purposes*

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

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

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

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

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

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

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 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 13914-2, *Design, preparation and application of external rendering and internal plastering - Part 2: Design considerations and essential principles for internal plastering*

3 Terms and definitions

For the purposes of this European Standard, 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 plastering (see Figure 3a)

3.1.2
expanded corrugated metal lath
corrosion resistant diamond mesh to provide extra stiffness (see Figure 3b)

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 (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 (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 to form a square mesh to provide a key for plastering; between the horizontal and vertical wires a sheet of cardboard is positioned (see Figure 5)

3.1.8
reinforced paperbacked wire lath
same as 3.1.7, but the reinforcing wires are thicker and less widely spaced 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
normal claylath
woven mesh of steel wire with clay pressed on the intersection of the wire and then fired (see Figure 6)

3.1.12
stainless steel claylath
woven mesh of stainless steel wire with clay pressed on the intersection of the wire and then fired (see Figure 6)

3.2 Metal beads and their uses

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

NOTE 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 internal plaster

NOTE this section can also be fabricated from wire

3.2.3
featured bead
corrosion resistant profiled section used to enhance the internal plaster finish at the edge

NOTE 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 internal plaster surface

NOTE this section can also be fabricated from wire

3.2.5
corner movement bead
corrosion resistant profiled section as 3.2.4, with a flexible plastic extrusion used for 90° inner corners (maximum movement ± 1,5 mm)

3.2.6
expansion bead
corrosion resistant profiled section with a flexible extrusion capable of movement greater than ± 1,5 mm, i.e. to allow for background movement which provides vertical and horizontal flexibility

3.2.7
corner expansion bead
corrosion resistant profiled section as 3.2.6 to allow for background movement in 90° inner corners

3.2.8
depth gauge bead
profiled section which can be set on plane surfaces to control the depth of plaster applied

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

NOTE See Table 1 for geometric 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. In this case 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, partitions and ceilings 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 2. 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 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 3 and 4 and in Figures 3, 4 and 5 ;

b) normal and stainless steel claylath are produced in open, half open and closed versions (see Figure 7). At least 60 % of the surface area shall be covered with clay.

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

4.2.3 Dimensions

4.2.3.1 Nominal thickness and diameter

a) For expanded lath, ribbed lath and wire lath, the thickness/diameter shall be as given in Tables 3 and 4. The tolerances shall be those specified in EN 10143, EN 10218-2 and EN 10264-4 ;

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

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 $\pm$ 1 % for length and $\pm$ 15 mm for width ;

b) for normal and stainless steel claylath, the nominal length and width of lath shall be declared by the manufacturer (see Figure 7). Tolerance shall be $\pm$ 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 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 (see Figure 5 and Table 4).

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 3,0 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 ribbed 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 Normal and stainless steel claylath

For requirements, see Table 5 and Figure 7. The figure shows the open type. In half open and closed claylath the apertures between the crosses may be closed with fired clay.

4.3 Requirements for beads

4.3.1 Material

Beads shall be manufactured from hot-dip coated steel sheet or strip conforming to EN 10327, stainless steel sheet or strip to EN 10088-1 and EN 10088-2, aluminium sheet or strip to EN 573-3, organic coated galvanised steel sheet or strip to EN 10169-1 or subsequently organic coated, galvanised steel sheet or strip to EN 10327. Alternatively, beads can be manufactured from galvanised wire to EN 10244-1, stainless wire to EN 10264-4 or zinc alloys to EN 988.

The material or coatings shall be that defined in this standard (see Table 2) or to an equivalent level to prevent corrosion at normal conditions of use (i.e. regional requirements, 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 various 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 0,4 mm for hot-dip coated steel, or subsequently organic coated, hot-dip coated 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 galvanised 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, galvanised steel strip: the thickness of the additional organic coating shall not be less than 40 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 ;

— galvanised 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)

— for stop and featured beads $\frac{L}{600}$ (2)

where

L is the length.

4.3.3.4 Profile dimensions

The profile dimensions and angles shall be as shown in Table 1 and measured as described in 5.2.5.

4.3.3.5 Wing width

The minimum width of wings is given in Table 1.

4.3.3.6 Wing open area

The open area of each wing shall not be less than 50 %.

4.3.3.7 Movement bead

The producer shall declare that the bead provides movement of ± 1,5 mm without damage.

4.3.3.8 Expansion bead

The producer shall declare that the bead provides differential movement more than ± 1,5 mm without damage.

4.4 Dangerous substances

Materials used in products shall not release any dangerous 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.

5 Testing and sampling

5.1 Dimensional measurements of lath

5.1.1 General

The test methods necessary to demonstrate the compliance of the product with the technical requirements shall be as given below. Sampling shall consist of at least five full size specimens chosen at random.

5.1.2 Thickness or diameter

5.1.2.1 Principle

The dimension shall be measured directly.

5.1.2.2 Apparatus

A micrometer permitting readings to 0,01 mm.

5.1.2.3 Procedure

Measure the distance between the two faces in three separate positions per specimen. For wire measure the diameter at three different positions.

Measurement shall be carried out on a representative surface area which is free from formed surfaces and any slight distortions from cutting.

5.1.2.4 Expression of results

Record three measurements of thickness or diameter and calculate the arithmetical average for each specimen. This shall be conducted on five specimens, all of which shall meet the requirements of 4.2.3.1.

5.1.3 Length and width

5.1.3.1 Principle

The dimension shall be measured directly.

5.1.3.2 Apparatus

a) flat surface ;

b) metal rule or tape graduated in millimetres, permitting readings to 1,0 mm.

5.1.3.3 Procedure

Place the specimen on the flat surface and measure the length and width. Make measurements at three separate positions per specimen.

5.1.3.4 Expression of results

Record three measurements of length and width and calculate the arithmetical average for each specimen. This shall be conducted on five specimens, all of which shall meet the requirements of 4.2.3.2.

5.1.4 Coating thickness of lath and beads

5.1.4.1 Principle

The coating thickness may be measured either by

a) using electro or magnetic probe,

or

b) the stripping method.

NOTE The reference method refers to the method to be used in the case of different results between the two methods. Method b) is a large-scale method qualified for laboratory measurements. For measurements at random during manufacturing or on site, method a) is preferred.

The thickness of the coating shall be measured and compared to the requirements.

5.1.4.2 Apparatus

a) Electro or magnetic probe measuring equipment

or

b) micrometer permitting readings to 0,01 mm and

c) stripping reagent :

dissolve about 3,2 g of antimonous chloride ($SbCl_3$) or 2 g of antimonous oxide (Sb_2O_3) in 500 ml of concentrated hydrochloric acid (specific gravity of 1,19). Dilute the solution with distilled water to 1000 ml.

5.1.4.3 Procedure

Method A: Operate the electro or magnetic probe equipment to give direct readings of coating thickness,

or

Method B: Measure the thickness *a* of the product including the coating.

Immerse the sample completely in the stripping reagent at room temperature and leave until the coating has completely dissolved. The end of the dissolution process can be recognised by the cessation of the originally brisk evolution of hydrogen. Rinse the sample in running water and, if necessary, brush to remove any loose substance which may be adhering to the surface. Dip in alcohol and quickly dry. Measure the thickness *b* of the base metal.

The coating thickness is given by $\frac{a-b}{2}$ (3)

5.1.4.4 Expression of results

Make three measurements of coating thickness and calculate the arithmetical average on each specimen. All specimens shall comply with the requirements to EN 10143 and EN 10218-2 for galvanised materials and with 4.3.3.1 for additional coating.

Precoated strips shall comply with the producer's specification on coating thickness.

5.2 Dimensional measurements of beads

5.2.1 General

The test methods necessary to demonstrate the product compliance with the technical requirements are given below. Sampling shall consist of at least five full size specimens chosen at random.

5.2.2 Thickness or diameter

See 5.1.2 except 5.1.2.4.

Expression of results: Record three measurements of thickness or diameter and calculate the arithmetical average for each specimen. This shall be conducted on all five specimens which shall meet the requirements to 4.3.3.1.

5.2.3 Length

See 5.1.3 except 5.1.3.4.

Expression of results: Record the measurements of length of the five specimens. All specimens shall comply with the requirements of 4.3.3.2.

5.2.4 Straightness

5.2.4.1 Principle

The straightness of the specimen shall be measured and compared with the tolerances.

5.2.4.2 Apparatus

a) flat surface ;

b) slide calliper graduated in millimetres, permitting readings to 0,5 mm.

5.2.4.3 Procedure

Place the specimen on the flat surface and measure the deviation from the plane of the flat surface (see Figure 1).

5.2.4.4 Expression of results

Record the results of the five specimens. All specimens shall comply with the requirements of 4.3.3.3.

5.2.5 Profile dimensions

5.2.5.1 Principle

The accuracy of the profile shall be measured taking into account angles and dimensions.

5.2.5.2 Apparatus

a) protractor ;

b) slide calliper graduated in millimetres, permitting readings to 0,1 mm.

5.2.5.3 Procedure

Measure the angles and the dimensions of the profiles at a distance of at least 200 mm from the end of the profile and compare these with the specifications given in Table 1.

5.2.5.4 Expression of results

Record the results of the five specimens. All specimens shall comply with the requirements of 4.3.3.4.

5.2.6 Coating thickness

Measure as described in 5.1.4.

6 Evaluation of conformity

6.1 General

The compliance of products with the requirements of this standard and with the stated values (including classes) shall be demonstrated by :

— Initial Type Testing (ITT) ;

— Factory Production Control by the producer (FPC).

For the purposes of testing, products may be grouped into families, where it is considered that the selected property is common to all products within that family.

The decision on those products or properties which fall within a family shall be made by the producer.

6.2 Type testing

6.2.1 General

Sampling and testing shall be in accordance with clause 5.

The results of all type tests shall be recorded and held by the producer for at least 5 years.

6.2.2 Initial type testing

Initial type testing shall be performed to show conformity with this standard.

Initial type testing shall be performed at the beginning of the production of a new products type (unless it is a member of a family previously tested) or at the beginning of a new method of production (where this may significantly affect the stated properties).

Tests previously performed in accordance with the provisions of this standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity, etc.) may be taken into account.

All product characteristics in clause 4 applicable to the intended uses shall be subject to initial type testing, with the following exceptions :

— release of dangerous substances may be assessed indirectly by controlling the content of the substance concerned ;

— when designed values are used ;

— when reaction to fire is class A1 (no contribution to fire) without further testing as 4.1.1.

6.2.3 Further type testing

Whenever a change occurs in the products design, the raw material or supplier of the components, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics, the type tests shall be repeated for the appropriate characteristic(s).

Sampling and testing shall be in accordance with clause 5.

The results of all type tests shall be recorded and held by the producer for at least 5 years.

6.3 Factory production control (FPC)

6.3.1 General

The producer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform with the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

NOTE An FPC system conforming with the requirements of EN ISO 9001, and made specific to the requirements of this standard, is considered to satisfy the above requirements.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded and retained for the period specified in the producer's FPC procedures.

6.3.2 Personnel

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product conformity, shall be defined. This applies in particular to personnel that needs to initiate actions preventing product non-conformities from occurring, actions in case of non-conformities and to identify and register product conformity problems. Personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

6.3.3 Equipment

a) Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

b) Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the producer's written procedures and the records retained for the period defined in the producer's FPC procedures.

6.3.4 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

6.3.5 Product testing and evaluation

The producer shall establish procedures to ensure that the stated values of all product characteristics are maintained. Compliance with EN ISO 9001:2000, 7.5.1 and 7.5.2 should be deemed to satisfy the requirements of this clause.

6.3.6 Traceability and marking

Individual products, product batches or packages shall be identifiable and traceable with regard to their production origin. The producer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly. Compliance with EN ISO 9001:2000, 7.5.3 should be deemed to satisfy the requirements of this clause.

6.3.7 Non-conforming products

The producer shall have written procedures which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the producer's written procedures.

6.3.8 Corrective action

The producer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence. Compliance with EN ISO 9001:2000, 8.5.2 should be deemed to satisfy the requirements of this clause.

6.3.9 Other test methods

For factory production control, test methods other than those specified for ITT may be used providing they provide sufficient confidence in the conformity of the product with this standard.

7 Designation

7.1 Lath

Lath shall be designated as follows :

a) the wording "lath" ;

b) reference to this European Standard ;

c) type :

— flat metal lath ;

— corrugated metal lath ;

— ribbed lath (mini rib) ;

— ribbed lath (normal rib) ;

— normal wire lath (can be paperbacked) ;

— reinforced wire lath (can be paperbacked) ;

— high ribbed wire lath (can be paperbacked).

NOTE See Table 3

EXAMPLE OF DESIGNATION : Lath EN 13658-1, normal wire lath

7.2 Beads

Beads shall be designated as follows :

a) the wording "bead" ;

b) reference to this European Standard ;

c) type :

— angle bead ;

— stop bead ;

— featured bead ;

— movement or expansion bead ;

— depth gauge bead ;

— wire angle bead.

NOTE See Table 1.

EXAMPLE OF DESIGNATION : Bead EN 13658-1 stop bead

8 Marking, labelling and packaging

Lath and beads complying with this European Standard shall be clearly marked on the packaging or on the accompanying commercial documents (e.g. delivery note) with the following items :

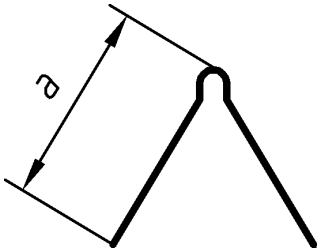
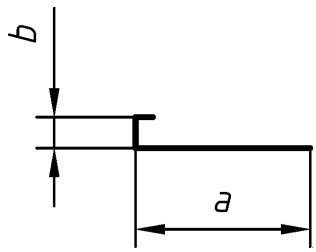
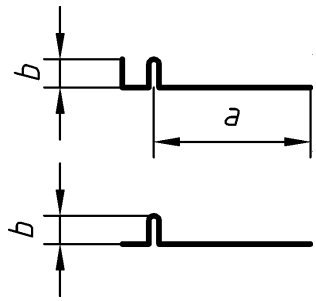
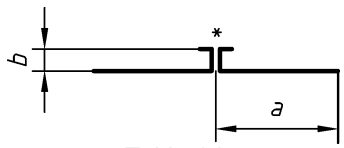
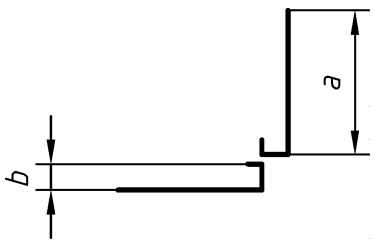
— reference to this European Standard ;

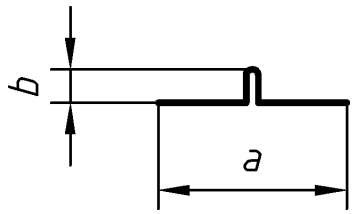
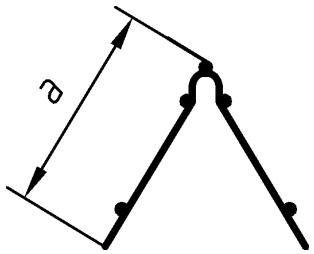
— name, trademark or other means of identification of the producer ;

— date of production ;

— means of identifying the metal lath and beads and relating them to their designation as defined in clause 7.

NOTE Where the CE marking also requires the above items, compliance with CE marking would be deemed to satisfy the requirement of this clause.**Table 1 — Typical beads – Internal applications**

Profile (illustrative only)	Profile number	Material type	Minimum material thickness	Min. dimension *a* mm
angle bead  Table 1a	W1 see notes 1 and 2 and Fig 2	see Table 2	see 4.3.3.1	30
stop bead  Table 1b	W2			25
featured bead  Table 1c	W3 W4			25
movement and expansion bead  Table 1d	W5 see note 3			30
corner movement and expansion bead  Table 1e	W6 see note 3			30

depth gauge bead  Table 1f	W7			20
wire angle bead  Table 1g	W8			30

NOTE 1 Dimension b to suit plaster thickness (minimum); for plaster thickness for angle beads (see Figure 2).
NOTE 2 Profile numbers W1/3 for 3 mm plaster, W1/10 for 10 mm plaster, W1/13 for 13 mm plaster etc.
NOTE 3 * plastic expansion section.

Table 2 — Material types

1	stainless steel to EN 10088-1 and EN 10088-2; strip and wire to EN 10264-4	beads and lath
2	galvanised steel strip Z450 to EN 10327 and EN 10143	beads and lath
3	galvanised, organic coated steel strip to EN 10169-1	beads and lath
4	galvanised steel strip Z275 to EN 10327 and EN 10143	beads and lath
5	galvanised steel strip Z275 to EN 10327 and EN 10143, subsequently organic coated	lath
6	galvanised steel strip Z350 to EN 10327 and EN 10143	beads and lath
7	galvanised wire to EN 10218-2 and EN 10244-1	beads and lath
8	galvanised steel strip Z275 to EN 10327 and EN 10143 plus plastic extrusion sheathing	beads
9	aluminium sheet or strip to EN 485-2 and EN 485-3	beads
10	zinc alloys to EN 988	beads and lath

Table 3 — Typical expanded mesh lath (internal applications)

Reference or code [a]	Style	Product specification	Aperture LWM *x* SWM min opening	Minimum rib height mm	Nominal thickness mm	Material Type/quality
L	expanded flat lath	4.2.3.1 to 4.2.3.3	13 mm *x* 13 mm	–	0,3	see Table 2
LS	expanded flat lath stainless steel	4.2.3.1 to 4.2.3.3	13 mm *x* 13 mm	–	0,3	–
CL	expanded corrugated lath	4.2.3.1 to 4.2.3.3	13 mm *x* 13 mm	5	0,3	see Table 2
CLS	expanded corrugated lath stainless steel	4.2.3.1 to 4.2.3.3	13 mm *x* 13 mm	5	0,3	–
RLM	expanded flat ribbed lath	4.2.3.1 to 4.2.3.3	to be specified by the producer	4	0,25	see Table 2
RL	expanded ribbed lath	4.2.3.1 to 4.2.3.3	to be specified by the producer	7	0,2	see Table 2
RLS	expanded ribbed lath stainless steel	4.2.3.1 to 4.2.3.3	to be specified by the producer	7	0,3	–
RLP	expanded paper backed ribbed lath	4.2.3.1 to 4.2.3.3	to be specified by the producer	7	0,3	see Table 2

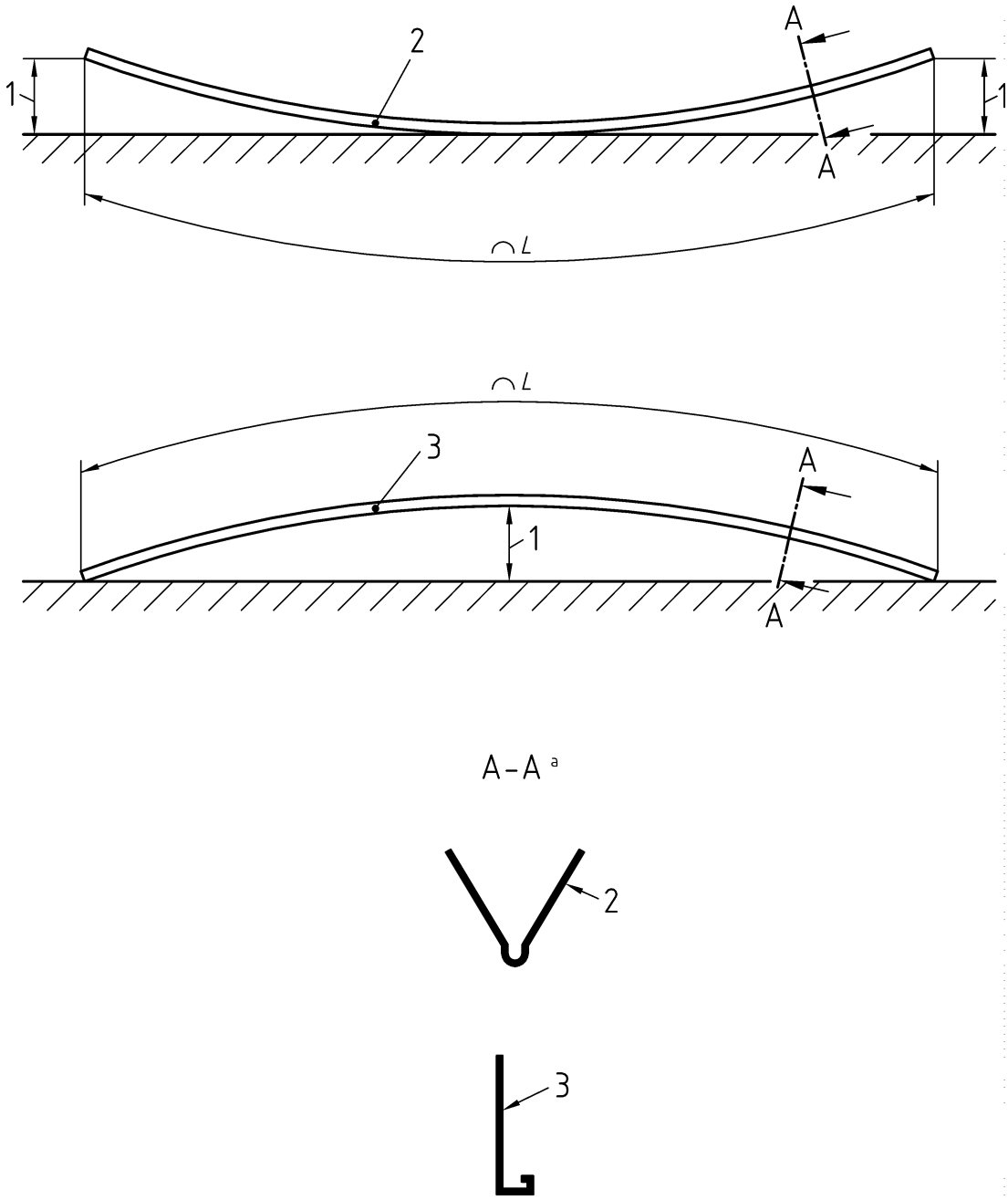
[a] L lath
LS…..lath – stainless steel
CL corrugated lath
CLS corrugated lath - stainless
RL expanded ribbed lath
RLM expanded mini ribbed lath
RLS expanded ribbed lath – stainless steel
RLP expanded paper backed ribbed lath

Table 4 — Typical welded wire lath and mesh (internal applications)

Reference/code number	Style	Specification	Nominal mass kg/m^2	Material Type/quality
SWL	Standard paper-backed wire lath	see 4.2.3.4	1,05	see Table 2 and EN 13914-2
RWL	Reinforced paper-backed wire lath	see 4.2.3.5	1,22	
HWL	High ribbed paper-backed wire lath	see 4.2.3.6	1,47	

Table 5 — Typical claylath

Reference/code number	Style	Typical dimension	Minimum mass kg/m^2	Material Type/quality
NL 1	Normal	see 4.2.3.7 and Figure 7	3,2	see Table 2
SL 2	Stainless steel		3,2	



Key

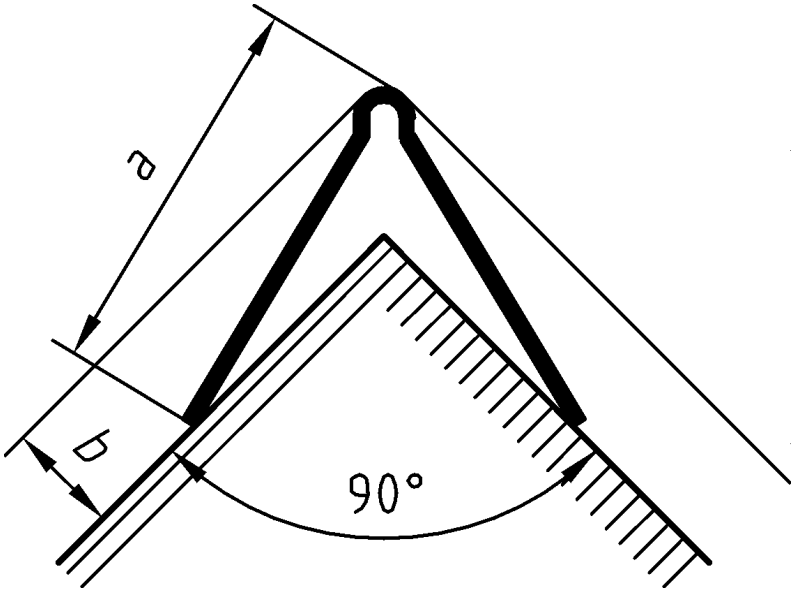
1 Measurement of deviation of straightness
2 Angle bead
3 Stop bead and similar

Section A – A

Bead position for test, i.e. concave deviation shown.

Convex deviation has the same requirements

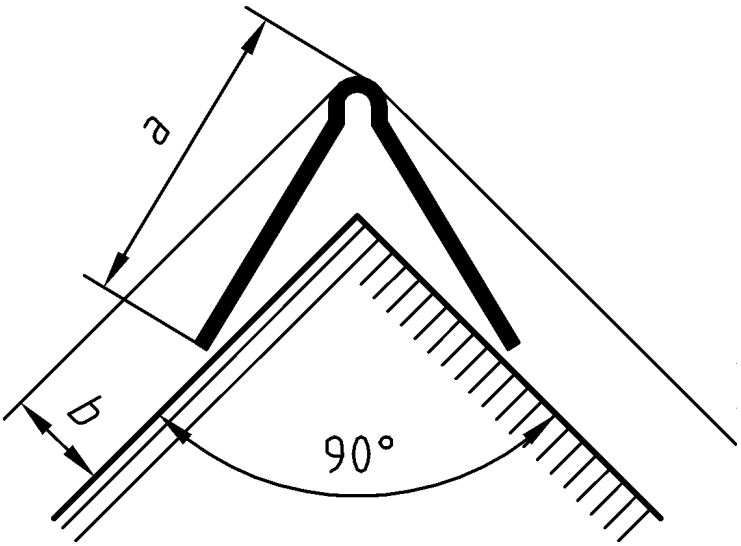
Figure 1 — Measurement of straightness tolerance



Method 1

dimensions *a* and *b* to suit
minimum thickness of plaster

tolerance for plaster thickness *b* = ± 1,0 mm

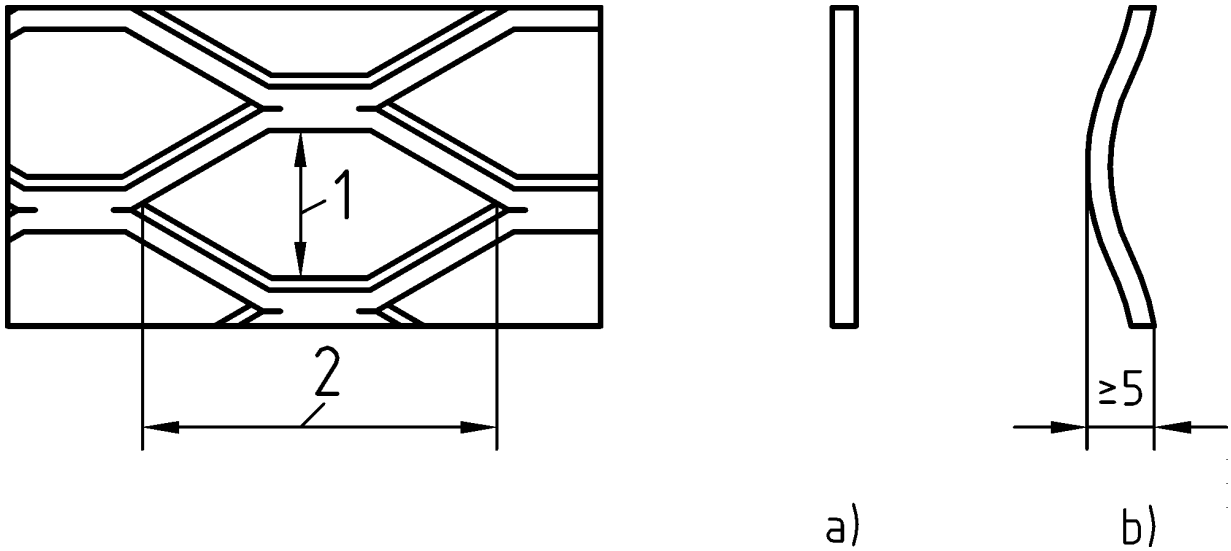


Method 2

dimension *a* to suit bedding
into plaster dabs or first coat

Figure 2 — Angle bead dimensions

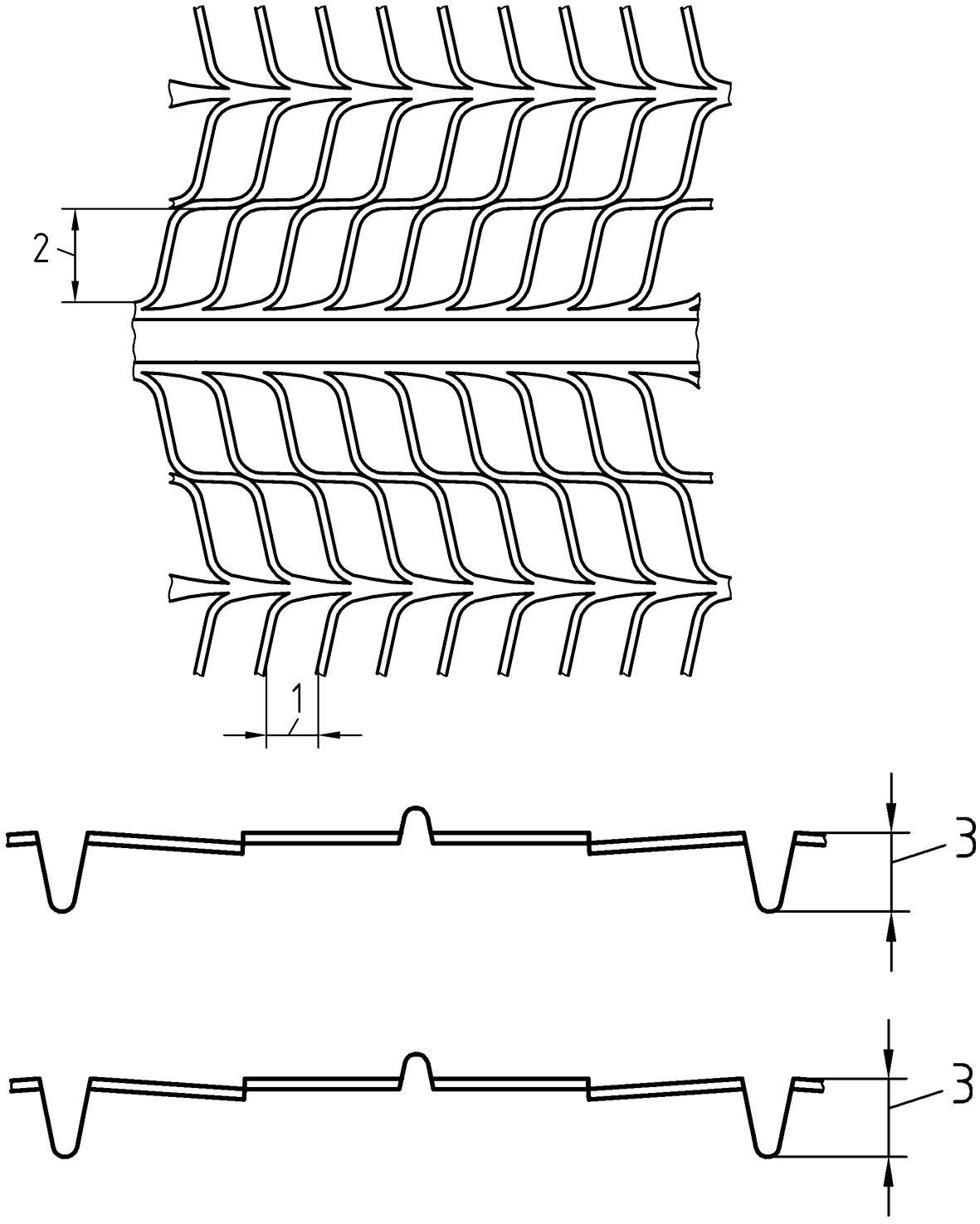
Dimensions in millimetres



Key

1 Aperture dimension SWM
2 Aperture dimension LWM
a) Flat metal lath
b) Corrugated metal lath

Figure 3 — Measurement of aperture for expanded metal lath

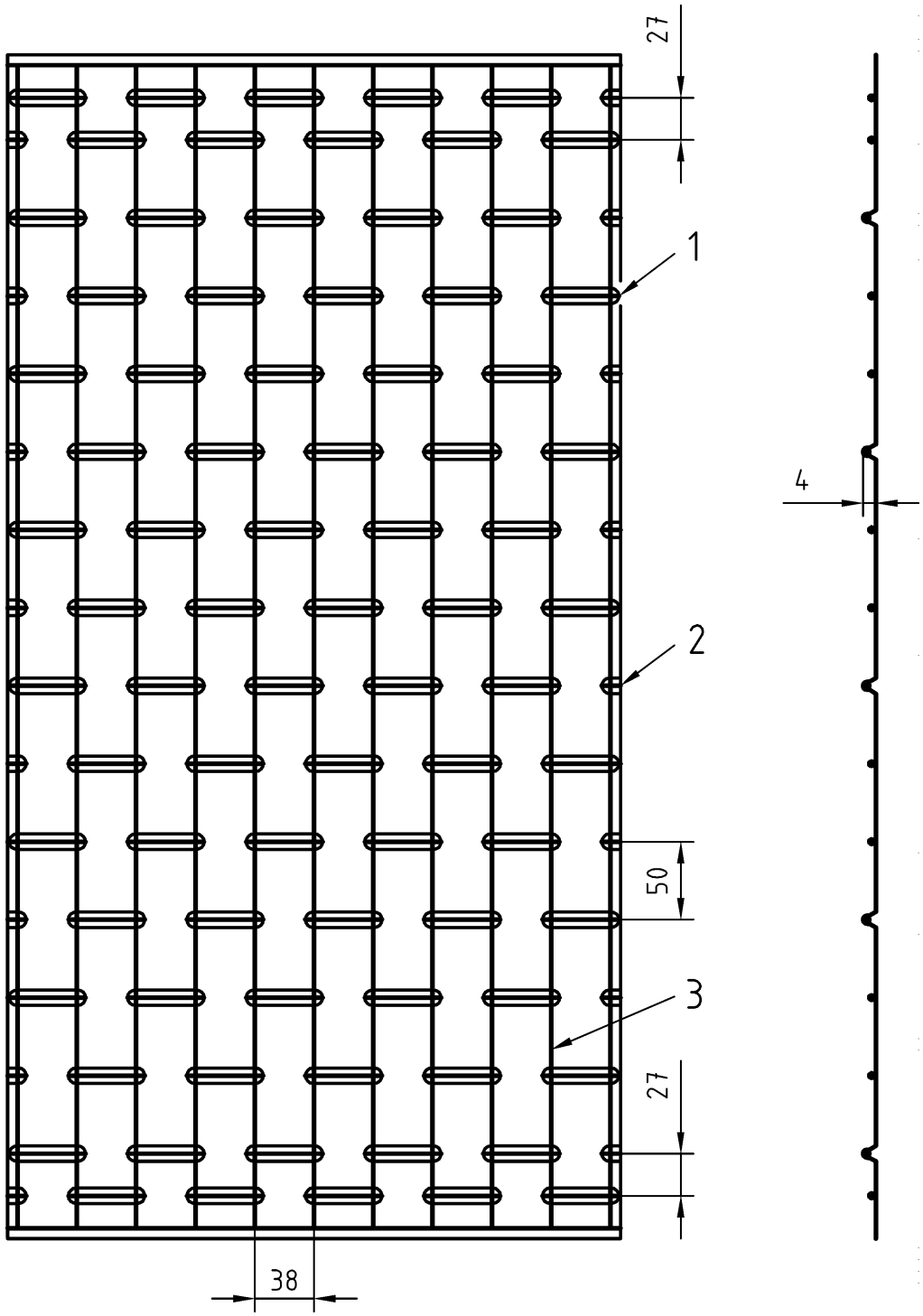


Key

1 Aperture dimension SWM
2 Aperture dimension LWM
3 Height of rib

Figure 4 — Measurement of aperture for ribbed lath

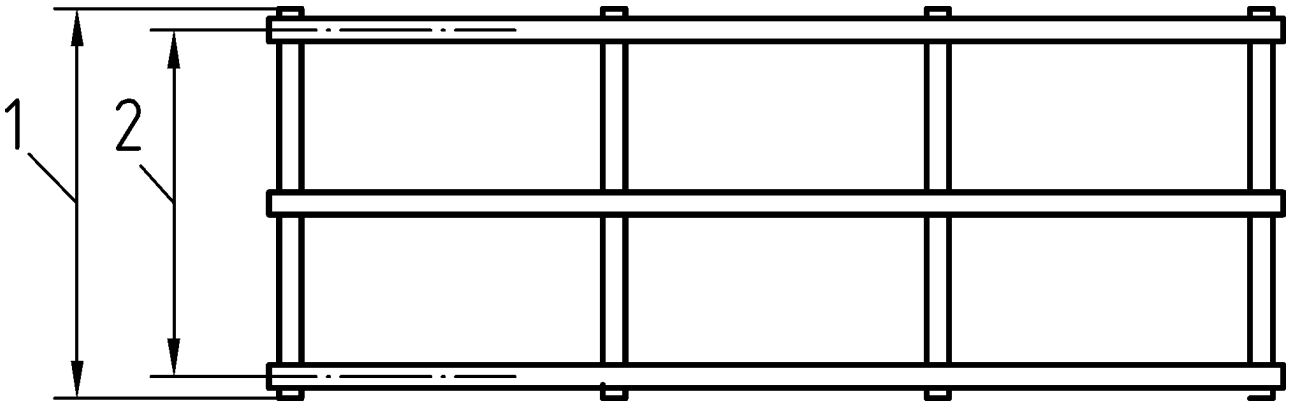
Dimensions in millimetres



Key

1 Line wire
2 Reinforcement wire
3 Stay wire
4 Metal lath thickness

Figure 5 — Welded wire lath



Key

1 Actual length
2 Nominal length

Figure 6 — Welded wire mesh

Dimensions in millimetres

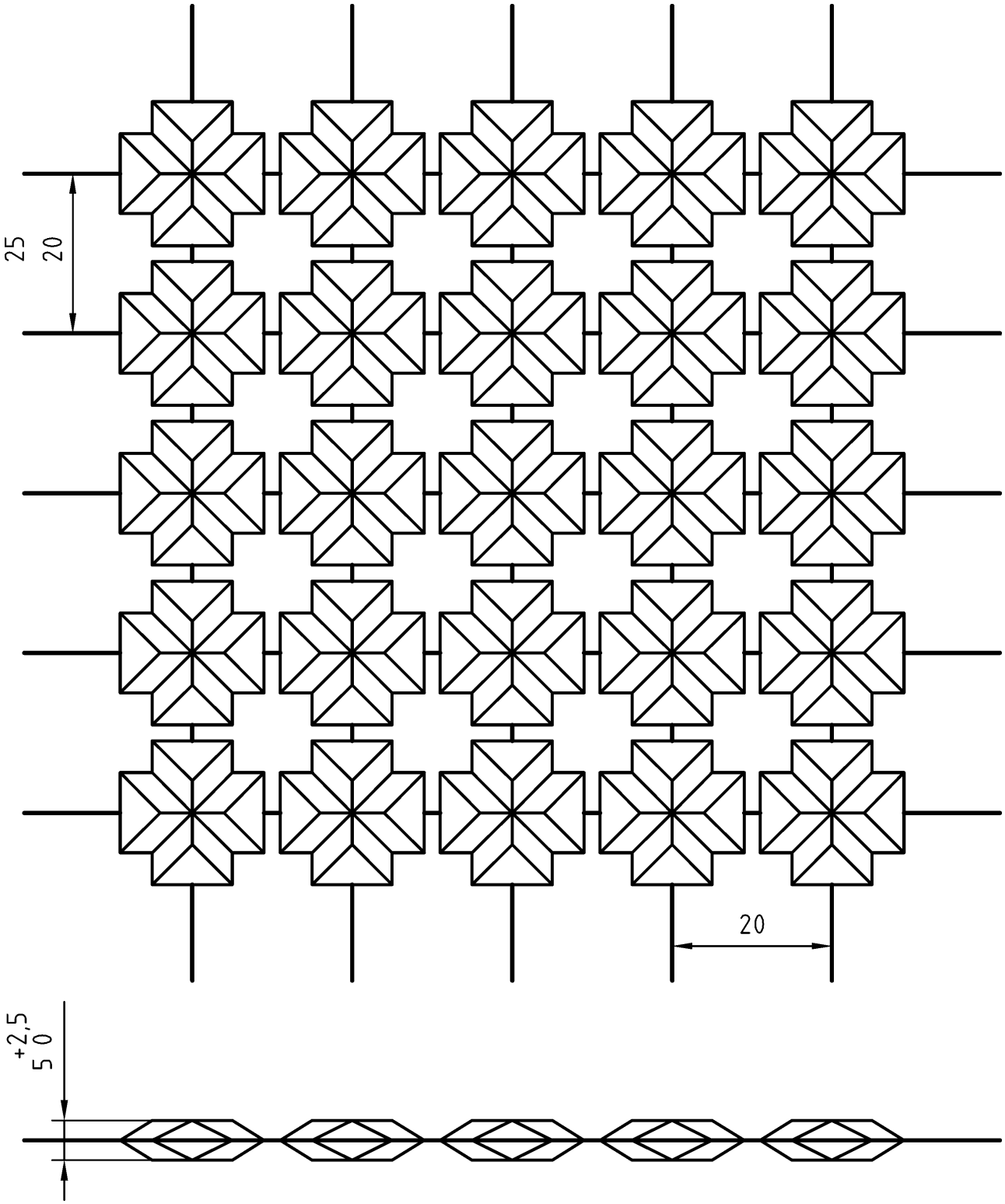


Figure 7 — Open claylath

Annex ZA
(informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Directive

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under a mandate M/106 "Gypsum products" given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard, shown in Table ZA.1 below, meet the requirements of the Mandate given under EU Construction Products Directive (89/106/EEC).

Compliance with these clauses confers a presumption of fitness of the metal lath and beads covered by this annex for their intended uses indicated herein; reference shall be made to the information accompanying the CE marking.

WARNING — Other requirements and other EU Directives, not affecting the fitness for intended use(s), may be applicable to the metal lath and beads for internal plastering falling within the scope of this European Standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (accessed through http:/europa.eu.int/comm/enterprise/construction/internal/dangsub/dangmain.htm).

This annex has the same scope as Clause 1 of this standard with regard to the products covered. It establishes the conditions for the CE marking of metal lath and beads intended for the use indicated below and shows the relevant clauses applicable (see Table ZA.1).

Table ZA.1 — Scope and requirement clauses relevant for CE marking

Product:	**metal lath and beads for internal plastering**		
Intended uses:	**general building construction** (see clause 1)		
Essential characteristics from the mandate	**Requirement Clauses in this European Standard**	**Mandated level and/or class**	**Notes**
Reaction to fire (for exposed situations)	4.1.1	A1 to F	Including products of Class $A1_{fl}$ to F_{fl} in accordance with Commission Decision 96/603/EC, as amended.
Dangerous substances	4.4	-	Substance X : less than n ppm

The requirements on a certain characteristic does not apply in those Member States where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, producers placing their products on the market of these Member states are not obliged to determine nor to declare the performance of their products with regard to this characteristic and the option "no performance determined" (NPD) in the information accompanying the CE marking (see ZA.3) may be used.

The NPD option may not be used however where the characteristic is subject to a threshold level.

ZA.2 Procedure(s) for the attestation of conformity of metal lath and beads

The system(s) of attestation of conformity for metal lath and beads indicated in Table ZA.1 in accordance with the Decision of the Commission 95/467/EC as given in the Annex III of the mandate M/106 "Gypsum products", is shown in Table ZA.2 for the indicated intended uses and relevant level(s) or class(es).

Table ZA.2 — Systems of attestation of conformity (AoC)

Product	Intended use(s)	Levels and/or classes	Attestation of conformity system
Metal lath and beads for internal plastering	In walls, partitions, ceilings or columns, as relevant, intended for fixing to structures and supporting linings, subject to reaction to fire regulations.	A1 to F	3 [a] 4 [b]
	For uses not mentioned above	–	4 [b]

[a] Products/materials requiring testing

[b] Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Class A1 according to Commission Decision 96/603/EC, as amended)

The assignation of tasks between the producer and the approved body is shown in Tables ZA.3a and ZA.3b for the indicated intended uses. Where more than one intended use applies for the product, the tables should be read in conjunction.

Table ZA.3a — Assignment of evaluation of conformity tasks for metal lath and beads intended to be used in walls, partitions, ceilings or columns for fixing to structures and supporting linings, contributing to fire protection (for products under attestation of conformity system 3)

Tasks		Content of the task	Clauses of this standard to apply
Tasks for the producer	Factory production control (FPC)	Reaction to fire. Controlling the existence of organic coatings or flexible middle parts.	6
Tasks for the approved body	Initial type testing (ITT)	Reaction to fire. Assessment of the Euroclass.	

Table ZA.3b — Assignment of evaluation of conformity tasks for metal lath and beads intended to be used in walls, partitions, ceilings or columns for applications not mentioned above (for products under attestation of conformity system 4)

Tasks		Content of the task	Clauses of this standard to apply
Tasks under the responsibility of the producer	Factory production control (FPC)	Parameters related to dangerous substances and reaction to fire.	6
	Initial type testing by the producer.	Declaration of Class A1	

(In case of products under system 3): When compliance with the conditions of this annex is achieved, the producer or his authorised representative established in the EEA, shall prepare and retain a declaration of conformity (EC declaration of conformity) which entitles the producer to affix the CE marking. This declaration shall include:

— name and address of the producer, or his authorised representative established in the EEA;

— description of the product (type, identification, intended use, etc.) and a copy of the information accompanying the CE marking;

— provisions to which the product conforms (i.e. Annex ZA of this European Standard);

— particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);

— name and address of the approved laboratory(ies);

— name of, and position held by, the person empowered to sign the declaration on behalf of the producer or of his authorised representative.

(In case of products under system 4): When compliance with this annex is achieved, the producer or his agent established in the EEA shall prepare and retain a declaration of conformity (EC Declaration of conformity), which entitles the producer to affix the CE marking. This declaration shall include:

— name and address of the producer, or his authorised representative established in the EEA;

— description of the product (type, identification, intended use, etc.) and a copy of the information accompanying the CE marking;

— provisions to which the product conforms (i.e. Annex ZA of this European Standard);

— particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions);

— name of, and position held by, the person empowered to sign the declaration on behalf of the producer or of his authorised representative.

NOTE Duplication of information between the declaration and certificate should be avoided. To avoid duplication of information, cross-reference between documents may be made when one contains more information than the other.

The above mentioned declaration and certificate shall be presented in the official language or languages of the Member State of the EU in which the product is to be used.

ZA.3 CE marking and labelling

The producer or his authorised representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EEC and shall be shown on the packaging or on the accompanying commercial documents (e.g. a delivery note). The following information shall accompany the CE marking symbol :

— name or identifying mark and registered address of the producer;

— the last two digits of the year in which the marking is affixed;

— reference to this European Standard;

— type of product (e.g. reinforced, paperbacked metal lath);

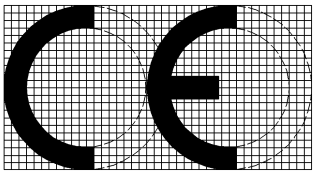
— information on the relevant essential characteristics listed in Table ZA.1 which are to be declared as :

  — declared values and, where relevant, level or class (including "pass or pass/fail" requirements where necessary) to declare for each essential characteristic as indicated in the "Notes" in Table ZA.1;

— “no performance determined” (NPD) for characteristics where relevant;

— as an alternative, a standard designation(s) alone or in combination with declared values as above.

The “no performance determined” (NPD) option may not be used when the characteristic is subject to a threshold level. Otherwise, the NPD option may be used when and where the characteristic, for a given intended use, is not subject to regulatory requirements in the Member State of destination. The CE conformity marking shall consist of the initials "CE" taking the following form:



— if the CE marking is reduced or enlarged the proportions given in the above graduated drawing must be respected;

— the various components of the CE marking must have substantially the same vertical dimension, which may not be less than 5 mm.

Figure ZA.1 gives an example of the information to be given on the packaging and/or on the accompanying commercial documents.

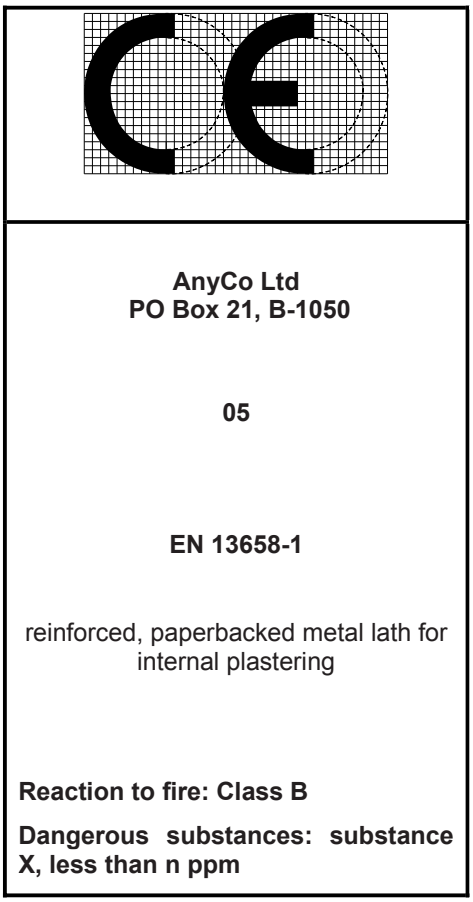


Figure ZA.1 — Example for CE marking information

NOTE In addition to any specific information relating to dangerous substances shown above, the product should also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation. European legislation without national derogations needs not to be mentioned.

When marking is carried out as described above, the full requirements for CE marking are complied with and no further documentation is necessary.

Bibliography

[1] EN ISO 9001, Quality management systems - Requirements (ISO 9001:2000)

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