SLOVENSKI STANDARD
SIST EN 10223-4:2013

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Nadomešča:
SIST EN 10223-4:2000

Jeklena žica in žični izdelki za ograje - 4. del: Varjene mrežne ograje iz jeklene žice

Steel wire and wire products for fences - Part 4: Steel wire welded mesh fencing

Stahldraht und Erzeugnisse aus Stahldraht für Zäune - Teil 4: Geschweißte Gitter aus Stahldraht für Zäune

Fils et produits tréfilés en acier pour clôtures - Partie 4: Grillage en acier soudé

Ta slovenski standard je istoveten z: EN 10223-4:2012

ICS:

77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains
91.090	Konstrukcije zunaj stavb	External structures

SIST EN 10223-4:2013 **en,fr,de**

EUROPEAN STANDARD

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ICS 77.140.65

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English Version

Steel wire and wire products for fencing and netting - Part 4: Steel wire welded mesh fencing

Fils et produits tréfilés en acier pour clôtures et grillages - Partie 4: Grillage en acier soudé

Stahldraht und Drahterzeugnisse für Zäune und Drahtgeflechte - Teil 4: Geschweißte Gitter aus Stahldraht für Zäune

This European Standard was approved by CEN on 13 October 2012.

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Contents

Page

Foreword

This document (EN 10223-4:2012) has been prepared by Technical Committee ECISS/TC 106 “Wire rod and wires”, 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of an identical text or by endorsement, at the latest by May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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

This document supersedes EN 10223-4:1998.

EN 10223 "*Steel wire and wire products for fencing and netting*" consists of the following parts:

— *Part 1: Zinc and zinc-alloy coated steel barbed wire*

— *Part 2: Hexagonal steel wire netting for agricultural, insulation and fencing purposes*

— *Part 3: Hexagonal steel wire mesh products for engineering purposes*

— *Part 4: Steel wire welded mesh fencing*

— *Part 5: Steel wire woven hinged joint and knotted mesh fencing*

— *Part 6: Steel wire chain link fencing*

— *Part 7: Steel wire welded panels for fencing*

— *Part 8: Welded mesh gabion products*

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements for steel wire welded mesh fencing of which there are many types for a variety of applications. It specifies the general characteristics of welded mesh fencing supplied as rolls or panels and coatings, properties and tolerances.

This European Standard covers only orthogonal welded mesh i.e. wire welded at right angles to one another.

For welded mesh fencing made from panels the specification covers only panels made from wires not greater than 10 mm.

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 10021, *General technical delivery conditions for steel products*

EN 10204, *Metallic products — Types of inspection documents*

EN 10218-1, *Steel wire and wire products — General — Part 1: Test methods*

EN 10218-2:2012, *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 10244-2:2009, *Steel wire and wire products — Non-ferrous metallic coatings on steel wire — Part 2: Zinc or zinc alloy coatings*

EN 10245-1, *Steel wire and wire products — Organic coatings on steel wire — Part 1: General rules*

EN 10245-2, *Steel wire and wire products — Organic coatings on steel wire — Part 2: PVC finished wire*

EN 10245-3, *Steel wire and wire products — Organic coatings on steel wire — Part 3: PE coated wire*

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron or steel articles — Specifications and test methods (ISO 1461)*

3 Terms and definitions

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

3.1
welded mesh fencing
fencing made by electrical resistance welding either:

a) zinc-coated or zinc alloy coated wires; or

b) bright wires which are subsequently coated after welding either with zinc or zinc alloy

Note 1 to entry: In both cases, the wire may or may not be crimped. The welded mesh may or may not be subsequently coated with an organic material.

3.2
spacing
distance measured between leading edge and leading edge of wires (see Figure 1)

3.3
mesh size of welded mesh
spacing of line wires followed by the spacing of cross wire e.g. for 50 mm line wire spacing and 25 mm cross wire spacing the mesh size is 50 mm x 25 mm

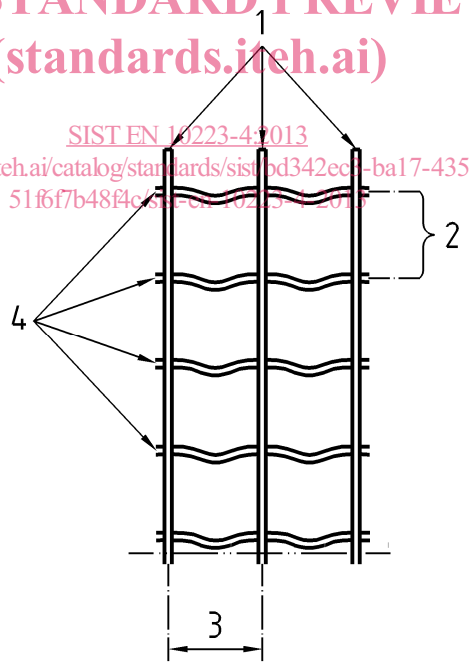
3.4
line wires
wires running in the longitudinal direction parallel with the length of the roll or panel (see Figure 1)

3.5
cross wires
wires running in the transverse direction (see Figure 1)

Note 1 to entry: On erection of the fence, the cross wires become vertical.

3.6
panel
welded mesh produced in flat form to specified dimensions or cut from rolls of welded mesh

Note 1 to entry: Panels are produced either with overhanging edges or with flush cut edges



Key

1 cross wires
2 line wire spacing
3 cross wire spacing
4 line wires

Figure 1 — Example of mesh

4 Information to be supplied by the purchaser

The following information shall be supplied by the purchaser at the time of enquiry and order:

a) number of this European Standard;

b) quantity and packaging;

c) if for agricultural use or not;

d) roll or panel;

e) mesh size(s);

f) diameters of line and cross wires;

g) length and width of rolls or size of panels;

h) the class of zinc or zinc/alloy coating and whether applied before or after manufacture and if required, the adherence and assessment of adherence (wrap specification);

i) whether an organic material coating is required and, if so, the type and colour;

j) tensile strength of line wires and cross wires if different from each other;

k) whether or not crimping is required in line or cross wires;

l) if applicable, the number of apertures required;

m) in the case of panels, whether to be produced with overhangs or cut flush;

n) test report requirements;

o) agreed quality characteristics for testing (see Clause 7).

5 Manufacture

5.1 Base metal

The base metal of the welded mesh fencing shall be low carbon steel.

5.2 Fabrication

5.2.1 Rolls

The welded mesh fencing in roll shall be fabricated by electrical resistance welding either from:

a) bright wires which subsequently after welding are either zinc or zinc alloy coated to EN 10244-1 and EN 10244-2:2009, class A; or

b) zinc or zinc alloy wire coated to EN 10244-1 and EN 10244-2:2009, class A, unless otherwise agreed at the time of enquiry and order.

Where requested by the purchaser the welded mesh fencing shall be subsequently coated with an organic material to EN 10245-1 and EN 10245-2 or EN 10245-3. The type and colour and any other criteria shall be given on the order.

5.2.2 Panels

Panels shall be produced by either:

a) cutting from zinc or zinc alloy coated rolls; or

b) by electrical resistance welded bright wires and subsequently zinc or zinc alloy coated to EN ISO 1461. No bare patches shall be permitted.

When requested by the purchaser the welded mesh fencing shall be subsequently coated with an organic material to EN 10245-1 and EN 10245-2 or EN 10245-3. The type and colour and any other criteria shall be given on the order.

5.3 Welding

The mesh shall be produced by electrical resistance welding at every line wire/cross wire intersection.

The line and/or cross wires may be crimped.

Depending on the application, the mesh spacing throughout the fencing may be the same, as in 50 mm x 50 mm security mesh or varying as in the welded mesh fencing for agricultural or general use i.e. decreasing mesh size from the top downwards. The diameter of line wires may be different from the diameter of cross wires.

6 Requirements

6.1 Tensile strength

The tensile strength of the line and cross wires shall be in the range 350 N/mm^2 to 950 N/mm^2. For any delivered lot, the spread of tensile strength shall be within 200 N/mm^2.

NOTE The tensile strength of the line wires may not be the same as the tensile strength of the cross wires.

6.2 Tolerance on wire diameters

The tolerance in diameter of the wires shall comply with the following grades from EN 10218-2.

a) zinc or zinc alloy coated wire to EN 10244-2:2009, class A, tolerance shall be to EN 10218-2:2012, T1 (Table 1).

b) other zinc or zinc alloy coated wire, tolerance shall be to EN 10218-2:2012, T2 (Table 1).

c) bright wire, tolerance shall be to EN 10218-2:2012, T3 (Table 1).

d) wire coated with an organic material, tolerance shall be to EN 10218-2:2012 (Table 2).

6.3 Coatings

6.3.1 Zinc and zinc alloy coatings

6.3.1.1 Rolls

When coating applies to EN 10244-2:2009, class A, samples taken from the fence shall have the minimum coating mass requirement reduced by 5 % and where specified the number of dips shall be reduced by one half minute dip.