



SLOVENSKI STANDARD SIST ISO 14315:2000

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Industrijske žice -- Tehnični zahtevi in preizkušnje

Industrial wire screens -- Technical requirements and testing

Tissus métalliques préformés ou soudés -- Exigences techniques et vérifications

Ta slovenski standard je istoveten z: ISO 14315:1997

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ICS:

73.120 Oprema za predelavo rudnin Equipment for processing of minerals

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en

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INTERNATIONAL STANDARD

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Industrial wire screens — Technical requirements and testing

*Tissus métalliques préformés ou soudés — Exigences techniques et
vérifications*

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Reference number
ISO 14315:1997(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 14315 was prepared by Technical Committee ISO/TC 24, *Sieves, sieving and other sizing methods*, Subcommittee SC 3, *Industrial wire screens*.

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Industrial wire screens – Technical requirements and testing

1 Scope

This International Standard defines terms regarding metal wire screens for industrial screening purposes and specifies tolerances, requirements and test methods.

It is applicable to pre-crimped or pressure-welded wire screens in accordance with ISO 4783-3, made of high-tensile steel, stainless steel or other metal wires.

This International Standard is not applicable to industrial wire cloth in accordance with ISO 4783-2 (see ISO 9044:—¹⁾, *Industrial woven wire cloth — Technical requirements and testing*).

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2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2194:1972, *Wire screens and plate screens for industrial purposes — Nominal sizes of apertures*.

ISO 4782:1989, *Metal wire for wire screens and industrial wire cloth*.

ISO 4783-1:1989, *Industrial wire screens and industrial wire cloth — Guide to the choice of aperture size and wire diameter combinations — Part 1: Generalities*.

ISO 4783-3:1981, *Industrial wire screens and industrial wire cloth — Guide to the choice of aperture size and wire diameter combinations — Part 3: Preferred combinations for pre-crimped or pressure-welded wire screens*.

¹⁾ To be published. (Revision of ISO 9044:1990)

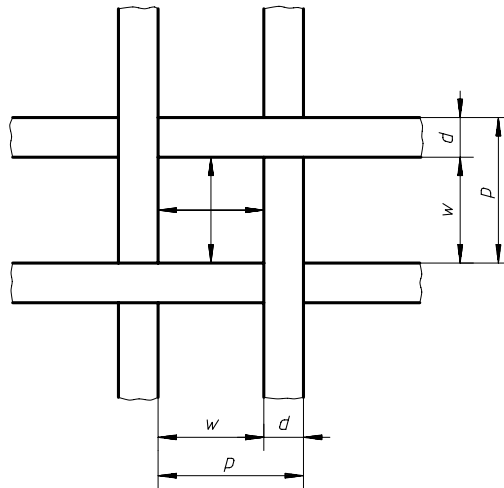


Figure 1 — Aperture width, wire diameter and pitch

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 aperture width, w

distance between two adjacent warp or weft wires, measured in the projected plane at mid positions (see figure 1)

3.2 wire diameter, d

diameter of the wire in the wire screen (see figure 1)

NOTE — The wire diameter may be altered slightly during the manufacturing process of the wire screen.

3.3 pitch, p

- 1) distance between the middle points of two adjacent wires
- 2) nominally the sum of the aperture width w and the wire diameter d (see figure 1)

3.4 warp

all wires running lengthwise in the screen as manufactured

3.5 weft

all wires running crosswise in the screen as manufactured

3.6 number of apertures per unit length, n

number of apertures which are counted in a row, one behind the other on a given unit length

3.7 open screening area, A_o

- 1) percentage of the surface of all the apertures in the total screening surface
- 2) ratio of the square of the nominal aperture width w and the square of the nominal pitch p

$p = (w + d)$, rounded to a full percentage value:

$$A_o = 100 \frac{w^2}{(w + d)^2} \quad (1)$$

3.8 type of screen

way in which the warp and weft wires are pre-crimped or connected to each other to form the screen (see ISO 4783-3:1981, table 1)

3.9 firmness of industrial wire screen

tension existing between the crossing warp and weft wires and which, together with the interlocking, determines the firmness of the wire screen

NOTE — It is affected by the tensile strength of the material, by the relationship of w to d , and by the type and the depth of the crimp.

3.10 mass per unit area, ρ_A

That quantity calculated using the following equation:

$$\rho_A = \frac{d^2 \cdot \rho \cdot f}{618,1 \cdot (w + d)} \quad (2)$$

where

d is the wire diameter, in millimetres;

w is the aperture width, in millimetres;

f is the type conversion factor (see ISO 4783-3:1981, table 1);

ρ is the material density, in kilograms per cubic metre (see ISO 4783-1:1989, table 2).

NOTE — Equation (2) gives the calculated mass per unit area (kg/m^2), although the actual value can be up to 3 % lower.

3.11 major blemishes

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production defects which significantly affect the aperture size or surface quality of the wire screen

4 Requirements

For requirements on aperture widths, on the metal wire and on aperture width/wire diameter combinations for wire screens, see ISO 2194, ISO 4782, ISO 4783-1 and ISO 4783-3.

4.1 Tolerance on wire diameter

Prior to weaving, the tolerance on wire diameter shall be as specified in ISO 4782. The weaving process normally distorts the wire and affects its diameter. After weaving, the diameter of the wire is untoleranced. The wire diameter shall be measured as specified in 5.1.

4.2 Tolerances on aperture width

The tolerances on aperture width shall be as given in table 1.

NOTE In the following, the suffix "s" used with the symbols denotes "industrial wire screens".

4.2.1 Tolerance Y_s : Average aperture size

Y_s is the tolerance of the arithmetical mean value of the aperture widths measured and calculated separately in both warp and weft directions. The arithmetical average aperture size shall not deviate from the nominal size by more than $\pm Y_s$.