

# SVENSK STANDARD

## SS-EN ISO 9444-2:2010



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### **Kontinuerligt varmvalsat rostfritt stål – Toleranser för dimensioner och form –**

#### **Del 2: Breda band och plåt (ISO 9444-2:2009)**

### **Continuously hot-rolled stainless steel – Tolerances on dimensions and form –**

#### **Part 2: Wide strip and sheet/plate (ISO 9444-2:2009)**

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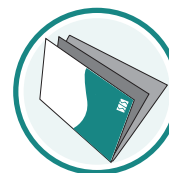
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The European Standard EN ISO 9444-2:2010 has the status of a Swedish Standard. This document contains the official English version of EN ISO 9444-2:2010.

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EUROPEAN STANDARD

EN ISO 9444-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2010

ICS 77.140.20; 77.140.50

English Version

Continuously hot-rolled stainless steel - Tolerances on  
dimensions and form - Part 2: Wide strip and sheet/plate (ISO  
9444-2:2009)

Acier inoxydable laminé à chaud en continu - Tolérances  
sur les dimensions et la forme - Partie 2: Grandes bandes et  
tôles (ISO 9444-2:2009)

Kontinuierlich warmgewalzter nichtrostender Stahl -  
Grenzabmaße und Formtoleranzen - Teil 2: Warmbreitband  
und Blech (ISO 9444-2:2009)

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## Foreword

The text of ISO 9444-2:2009 has been prepared by Technical Committee ISO/TC 17 “Steel” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 9444-2:2010 by Technical Committee ECISS/TC 105 “Steels for heat treatment, alloy steels, free-cutting steels and stainless steels” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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### Endorsement notice

The text of ISO 9444-2:2009 has been approved by CEN as a EN ISO 9444-2:2010 without any modification.



# Continuously hot-rolled stainless steel — Tolerances on dimensions and form —

## Part 2: Wide strip and sheet/plate

### 1 Scope

This part of ISO 9444 specifies the tolerances on dimensions and form for continuously hot-rolled stainless steel wide strip in actual widths from 600 mm to 2 500 mm and for sheet/plate cut from such strip.

### 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.

ISO 6929:1987, *Steel products — Definitions and classification*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6929 and the following apply.

#### 3.1

##### **hot-rolled sheet/plate**

flat rolled product, the edges being allowed to deform freely, supplied flat and generally square or rectangular, but also in any other shape, for example circular or according to the design sketch; the edges are as-rolled or sheared or flame-cut or chamfered

NOTE 1 The product may also be delivered precurved.

NOTE 2 Hot-rolled sheet/plate may be produced:

- a) directly rolled on a reversing mill, or by cutting from a parent plate rolled on a reversing mill;
- b) by cutting from hot-rolled strip rolled on a continuous mill.

NOTE 3 Reversing-mill plate is known generally as “quarto-plate”.

Continuous-mill sheet/plate is known generally as “hot-rolled sheet/plate”.

NOTE 4 Where further subdivision is required to be made on the basis of thickness for statistical purposes, the following is recommended:

- a) **sheet**: thickness less than 3 mm (except electrical sheet);
- b) **plate**: thickness equal to or greater than 3 mm.

NOTE 5 Adapted from ISO 6929:1987, definition 6.2.6.2.2.2.

### 3.2

#### hot-rolled strip

hot-rolled flat product which immediately after the final rolling pass or after pickling or annealing is wound into laps so as to form a coil

NOTE 1 Hot-rolled strip as-rolled has slightly convex edges, but it may also be supplied with sheared edges or be obtained by slitting wider hot-rolled strip.

[ISO 6929:1987, definition 6.2.6.2.2.3.1]

NOTE 2 According to its actual width, including hot-rolled slit strips irrespective of the rolling width, hot-rolled strip is classified as

- hot-rolled wide strip: strip of a width equal to or greater than 600 mm, or
- hot-rolled narrow strip: strip of a width less than 600 mm.

After decoiling and cutting to length, hot-rolled narrow strip may be supplied as cut lengths.

## 4 Information to be supplied by the purchaser

4.1 It shall be the responsibility of the purchaser to specify all requirements that are necessary for products under this specification. Such requirements to be considered include, in the order listed, but not limited to, the following:

- a) the type of delivery [see 5.1 a) and 5.1 b)];
- b) the number of this part of ISO 9444, i.e. ISO 9444-2;
- c) the thickness, in millimetres (if necessary, accurate to two decimal places);
- d) the width, in millimetres;
- e) the condition of the edges (M = mill edges, T = trimmed edges);
- f) for wide strip [see 5.1 a)], the condition of the ends [R = rolled (mill) ends, C = cropped ends];
- g) for sheet/plate, the length, in millimetres;
- h) any special delivery condition (see 5.2).

EXAMPLE 1 Plate in accordance with this International Standard, with a specified thickness of 4,0 mm, a specified width of 1 200 mm, with trimmed edges (T) and a specified length of 2 500 mm.

**Plate ISO 9444-2 – 4,0 × 1200T × 2500**

EXAMPLE 2 Hot-rolled wide strip in accordance with this International Standard, with a specified thickness of 6,0 mm, a specified width of 1 500 mm, with mill edges (M) and mill (rolled = R) ends:

**Hot-rolled wide strip ISO 9444-2 – 6,0 × 1500M-R**

4.2 In the absence of information in the order concerning special requirements for tolerances on dimension and shape [see 4.1 c) to 4.1 h)], hot-rolled products covered by this part of ISO 9444 will be delivered in accordance with the basic specifications of this part of ISO 9444, i.e. with normal tolerances and/or in the usual delivery condition.

## 5 Type of delivery and delivery condition

### 5.1 Type of delivery

Flat products in accordance with this part of ISO 9444 can be supplied as

- a) hot-rolled wide strip (strip in actual widths from 600 mm to 2 500 mm), or
- b) hot-rolled sheet/plate [cut from hot-rolled wide strip in accordance with 5.1 a)];

### 5.2 Delivery condition

**5.2.1** Hot-rolled wide strip and sheet/plate covered by this part of ISO 9444 are supplied in the as-rolled (U) condition, unless the annealed and/or descaled conditions has been agreed upon.

**5.2.2** Hot-rolled, or hot-rolled and annealed, wide strip is supplied with mill edges and mill ends. Delivery with trimmed (slit) edges shall be by special agreement.

**5.2.3** Annealed and descaled wide strip and sheet/plate are supplied with trimmed (slit) edges and cut ends.

### 5.3 General information

In the absence of agreements at the time of enquiry and order concerning special requirements for the delivery condition given in 5.2, flat products covered by this part of ISO 9444 will be delivered in accordance with the basic specifications of this part of ISO 9444.

## 6 Tolerances on thickness for hot-rolled wide strip and sheet/plate

**6.1** The tolerances on thickness, which include crown, are given in Table 1.

**Table 1 — Tolerances on specified thickness for hot-rolled wide strip and sheet/plate <sup>a</sup>**

Dimensions in millimetres

Specified thickness <i>t</i>	Tolerances on specified thickness <sup>b</sup> for nominal width of	
	$w \leq 1\,400$	$1\,400 < w \leq 2\,500$
$t \leq 2,0$	± 0,22	± 0,27
$2,0 < t \leq 2,5$	± 0,23	± 0,30
$2,5 < t \leq 3,0$	± 0,26	± 0,31
$3,0 < t \leq 4,0$	± 0,29	± 0,34
$4,0 < t \leq 5,0$	± 0,31	± 0,36
$5,0 < t \leq 6,0$	± 0,34	± 0,38
$6,0 < t \leq 8,0$	± 0,38	± 0,40
$8,0 < t \leq 10,0$	± 0,42	± 0,44
$10,0 < t \leq 13,0$	± 0,46	± 0,48
$t > 13,0$	The tolerances have to be agreed upon at the time of enquiry and order.	

<sup>a</sup> For wide strip, the specified values for tolerances shall not apply to the mill ends of the coil for a total length *l* which is calculated using the formula:

$$l(\text{m}) = \frac{90}{\text{nominal thickness (mm)}}$$

with a maximum total length (both ends) of 20 m per coil.

<sup>b</sup> Trimmed edges or sheared ends may have burrs.