

SVENSK STANDARD

SS-EN 10051:2010



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Kontinuerligt varmvalsade band och plåt från band av olegerat och legerat stål – Toleranser för dimensioner och form

Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels – Tolerances on dimensions and shape

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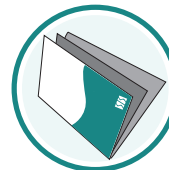
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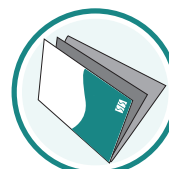
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Denna standard ersätter SS-EN 10051+A1, utgåva 1.

The European Standard EN 10051:2010 has the status of a Swedish Standard. This document contains the official version of EN 10051:2010.

This standard supersedes the Swedish Standard SS-EN 10051+A1, edition 1.

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EUROPEAN STANDARD

EN 10051

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2010

ICS 77.140.50

Supersedes EN 10051:1991 + A1:1997

English Version

Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels - Tolerances on dimensions and shape

Bandes laminées à chaud en continu, bandes et tôles
issues de larges bandes laminées à chaud en aciers alliés
et non alliés - Tolérances sur les dimensions et la forme

Kontinuierlich warmgewalztes Band und Blech abgelängt
aus Warmbreitband aus unlegierten und legierten Stählen -
Grenzabmaße und Formtoleranzen

This European Standard was approved by CEN on 23 October 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 10051:2010) has been prepared by Technical Committee ECISS/TC 103 “Structural steels other than reinforcements”, 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 May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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 10051:1991+A1:1997.

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1 Scope

This European Standard specifies tolerances on dimensions and shape for continuously hot-rolled uncoated plate/sheet and strip with a maximum width of 2 200 mm of non-alloy and alloy steels in accordance with Table 1 (see also Annex A). This European Standard also applies to hot-rolled strip for cold rolling.

Table 1 — Field of application

Product	Thickness mm	Steel grades according to: (but not limited to)
wide strip (width: $600 \text{ mm} \leq w \leq 2\,200 \text{ mm}$), Sheet/Plate cut from wide strip, strip $w < 600 \text{ mm}$ slit from wide strip	$\leq 25 \text{ mm}$	EN 10025-2 to -6, EN 10028-2 to -6, EN 10083-2 and -3, EN 10084, EN 10085, EN 10111, EN 10120, EN 10149-2 and -3, EN 10207, prEN 10338, EN ISO 4957.

This European Standard does not apply to stainless steels and not to hot-rolled strip rolled in widths $w < 600 \text{ mm}$ (see EN 10048).

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 10020, *Definition and classification of grades of steel*

EN 10048, *Hot-rolled narrow steel strip — Tolerances on dimensions and shape*

EN 10079, *Definition of steel products*

3 Terms and definitions

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

**3.1
non-alloy and alloy steels**
see EN 10020

**3.2
wide strip and sheet/plate**
see EN 10079

**3.3
crown**
difference in thickness between one of the edges and the centre of a rolled product

4 Information to be supplied by the purchaser

4.1 General

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

- a) the quantity to be delivered;
- b) designation of the product (wide strip, sheet/plate cut from wide strip, strip slit from wide strip);
- c) number of this dimensional standard (EN 10051);
- d) nominal thickness and width in mm;
- e) the letters GK if strip and sheet/plate with trimmed edges is ordered (see 5.1);
- f) nominal length in mm (for sheet and plate);
- g) width tolerances for sheet/plate with thickness > 10 mm (see 6.3);
- h) tolerances on flatness for sheet/plate of category D (see 6.4.2 and Table 10);
- i) edge camber requirements for strip < 600 mm wide, which was slit from wide strip (see 7.5).

4.2 Options

A number of options are specified in Annex B. In the event that the purchaser does not indicate his wish to implement any of these options, the supplier shall supply in accordance with the basic specification (see 4.1 and 5.1).

4.3 Designation

EXAMPLE 1 20 sheets according to this European Standard with nominal thickness of 2,0 mm, nominal width 1 200 mm, with trimmed edges (GK), nominal length 2 500 mm of steel 34Cr4 (1.7033) as specified in EN 10083-3:

**20 sheets EN 10051 – 2,0 x 1 200GK x 2 500
steel EN 10083-3 – 34Cr4**

EXAMPLE 2 5 t of strip according to this European Standard with nominal thickness of 4,5 mm, nominal width 1 500 mm, with mill edges of steel S235JR (1.0038), as specified in EN 10025-2:

**5 t strip EN 10051 – 4,5 x 1 500
steel EN 10025-2 – S235JR**

5 Form of supply

5.1 Sheet/plate and strip shall be supplied with mill edges or with trimmed edges (GK), as agreed at the time of enquiry and order (see Annex B, option a)). In the absence of information on the form of supply, sheet/plate and strip shall be supplied with mill edges.

5.2 The possibility of delivering coils with welding seams can be agreed at the time of enquiry and order. The indication of the location of the weld can be agreed at the same time (see Annex B, option b)).

5.3 Where no specific choice is made by the purchaser concerning points g), h), and i) of 4.1 is given by the purchaser, the supplier shall refer back to the purchaser.

6 Tolerances for sheet/plate

6.1 Thickness

6.1.1 The tolerances on thickness for continuously hot-rolled low carbon steel sheet/plate for cold forming according to EN 10111 are given in Table 2.

Table 2 — Tolerances on thickness for hot-rolled low carbon steel sheet/plate and strip for cold forming

Dimensions in mm

Nominal thickness t	Tolerances for a nominal width w			
	$w \leq 1\,200$	$1\,200 < w \leq 1\,500$	$1\,500 < w \leq 1\,800$	$w > 1\,800$
$t \leq 2,00$	$\pm 0,13$	$\pm 0,14$	$\pm 0,16$	–
$2,00 < t \leq 2,50$	$\pm 0,14$	$\pm 0,16$	$\pm 0,17$	$\pm 0,19$
$2,50 < t \leq 3,00$	$\pm 0,15$	$\pm 0,17$	$\pm 0,18$	$\pm 0,20$
$3,00 < t \leq 4,00$	$\pm 0,17$	$\pm 0,18$	$\pm 0,20$	$\pm 0,20$
$4,00 < t \leq 5,00$	$\pm 0,18$	$\pm 0,20$	$\pm 0,21$	$\pm 0,22$
$5,00 < t \leq 6,00$	$\pm 0,20$	$\pm 0,21$	$\pm 0,22$	$\pm 0,23$
$6,00 < t \leq 8,00$	$\pm 0,22$	$\pm 0,23$	$\pm 0,23$	$\pm 0,26$
$8,00 < t \leq 11,00$	$\pm 0,24$	$\pm 0,25$	$\pm 0,25$	$\pm 0,28$

6.1.2 The tolerances on thickness for steels, not covered by 6.1.1, are given in Tables 3 to 6. These tolerances are indicated as categories A, B, C, D. The dimensional tolerances of steel grades which do not have a specified minimum yield strength are the ones of category D.

Table 3 — Tolerances on thickness for strip and sheet/plate of steels with a specified minimum yield strength $R_e \leq 300$ MPa (category A)

Dimensions in mm

Nominal thickness t	Tolerances for a nominal width w			
	$w \leq 1\,200$	$1\,200 < w \leq 1\,500$	$1\,500 < w \leq 1\,800$	$w > 1\,800$
$t \leq 2,00$	$\pm 0,17$	$\pm 0,19$	$\pm 0,21$	–
$2,00 < t \leq 2,50$	$\pm 0,18$	$\pm 0,21$	$\pm 0,23$	$\pm 0,25$
$2,50 < t \leq 3,00$	$\pm 0,20$	$\pm 0,22$	$\pm 0,24$	$\pm 0,26$
$3,00 < t \leq 4,00$	$\pm 0,22$	$\pm 0,24$	$\pm 0,26$	$\pm 0,27$
$4,00 < t \leq 5,00$	$\pm 0,24$	$\pm 0,26$	$\pm 0,28$	$\pm 0,29$
$5,00 < t \leq 6,00$	$\pm 0,26$	$\pm 0,28$	$\pm 0,29$	$\pm 0,31$
$6,00 < t \leq 8,00$	$\pm 0,29$	$\pm 0,30$	$\pm 0,31$	$\pm 0,35$
$8,00 < t \leq 10,00$	$\pm 0,32$	$\pm 0,33$	$\pm 0,34$	$\pm 0,40$
$10,00 < t \leq 12,50$	$\pm 0,35$	$\pm 0,36$	$\pm 0,37$	$\pm 0,43$
$12,50 < t \leq 15,00$	$\pm 0,37$	$\pm 0,38$	$\pm 0,40$	$\pm 0,46$
$15,00 < t \leq 25,00$	$\pm 0,40$	$\pm 0,42$	$\pm 0,45$	$\pm 0,50$

Table 4 — Tolerances on thickness for strip and sheet/plate of steels with a specified minimum yield strength $300 \text{ MPa} < R_e \leq 360 \text{ MPa}$ (category B)

Dimensions in mm

Nominal thickness t	Tolerances for a nominal width w			
	$w \leq 1\,200$	$1\,200 < w \leq 1\,500$	$1\,500 < w \leq 1\,800$	$w > 1\,800$
$t \leq 2,00$	$\pm 0,20$	$\pm 0,22$	$\pm 0,24$	—
$2,00 < t \leq 2,50$	$\pm 0,21$	$\pm 0,24$	$\pm 0,26$	$\pm 0,29$
$2,50 < t \leq 3,00$	$\pm 0,23$	$\pm 0,25$	$\pm 0,28$	$\pm 0,30$
$3,00 < t \leq 4,00$	$\pm 0,25$	$\pm 0,28$	$\pm 0,30$	$\pm 0,31$
$4,00 < t \leq 5,00$	$\pm 0,28$	$\pm 0,30$	$\pm 0,32$	$\pm 0,33$
$5,00 < t \leq 6,00$	$\pm 0,30$	$\pm 0,32$	$\pm 0,33$	$\pm 0,36$
$6,00 < t \leq 8,00$	$\pm 0,33$	$\pm 0,35$	$\pm 0,36$	$\pm 0,40$
$8,00 < t \leq 10,00$	$\pm 0,37$	$\pm 0,38$	$\pm 0,39$	$\pm 0,46$
$10,00 < t \leq 12,50$	$\pm 0,40$	$\pm 0,41$	$\pm 0,43$	$\pm 0,49$
$12,50 < t \leq 15,00$	$\pm 0,43$	$\pm 0,44$	$\pm 0,46$	$\pm 0,53$
$15,00 < t \leq 25,00$	$\pm 0,46$	$\pm 0,48$	$\pm 0,52$	$\pm 0,58$

Table 5 — Tolerances on thickness for strip and sheet/plate of steels with a specified minimum yield strength $360 \text{ MPa} < R_e \leq 420 \text{ MPa}$ (category C)

Dimensions in mm

Nominal thickness t	Tolerances for a nominal width w			
	$w \leq 1\,200$	$1\,200 < w \leq 1\,500$	$1\,500 < w \leq 1\,800$	$w > 1\,800$
$t \leq 2,00$	$\pm 0,22$	$\pm 0,25$	$\pm 0,27$	—
$2,00 < t \leq 2,50$	$\pm 0,23$	$\pm 0,27$	$\pm 0,30$	$\pm 0,33$
$2,50 < t \leq 3,00$	$\pm 0,26$	$\pm 0,29$	$\pm 0,31$	$\pm 0,34$
$3,00 < t \leq 4,00$	$\pm 0,29$	$\pm 0,31$	$\pm 0,34$	$\pm 0,35$
$4,00 < t \leq 5,00$	$\pm 0,31$	$\pm 0,34$	$\pm 0,36$	$\pm 0,38$
$5,00 < t \leq 6,00$	$\pm 0,34$	$\pm 0,36$	$\pm 0,38$	$\pm 0,40$
$6,00 < t \leq 8,00$	$\pm 0,38$	$\pm 0,39$	$\pm 0,40$	$\pm 0,46$
$8,00 < t \leq 10,00$	$\pm 0,42$	$\pm 0,43$	$\pm 0,44$	$\pm 0,52$
$10,00 < t \leq 12,50$	$\pm 0,46$	$\pm 0,47$	$\pm 0,48$	$\pm 0,56$
$12,50 < t \leq 15,00$	$\pm 0,48$	$\pm 0,49$	$\pm 0,52$	$\pm 0,60$
$15,00 < t \leq 25,00$	$\pm 0,52$	$\pm 0,55$	$\pm 0,59$	$\pm 0,65$