

SVENSK STANDARD

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Varmvalsad stålplåt med tjocklek 3 mm eller större – Toleranser för dimensioner och form

Hot-rolled steel plates 3 mm thick or above – Tolerances on dimensions and shape

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Denna standard ersätter SS-EN 10029, utgåva 1.

The European Standard EN 10029:2010 has the status of a Swedish Standard. This document contains the official version of EN 10029:2010.

This standard supersedes the Swedish Standard SS-EN 10029, edition 1.

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EUROPEAN STANDARD

EN 10029

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2010

ICS 77.140.50

Supersedes EN 10029:1991

English Version

Hot-rolled steel plates 3 mm thick or above - Tolerances on dimensions and shape

Tôles en acier laminées à chaud, d'épaisseur égale ou supérieure à 3 mm - Tolérances sur les dimensions et la forme

Warmgewalztes Stahlblech von 3 mm Dicke an - 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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Foreword

This document (EN 10029:2010) 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of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.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 10029:1991.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies tolerances on dimensions and shape for hot-rolled non-alloy and alloy steel plates with the following characteristics:

- a) Nominal thickness: $3 \text{ mm} \leq t \leq 400 \text{ mm}$;
- b) Nominal width: $w \geq 600 \text{ mm}$.

Tolerances for products of width $w < 600 \text{ mm}$ cut or slit from plate should be agreed between manufacturer and purchaser at the time of enquiry and order.

This European Standard applies, but is not limited, to steel grades defined in EN 10025-2 to EN 10025-6:2004+A1:2009, EN 10028-2 to EN 10028-6, EN 10083-2 and EN 10083-3, EN 10084, EN 10085, EN 10149-2 and EN 10149-3, EN 10207 and EN 10225 (see also Annex A). It does not apply to stainless steels.

This European Standard does not include round plates, custom-made plates, chequer or bulb plate for flooring and wide flats.

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 10079, *Definition of steel products*

EN 10163-1, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections — Part 1: General requirements*

EN 10163-2, *Delivery requirements for surface conditions of hot-rolled steel plates, wide flats and sections — Part 2: Plate and wide flats*

3 Terms and definitions

For the purposes of this document, the following term and definition apply.

3.1

plate

see EN 10079

4 Information to be supplied by the purchaser

4.1 Mandatory information

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

- a) quantity to be delivered;
- b) designation of the product form (plate);
- c) number of this dimensional standard (EN 10029);

- d) nominal thickness in millimetres;
- e) nominal width in millimetres;
- f) nominal length in millimetres.

Plates ordered according to this European standard shall be delivered as follows:

- tolerance class A for thickness unless otherwise stated (see 6.1, Table 1);
- trimmed edges;
- normal edge camber and out-of-squareness (see 7.1);
- normal tolerances for flatness, class N (see 7.2, Table 4).

If no information concerning points a) to f) of 4.1 is given by the purchaser, the supplier shall refer back to the purchaser.

4.2 Options

A number of options are specified in this European Standard and listed below. If the purchaser does not indicate his wish to implement any of these options, the supplier shall supply in accordance with the basic specification of this European Standard (see 4.1):

- a) if thickness tolerance class B, C or D is required, include B, C or D in the order designation (see Clause 5 and 6.1);
- b) if plate with untrimmed edges is required, include NK in the order designation (see 6.2.2);
- c) if plate with limited edge camber and out-of-squareness is required, include letter G in the order designation and define the required maximum values for edge camber and out-of-squareness (see 7.1);
- d) if plate with special flatness tolerances is required, include the letter S in the order designation (see 7.2.1 and Table 5);
- e) if plates with a nominal length $l > 20\,000$ mm are required, the agreed tolerances on length are to be reported (see 6.3, Table 3);
- f) for plates with untrimmed edges, the chosen and agreed measuring points for the measurement of the thickness are to be reported (see 8.2).

4.3 Designation

EXAMPLE 20 plates of steel S235JR (1.0038), as specified in EN 10025-2 according to this European Standard with nominal thickness of 25 mm, thickness tolerance class B, nominal width 2 000 mm, nominal length 4 500 mm, with trimmed edges, with limited edge camber and out-of-squareness, with special tolerances for flatness:

20 plates EN 10029-B-G-S
25 x 2 000 x 4 500
Steel EN 10025-2 – S235JR

5 Form of supply

Plate according to this European standard can be supplied:

- with thickness tolerances of class A, B, C or D (see 6.1);
- with trimmed or untrimmed edges (NK) (see 6.2.2);
- with normal or limited edge camber and out-of-squareness (G) (see 7.1);
- with normal (N) or special (S) flatness tolerances (see 7.2).

6 Tolerances on dimensions

6.1 Thickness

6.1.1 Tolerances on thickness are given in Table 1. Plates may be supplied with either:

- class A: for minus thickness tolerances depending on the nominal thickness;
- class B: for a fixed minus tolerance of 0,3 mm;
- class C: for a fixed minus tolerance of 0,0 mm;
- class D: for symmetrical tolerances.

Table 1 — Tolerances on thickness

Dimensions in mm

Nominal thickness t	Tolerances on the nominal thickness (see 6.1.1)							
	Class A		Class B		Class C		Class D	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
$3 \leq t < 5$	-0,3	+0,7	-0,3	+0,7	0	+1,0	-0,5	+0,5
$5 \leq t < 8$	-0,4	+0,8	-0,3	+0,9	0	+1,2	-0,6	+0,6
$8 \leq t < 15$	-0,5	+0,9	-0,3	+1,1	0	+1,4	-0,7	+0,7
$15 \leq t < 25$	-0,6	+1,0	-0,3	+1,3	0	+1,6	-0,8	+0,8
$25 \leq t < 40$	-0,7	+1,3	-0,3	+1,7	0	+2,0	-1,0	+1,0
$40 \leq t < 80$	-0,9	+1,7	-0,3	+2,3	0	+2,6	-1,3	+1,3
$80 \leq t < 150$	-1,1	+2,1	-0,3	+2,9	0	+3,2	-1,6	+1,6
$150 \leq t < 250$	-1,2	+2,4	-0,3	+3,3	0	+3,6	-1,8	+1,8
$250 \leq t \leq 400$	-1,3	+3,5	-0,3	+4,5	0	+4,8	-2,4	+2,4

These thickness tolerances apply outside ground areas (see 6.1.2).

At the time of enquiry and order the purchaser shall indicate if class A, B, C or D tolerances is required (see 4.1 and 4.2). If no class is stated, class A applies.

6.1.2 For permissible limits concerning surface imperfections and requirements for repair EN 10163-1 and EN 10163-2 apply.

6.2 Width

6.2.1 Tolerances on width for plates with trimmed edges are given in Table 2 depending on the thickness of the plate.

Table 2 — Tolerances on width

Dimensions in mm

Nominal thickness t	Tolerances	
	Lower	Upper
$t < 40$	0	+20
$40 \leq t < 150$	0	+25
$150 \leq t \leq 400$	0	+30

6.2.2 Tolerances on width for plates with untrimmed edges (NK) shall be the subject of agreement between the manufacturer and purchaser at the time of enquiry and order (see 4.2, option b)).

6.3 Length

Tolerances on length are given in Table 3.

Table 3 — Tolerances on length

Dimensions in mm

Nominal length l	Tolerances	
	Lower	Upper
$l < 4\ 000$	0	+20
$4\ 000 \leq l < 6\ 000$	0	+30
$6\ 000 \leq l < 8\ 000$	0	+40
$8\ 000 \leq l < 10\ 000$	0	+50
$10\ 000 \leq l < 15\ 000$	0	+75
$15\ 000 \leq l \leq 20\ 000^a$	0	+100

^a Tolerances on plates with a nominal length $l > 20\ 000$ mm shall be agreed at the time of enquiry and order (see 4.2, option e).

7 Tolerances on shape

7.1 Edge camber and out-of squareness

For plate specified with normal edge camber and out-of squareness in the order, the edge camber and out of squareness shall be so that it is possible to inscribe a rectangle with the dimensions of the ordered plate within the delivered size.